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SUMMER READING: PREDICTING ADOLESCENT WORD LEARNING FROM APTITUDE, TIME SPENT READING, AND TEXT TYPE

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Mostly low-income African American and Hispanic teens (N = 192) were tested in (a) passage comprehension, (b) vocabulary ability, (c) cloze task performance, and (d) listening comprehension in the spring and vocabulary in the fall. Students were surveyed about reading (a) narrative, (b) expository, (c) teen culture, and (d) online texts. Interaction terms created by the product of cloze task scores with the time and frequency of student narrative and expository reading were both significant predictors of fall vocabulary. Online reading was popular but did not predict vocabulary gains. Teen culture reading predicted vocabulary loss. Text type and student profiles both play a role in predicting fall vocabulary scores from summer reading.

Any study of independent reading must make assumptions about what activities to analyze. A recent report from the National Endowment for the Arts (2007) emphasizes the importance of book reading and denigrates computer-based and other kinds of reading, whereas other national reports analyze book-based reading as just one of the many kinds that students engage in, including online reading and serial reading (Roberts, Foehr, & Rideout, 2005). There are equally disparate assumptions about how to specify the relationship between literacy and reading achievement. The National Reading Panel reviewed only articles that used experimental design in its review of the research on the relationship between reading amount and reading fluency (National Institute of Child Health and Human Development, 2000). The National Endowment for the Arts (2007), on the other hand, used correlational studies to make sweeping claims about the relationship between

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book reading and academics, citizenship, and the body politic. In this article I use an expansive definition of literacy that includes reading Web sites, E-mail, comic books, magazines, and music lyrics and use regression analysis to determine how time spent engaged in readings various text types predicts changes in academic vocabulary achievement.

There are good reasons to examine the relationship between independent reading and vocabulary knowledge. Nagy, Herman, and Anderson (1985) were among the first to experimentally research how students learn new words when they encounter them in text. They found that "the odds that a child in the middle grades will acquire a full adult understanding of an unknown word as a result of one exposure in a natural context may lie between .05 and .11" (p. 250). A subsequent meta-analysis of 19 experimental studies suggested that students learn about 15% of the new words they encounter in text (Swanborn & de Glopper, 1999). These estimates, however, describe students with a wide range of aptitudes for learning new words. The present study addresses the specific skills that predict vocabulary achievement by examining aptitude-exposure interactions between a set of implicated reading subprocesses and the amount of time students spend reading various text types during the summer.

Individual Differences in Word Learning

Not all students have the same facility with learning new words from written contexts (Gardner, 2007). One consistent finding is that older students are better able to learn new words from texts (Swanborn & de Glopper, 1999). This may be related to the fact that vocabulary ability tends to predict student facility with deriving the meaning of new words from text. In one study, high-vocabulary fifth-grade students outperformed low-vocabulary students in six out of seven meaning-determination tasks (McKeown, 1985). In another study, 11- and 12-year-old students with strong vocabularies were more successful than those with weak vocabularies at processes connected with deriving word meaning from context and providing a definition based on multiple exposures to a new word in context (van Daalen-Kapteijns, Elshout-Mohr, & de Glopper, 2001). This is not to say that students who are below grade level in vocabulary knowledge cannot learn new words

with good instruction (Nash & Snowling, 2006; Schwanenflugel, Stahl, & McFalls, 1997). However, a strong vocabulary may be particularly beneficial when students are required to learn new words without the help of scaffolding or the reinforcement of aural exposure during instruction.

Students with better passage comprehension also tend to learn words from context more easily. Cain, Oakhill, and Elbro (2003) compared groups of high- and low-ability readers who all had vocabulary knowledge in the normal range and found that students who performed better at passage comprehension also had significant advantages in deriving the meaning of new words from context. Similarly, 9- and 10-year-olds with weak passage comprehension struggled at incidental word learning relative to better readers, although differences between groups were reduced in less demanding tasks, such as learning words from direct instruction (Cain, Oakhill, & Lemmon, 2004). Although Nagy et al. (1985) report that comprehension does not predict word learning ability, they acknowledge that the limited variation in their sample might have reduced the power of this effect.

There are at least two processes besides passage comprehension and initial vocabulary ability that might explain individual differences in incidental word learning. Performance on cloze reading tasks, in which students are required to limit the possible meanings of a missing word based on the surrounding text, has long been recognized as proxy for student ability to derive the meaning of a new word encountered in text (Hafner, 1965). Instruction in cloze tasks has also been investigated as an intervention to improve incidental word learning (Sampson, Valmont, & Allen, 1982). This task, however, has not been used as a tool to explore individual differences in incidental learning, leading a recent reviewer to suggest that it be examined as a promising measure of student ability to infer from context (Walters, 2005).

Another skill implicated in incidental word learning differences is listening comprehension. Young children learn new words almost exclusively through aural exposure (Hart & Risley, 1995). Listening comprehension has been shown to be an important component of reading comprehension (Joshi & Aaron, 2000) and strongly correlates with reading comprehension after second grade (Diakidoy, Stylianou, Karefillidou, & Papageorgiou, 2004). The current research investigates whether student passage

comprehension, vocabulary ability, performance on a cloze task, and listening comprehension can predict student vocabulary from independent reading and whether any of these factors interact with the quantity and type of texts that students read during the summer.

Reading Amount

Correlational research on reading amount suggests that students who read more may learn more words and therefore have more sophisticated vocabularies. A study of fifth-grade students used daily activity logs to determine student reading for periods of between 8 to 26 weeks during the school year (Anderson, Wilson, & Fielding, 1988). A vocabulary checklist measure (described in Anderson & Freebody, 1983) was used to measure vocabulary knowledge. A correlation between book reading and vocabulary persisted even when controlling for second-grade reading achievement. Another study of fifth-grade students found that time devoted to book reading had a positive correlation with reading achievement (Greaney, 1980; Greaney & Hegarty, 1987). Taylor, Frye, and Maruyama (1990) found that time spent reading in school predicted reading comprehension at the end of the study, although time spent reading at home did not.

Another approach to measuring student print exposure uses recognition tests to determine student familiarity with literary titles and authors. Amount of print exposure, as determined by these measures, consistently correlates with vocabulary knowledge (Cunningham & Stanovich, 1990, 1991). In one study of fifth-grade students, researchers explored the relationship between a number of measures of student reading and student vocabulary (Allen, Cipielewski, & Stanovich, 1992). Allen and colleagues found a correlation between reading and vocabulary, but they also found that vocabulary correlated even more strongly with other measures, such as print exposure as measured by the Title Recognition Test Form, the Comic Recognition Test, and an activity preference questionnaire. Another study used the Title Recognition Test with students in Grades 5 to 9 and determined a correlation between vocabulary and reading amount, but this did not exist for students with reading disabilities (McBride-Chang, Manis, Seidenburg, Custodio, & Doi, 1993). Recognition test studies confirm the

relationship between reading amount and vocabulary but cannot specify *when* students have been exposed to print and so cannot partial out the variation in vocabulary scores explained by baseline achievement levels.

Most research on reading quantity has paid limited attention to text type. Greaney (1980) found that comic book reading was roughly half as popular as book reading and correlated much more poorly with reading achievement than book reading did. Newspaper reading was much less popular than even comic book reading. Anderson et al. (1988) examined four reading text types (reported in minutes read per day): book reading (10), newspaper and magazine reading (4.8), reading comics (2.1), and reading mail (1.4). They found that both comic and book reading correlated with fifth-grade vocabulary scores after controlling for second-grade reading achievement, and that comic book reading as well as newspaper and magazine reading predicted fifth-grade vocabulary scores after controlling for second-grade reading achievement.

Researchers need to pay attention to the kinds of texts students are reading for two reasons. Firstly, there are important differences in the words used in different genres and types of text (Gardner, 2004; Hu & Nation, 2000). Secondly, students spend little time reading books compared to reading other materials (DeBell, 2005; Nippold, Duthie, & Larsen, 2005; Roberts et al., 2005). No situational study of word learning from reading has yet to determine the relative effects of reading narrative or expository texts or the effectiveness of word learning from E-mail or Web site reading. Although there has been some investigation of comic book reading, the results are inconclusive. Furthermore, each of the studies reviewed so far is threatened by the possibly confounding influence of school instruction, because each was conducted during the school year.

Summer Reading and Vocabulary

One way to avoid the possible confounding effect of schooling is to examine how reading during the summer predicts vocabulary achievement. Although there have been many studies of student summer learning (Cooper, Nye, Charlton, Lindsay, & Greathouse,

1996), most either do not provide isolated information on vocabulary achievement (Alexander, Entwisle, & Olson, 2001; Carver, 1994; Entwisle, Alexander, & Olson, 1997; Kim, 2004; Kim & White, 2008) or, if they do, fail to provide specific information about student reading during the summer (Mousley, 1973; Wintre, 1986). The only extant study of adolescent students that has both of these features is Heyns' (1978) study of sixth- and seventh-grade students from a racially and economically diverse school district. Heyns found that the number of books read during the summer was a significant predictor of fall word knowledge. The current study attempts to replicate this result while looking for interactions between student characteristics and a range of text types.

Research into summer learning has been influenced by the suggestion that the differences that accrue between students are largely the function of summer learning differences, not differences in learning during the school year (Alexander et al., 2001; Alexander, Entwisle, & Olson, 2007; Heyns, 1978). These studies show that differences that accrue during the summer are predicted by factors such as student socioeconomic status and race. Experimental research designed to clarify the effect of summer learning shows that summer reading is important (Kim, 2004) but that it needs to be scaffolded by instruction (Kim & White, 2008). Summer learning is of interest for the present purposes primarily because it provides a time to study incidental word learning from independent reading without the confounding effect of school instruction. However, understanding summer achievement better may also help to ameliorate the achievement gap by determining potential opportunities to provide better learning to students during summer months.

Research Goals

Despite our understanding of incidental word learning and the results of summer vacation on reading ability, no one has tried to leverage the academic stasis that occurs during summer to better understand incidental word learning while looking at both academic outcomes and independent reading during the summer vacation. The first goal of this study is to determine how

summer reading activities predict fall vocabulary scores in urban adolescent students, in particular: (a) narrative book reading, (b) expository book reading, (c) comic, magazine, and music lyrics, and (d) computer-based literacy activities.

The second goal of the study is to determine whether any of the variables implicated by the research on individual learning differences predict changes in vocabulary during the summer months. Specifically, this study will explore whether any of the following variables interact with student reading variables to explain fall vocabulary scores, after controlling for spring scores: (a) vocabulary, (b) passage reading comprehension, (c) performance on a cloze task, and (d) listening comprehension.

Method

Participants

Participants in this study were sixth-grade ($N = 87$) and seventh-grade ($N = 104$) students who were not receiving special education or bilingual support from their school. The demographic profile of students in the sample roughly matches the profile of students in the mid-sized urban middle school from which they were selected: 61% were African American; 33% were Hispanic; 6% were White, Asian, or American Indian. Most parents of students in this sample indicated that they prefer to be contacted by the school in English (71%), although a sizable number requested that the school contact them in Spanish (22%) or another language (5%). Most students in the sample were eligible for free or reduced lunch (90%). A comprehensive English language arts standardized state assessment given at about the same time as the start of this study indicated that 5% of students in the sample were performing at a warning level, 48% of students were at a needs-improvement level, 45% of students were at a proficient level, and 2% of students tested as advanced. This distribution reflects better performance than the distribution of student achievement in the large urban district where the research site was located but worse performance than the distribution of student achievement in the state as a whole.

Assessment Measures

The Group Reading Assessment and Diagnostic Evaluation (GRADE) provides four subtests. Level M Form A was administered to the student participants in May 2006, and Level M Form B was administered in September 2006. The four subtests assess the following skills:

VOCABULARY

This test asks students to identify the meaning of a word from a limited context and choose the correct meaning from a selection of five possible answers. For example, one item might read "**glance** to the side," with the answer choices including *d*, "take a quick look" (Williams, 2000).

CLOZE TASK

The GRADE Sentence Comprehension Test is a cloze test that requires students to select from four words the one that best completes the sentence (Williams, 2001). An example would be: "*Supper is not quite ready, but it will be* _____. The response choices are *delicious, soon, terrible, and now"* (Williams, 2001, p. 43).

PASSAGE READING COMPREHENSION

The GRADE Passage Comprehension "requires the student to read a passage of one or more paragraphs and to answer three, four, or five multiple-choice questions about the passage" (Williams, 2001, p. 44). This subtest is designed to determine a student's ability to use metacognitive strategies such as questioning, clarifying, summarizing, and predicting, and there are question items designed to test each of these strategies (Williams, 2001).

LISTENING COMPREHENSION

This test requires that students listen to the test administrator read a sentence aloud and then select from four pictures the one that best matches the sentence. For example, the administrator might read the sentence "After getting off his bike, the man got the kitten out of the tree." Of the four pictures available to choose from, only one would include all the requisite elements and indicate the correct action and sequence.

Summer Reading Measure

Students completed a survey during the first week of September asking them about their out-of-school literacy activities during the month of August. This survey was based on one that was developed to determine students' out-of-school activities during the school year (Moje et al., 2005) and has been used to collect multiple waves of data across multiple research sites (Moje, Overby, Tysvaer, & Morris, 2008). Using a 7-point Likert scale, students were asked to report how often they engaged in reading activities during the month of August according to the following scale: (0) *never*, (1) *once*, (2) *once a month*, (3) *every other week*, (4) *every week*, (5) *2–3 times a week*, (6) *every day for less than one hour*, and (7) *every day for more than one hour*.

Control Variable

Students' grade levels were provided by the school.

Results

Assessment Performance

Spring test scores revealed that students in this sample scored within the normal range of students taking the GRADE (Table 1).

Correlations between the raw scores of the student assessment measures were strong (Table 2). The correlations between student performance on the vocabulary and cloze tasks were very strong in both the spring (.703) and the fall (.683). Vocabulary correlated with passage comprehension in the spring (.576), and the correlations were even stronger after summer vacation (.641). There were no significant differences between the scores of students of different races or genders.

Time Spent Reading

Computer-mediated literacy activities were the most popular form of reading during the summer (Table 3). Students reported viewing Web sites almost two to three times a week on average. There

TABLE 1 Paired Samples of *t*-Tests Comparing Student Stanine Scores on GRADE Subtests From Spring 2006 and Fall 2006

GRADE Subtest	Spring 2006		Fall 2006		*t*-Test
	Mean	SD	Mean	SD	*p* Value
Listening comprehension	11.94	1.87	13.16	2.31	<.001
(stanine)	(4.53)	(1.29)	(5.01)	(1.66)	(<.001)
Passage comprehension	18.57	4.99	19.84	5.04	<.001
(stanine)	(5.16)	(1.35)	(5.12)	(1.45)	(n.s.)
Cloze task (stanine)	11.48	3.58	13.05	3.61	.041
	(4.35)	(1.19)	(4.93)	(1.43)	(<.001)
Vocabulary (stanine)	18.08	5.40	17.52	5.01	<.001
	(5.06)	(1.53)	(4.64)	(1.36)	(<.001)

were differences in reading habits according to gender. Girls read significantly more novels, short stories, poetry, and E-mail than boys. Boys did not read any text type significantly more than girls, although they displayed a stronger appetite for expository texts than girls did, relative to their respective overall reading diets. The Cronbach's alpha for the 14 items was .675.

Using these summer survey data, I created four composite variables: Narrative, composed of novels, short stories, poetry, religious books, and biographies; Expository, composed of informational books, research reports, instructions, maps and schedules; Teen, composed of comic book, magazine and music lyric reading; and Computer, composed of E-mail and Web site reading. Means, standard deviations, and frequency information for each composite variable are presented in Table 4.

Several questions from the reading survey were based on items used in a larger longitudinal study of urban teens ($N = 1045$) in a city located in a different region of the country (Moje et al., 2008). Moje's results confirm mine (Table 4) in finding that computer-based reading was the most popular type of reading ($M = 4.06$), followed by teen culture reading ($M = 3.22$), narrative reading ($M = 2.68$), and information reading ($M = 2.58$). These results demonstrate that the data collected by the survey instruments are relatively stable across two different urban settings, providing some evidence that the instrument is a valid measure of current teen reading habits. Each of these composite variables

TABLE 2 Intercorrelations of All Student Reading Submeasures for Fall and Spring ($N = 192$)

	Spring Vocabulary	Spring Cloze Task	Spring Passage Comp.	Spring Listening Comp.	Fall Vocab.	Fall Cloze Task	Fall Passage Comp.	Fall Listening Comp.
Spring vocabulary	—							
Spring cloze task	.703	—						
Spring passage comprehension	.576	.592	—					
Spring listening comprehension	.391	.275	.424	—				
Fall vocabulary	.712	.635	.534	.452	—			
Fall cloze task	.707	.668	.585	.399	.683	—		
Fall passage comprehension	.655	.574	.628	.360	.641	.719	—	
Fall listening comprehension	.495	.354	.380	.307	.489	.457	.456	—

Note. All correlations are $p < .001$.

TABLE 3 Student Self-Reported Time Engaged in Reading Specific Genres During the Summer on a Likert Scale From 0 (*Never*) to 7 (*Every Day for More Than One Hour*), Grouped According to Text Type and By Gender

Text Type	Genre (How Often Do You Read the Following?)	Total Sample		Male		Female	
		Mean	SD	Mean	SD	Mean	SD
Narrative	Novels, short stories	3.10	1.87	2.70	1.89	3.42	1.80
	Poetry	2.53	1.91	2.20	1.87	2.79	1.91
	Religious books	2.40	1.85	2.33	1.96	2.45	1.77
	Biographies	1.82	1.31	1.64	1.13	1.96	1.41
	Average	2.46	1.74	2.22	1.71	2.66	1.72
Expository	Information books	1.85	1.41	1.94	1.48	1.82	1.38
	Research reports	1.63	1.18	1.78	1.31	1.51	1.60
	Instructions on how to do something	2.93	1.76	2.73	1.75	2.63	1.56
	Map, bus, airlines	2.34	1.62	2.35	1.53	2.33	1.69
	Average	2.19	1.49	2.20	1.52	2.07	1.56
Teen	Comic books	2.51	1.92	3.16	2.13	2.01	1.58
	Magazines	3.73	1.80	3.76	1.94	3.71	1.69
	Music lyrics	3.78	2.23	3.16	2.17	4.25	2.16
	Average	3.34	1.98	3.36	2.08	3.32	1.81
Computer	E-mail	4.15	2.29	3.67	2.31	4.54	2.23
	Web sites	4.81	2.17	4.81	2.07	4.83	2.25
	Average	4.48	2.23	4.24	2.19	4.69	2.24

is explored for its predictive utility in describing fall vocabulary scores after controlling for grade levels and a host of spring scores.

Analytical Method

The results of a series of multiple regressions on fall vocabulary scores are presented in Table 5. The first five variables in each of these regressions are the same, consisting of each of the four reading subtests (vocabulary, cloze task, passage comprehension, and listening comprehension), plus a control for grade level. The resultant baseline model predicts 57.5% of the variation in fall scores. Variables such as gender, race, oral reading fluency, sight word recognition, decoding efficiency, and participation in summer school were explored and eliminated from the baseline regression because they did not account for additional variance in fall vocabulary. Next, the effect of adding the time spent reading

TABLE 4 Frequency of Student Self-Reported Time Engaged in Reading Specific Genres During the Summer on a Likert Scale From 0 (*Never*) to 7 (*Every Day for More Than One Hour*), Grouped According to Text Type

	Mean (Standard Deviation)	Frequency of Reading	Number of Students at Given Frequency
Narrative	2.46	0–1	26
	(1.09)	1.25–2	54
		2.25–3	60
		3.25–4	26
		4.25–5	11
		5.25+	1
Expository	2.19	0–1	27
	(.980)	1.25–2	82
		2.25–3	46
		3.25–4	26
		4.25–5	14
Teen	3.34	1–1.67	28
	(1.33)	2–2.67	43
		3–3.67	53
		4–4.67	44
		5–5.67	16
		6–7.0	8
Computer	4.48	1–1.5	20
	(1.97)	2–2.5	26
		3–3.5	30
		4–4.5	26
		5–5.5	24
		6–6.5	33
		7	36

each composite variable to the baseline regression is reported. For instance, in Regression 2 the Narrative variable was added to the baseline model (Table 5). To this regression, each of four interaction terms composed of the product of the Narrative variable and each of the four spring student assessment measures (vocabulary, cloze, passage comprehension, and listening comprehension) was singly added. Only the regressions in which the interaction was significant were reported (in this case, the interaction between Narrative and student performance on the cloze task; Regression 3).

No reading activity resulted in increased vocabulary scores in the fall after controlling for spring scores, unless interaction terms were analyzed. Only one variable, Teen, was independently

TABLE 5 Variance Explained in Fall Vocabulary Scores by Summer Reading Activities and Interaction Variables, Controlling for Spring Vocabulary, Sentence Comprehension, Passage Comprehension, and Listening Comprehension

	Model Summary		Variable Summary			
Regression	R	Adjusted R^2	Variable	*B*	*SE B*	β
1.	.765	.575	Vocabulary	.398	.066	.427***
			Cloze task	.294	.103	.209**
			Passage comprehension	.074	.062	.076
			Listening comprehension	.442	.130	.182***
			Grade level	.855	.513	.085
2.	.767	.575	Vocabulary	.397	.066	.426***
			Cloze task	.289	.103	.206**
			Passage comprehension	.076	.062	.079
			Listening comprehension	.444	.130	.183***
			Grade level	.864	.513	.086
			Narrative	.220	.217	.048
3.	.779	.592	Vocabulary	.397	.065	.426***
			Cloze task	−.149	.179	−.106
			Passage comprehension	.088	.061	.090
			Listening comprehension	.378	.130	.155***
			Grade level	.922	.503	.092
			Narrative book reading	−1.84	.724	−.401*
			Narrative × Cloze task	.181	.061	.574**
4.	.765	.573	Vocabulary	.397	.066	.426***
			Cloze task	.296	.104	.211**
			Passage comprehension	.074	.063	.076
			Listening comprehension	.440	.131	.181***
			Grade level	.849	.516	.084
			Expository	−.042	.246	−.008
5.	.772	.580	Vocabulary	.402	.066	.432***
			Cloze task	−.044	.195	−.032
			Passage comprehension	.092	.063	.095

(Continued on next page)

TABLE 5 Variance Explained in Fall Vocabulary Scores by Summer Reading Activities and Interaction Variables, Controlling for Spring Vocabulary, Sentence Comprehension, Passage Comprehension, and Listening Comprehension *(continued)*

	Model Summary		Variable Summary			
Regression	R	Adjusted R^2	Variable	*B*	*SE B*	β
			Listening comprehension	.413	.131	.170***
			Grade level	.882	.512	.088
			Expository	−1.83	.901	−.357*
			Expository × Cloze task	.160	.078	.430*
6.	.766	.573	Vocabulary	.395	.066	.424***
			Cloze task	.296	.103	.210**
			Passage comprehension	.075	.063	.077
			Listening comprehension	.444	.131	.183***
			Grade level	.873	.515	.087
			Computer	−.069	.121	−.027
7.	.772	.596	Vocabulary	.394	.065	.423***
			Cloze task	.329	.103	.234***
			Passage comprehension	.060	.062	.062
			Listening comprehension	.415	.130	.170***
			Grade level	.703	.513	.070
			Teen	−.384	.182	−.102*

Note. $^{*}p < .05$. $^{**}p < .01$. $^{***}p < .005$.

significant and predicted lower fall vocabulary scores for student engaged in reading comic books, magazines, and music lyrics ($\beta = -.102$, $p < .05$). Three of the four interaction terms that were explored (vocabulary, passage comprehension, and listening comprehension) did not interact with any of the time spent reading variables.

The cloze task was a powerful interaction term. Student scores on the cloze task showed significant interaction with the Narrative and Expository composite variables. This interaction with the Narrative variable was explored by splitting the sample into the top ($n = 100$) and bottom ($n = 92$) halves according to

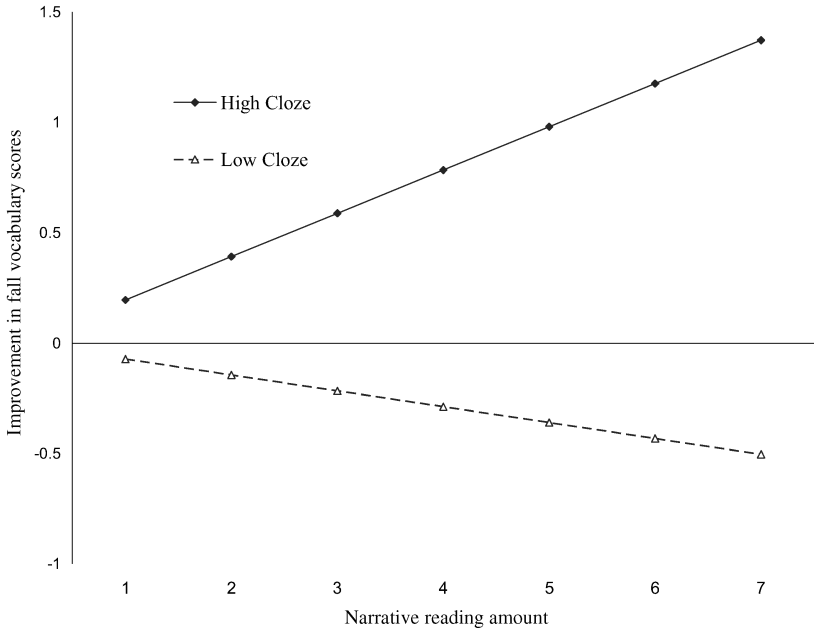

FIGURE 1 Change in vocabulary predicted by amount of narrative book reading for students who scored well and poorly on the cloze task.

performance on the cloze task and running a regression with the baseline plus the Narrative variable. The model, fitted to scores of students in the top half, demonstrated that the Narrative variable was a significant predictor of fall vocabulary for these students ($r^2 = .515$, $\beta = .196$, $p = .005$) but was not predictive of fall scores ($r^2 = .316$, $\beta = -.072$, $p = .428$) in the model fitted to the scores of the lower performing group (Figure 1). The analysis of the interaction between cloze performance and the Expository variable was similar. Reading expository texts was predictive of higher vocabulary scores for students with higher cloze scores ($r^2 = .518$, $\beta = .110$, $p = .135$) but not for students in the low-performing group ($r^2 = .315$, $\beta = -.085$, $p = .359$; Figure 2).

Discussion

The most popular independent reading text types for the urban teens in this sample were Web site and E-mail reading. These reading activities, however, did not predict a change in fall

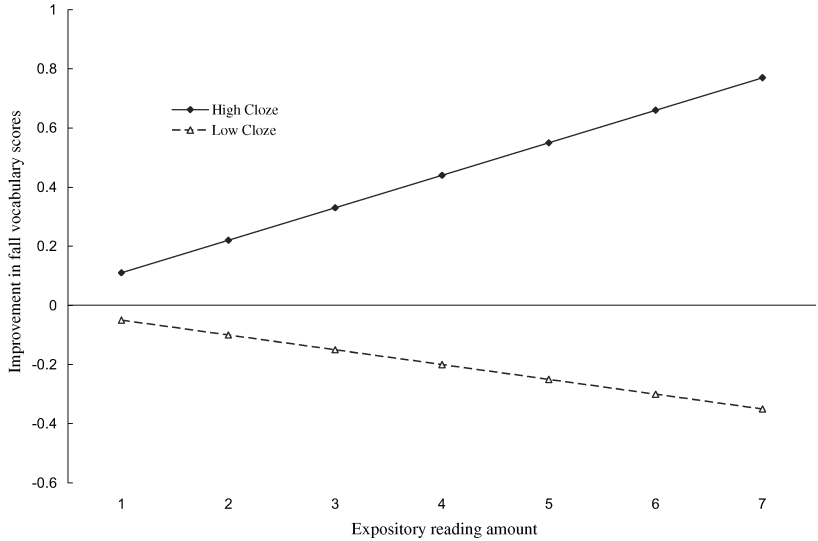

FIGURE 2 Change in vocabulary predicted by amount of expository book reading for students who scored well and poorly on the cloze task.

vocabulary scores either independently or in interaction with spring scores. One reason for the neutral finding might be that there are such a range of reading topics available online, some that provide rich vocabulary and others that provide much more limited exposure to academic words. Students in the current study reported that music and sports Web sites were the most popular types of sites visited, but they also read local and national news online.

Teen culture reading (i.e., reading comics, magazines, and music lyrics) was the second most popular category of reading type, and time spent reading these texts predicted worse fall vocabulary scores for all profiles of students. This finding might be explained by the relative dearth of academic language used by texts in this category. Future studies would do well to investigate whether reading these types of texts predicts improved decoding, fluency, or comprehension.

Reading narrative and expository texts predicted improved vocabulary scores for some students but not for others. This study investigated passage comprehension, prior vocabulary, listening comprehension, and cloze task ability in interaction with time

spent reading and found that only student performance on the cloze task interacted with time spent reading these text types to predict fall vocabulary. To my knowledge this is the first time the cloze task has been investigated in this way. The current findings suggest that the cognitive processes used to complete the cloze task may be similar to those needed to partially define and remember an unfamiliar word encountered in text, so the cloze task may be a useful tool in identifying students who need additional support in learning words from independent reading. More research needs to be conducted using this measure with different populations and in different contexts.

This study replicates Heyns's (1978) finding that low-income urban teens tended to regress in their vocabulary knowledge during the summer months. Summer has been described as a time when the "faucet" is off and students are not exposed to academic language and learning (Alexander et al., 2001; Entwisle et al., 1997; Entwisle, Alexander, & Olson, 2001). This study indicates that independent reading is not sufficient to keep the word-learning faucet "on" during the summer months. Though computer-based and teen-culture reading may be popular, reading these text types does not predict improved word learning. Reading books from the school summer reading lists may help some students, but it does not predict improved vocabulary outcomes for students with only a developing capacity to learn new words from their contextualized use in text. The current study suggests that we need to understand independent reading in a way that is expansive but parcels out how reading various text types predicts specific reading outcomes for different profiles of learners.

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