

Reading Experiences of Nonnative-English-Speaking Preservice English Teachers: A Turkish Case

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In an EFL context, where language learners and users lack sufficient opportunities to receive oral input, reading in English plays a major role in improving nonnative preservice English teachers' language proficiency and allowing them to access information recorded exclusively in English. The current study investigates prospective nonnative English teachers' reading experiences in the Turkish EFL context by describing their reading activities, both in their native and target languages through print and on-screen modes, inside and outside the classroom. These nonnative preservice English teachers reported reading less than four hours a day either for courses or pleasure. Second, they indicated that they read various materials both in Turkish and in English. However, this was mostly in Turkish, although English was their major. Lastly, almost all reported having an access to the Internet and the majority to a personal computer; however, they reported a preference for printed to on-screen materials for physical, cognitive, and affective reasons.

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In an English as a foreign language (EFL) context, in which language learners and users often lack sufficient opportunities to receive oral input, reading in English plays a major role in improving nonnative-English-speaking (NNES) preservice English teachers' language proficiency by giving them access to information recorded exclusively in English. It is impossible to deny the importance of reading in EFL contexts; language input

from reading directly affects second language (L2) production and proficiency. Efficient reading in English also allows prospective English teachers to join a “literacy club” that makes a wealth of English-language information, ranging from implicit cultural information to explicit professional information, available to them. Moreover, due to the rapid and influential changes that e-reading has brought to literacy, in the case of NNES preservice English teachers there is an expectation that they will be efficient readers in English, in both print and e-reading modes.

Reading has been defined as “the ability to draw meaning from the printed page and interpret this information appropriately” (Grabe & Stoller, 2002, p. 9), and there are various approaches to reading. Bottom-up approaches see reading as a decoding activity in which a reader “is assumed to decode precisely (in the case of English) from left to right, from letters into words, and from words into larger grammatical units in retrieving the writer’s meaning, step by step, from the text” (Eskey, 2005, p. 564). In contrast, top-down approaches see reading as, in Goodman’s (1998) terms, “a psycholinguistic guessing game”; Goodman defines reading as “a psycholinguistic process in that it starts with a linguistic surface representation encoded by a writer and ends with meaning which the reader constructs” (p. 12). Interactive approaches consider bottom-up as well as top-down approaches and propose that reading involves higher level mental processes as well as lower level processes such as text processing itself (Carrell, 1998; Hudson, 1998). As research has indicated, competent and successful readers use top-down and bottom-up strategies interactively (see Carrell, Devine, & Eskey, 1998, for further discussion). Recent research also sees reading as a sociocultural practice, to be approached from social, cultural, and political perspectives.

The close connection between the input reading and language proficiency gives reading an important role in EFL contexts, in terms of both language teaching and teacher education. Reading a variety of texts in English can provide a significant amount of the input necessary for language development. As Ellis (2009) puts it, “becoming fluent requires a sufficient sample of needs-relevant authentic input for the necessary implicit tunings to take place”

(p. 152). In EFL contexts, NNES preservice English teachers have much more limited access to authentic language input than their counterparts in English-dominant contexts. Therefore, reading in English in EFL contexts is especially important, because it can provide a sample of English to prospective teachers sufficient to improve their proficiency.

Language teacher preparation programs should deal with language proficiency as part of teacher professional development (Pasternak & Bailey, 2004). Some researchers even argue that improving the language proficiency of prospective teachers should be central in language teacher preparation in the EFL context (Barnes, 2002; Lavender, 2002). Empirical studies indicate a strong relationship between amount of reading and vocabulary knowledge, cultural knowledge, general knowledge, and verbal fluency (Cunningham & Stanovich, 1998; Stanovich, 2000; Wagner & Stanovich, 1996). Stanovich and his colleagues conducted several studies with students at all levels, from first grade to university, and showed that exposure to print is strongly related to reading skills, spelling, verbal fluency, vocabulary knowledge, cultural knowledge, and general knowledge. Extensive reading programs, in which language learners are assigned to read whole texts on their own time, have shown that reading has a dramatic effect on L2 acquisition (Krashen, 2004). Through extensive reading, readers improve not only their reading ability (Elley, 1991), grammar knowledge (Elley, 1991), and vocabulary knowledge (Hermann, 2003; Pitts, White, & Krashen, 1989), but also their writing ability (Mason & Krashen, 1997). In this sense, for an NNES preservice English teacher, being an efficient reader is central to his or her preparation to become a proficient language teacher.

Another opportunity that reading in English presents in EFL contexts is the possibility of accessing information recorded in this language. Because English functions as the common language of science and technology, it is the language in which the majority of information is produced and stored. Furthermore, through reading learners may acquire social capital and gain access to new discourses. Warschauer (2003) defines social capital “as the capacity of individuals to accrue benefits by dint of their personal relationships and memberships in particular social networks and

structures" (p. 316). In particular, online reading may enable language learners to gain the information necessary to form online relationships and to become a full member of the Internet community, able to establish and maintain relations through e-mail exchanges, forums, and other electronic channels. Through these relationships, readers can gain access to discourses that are created in the target language and that are different from their native discourses. According to Gee (1990),

a Discourse is a socially accepted association among ways of using language, other symbolic expressions, and "artifacts," of thinking, feeling, believing, valuing, and acting that can be used to identify oneself as a member of a socially meaningful group or "social network," or to signal (that one is playing) a socially meaning role." (p. 131)

Thus, the ability to read in English allows language learners to enter different communities and understand their complex patterns of language use.

As the world continues to move from the industrial age to the communication age, to be able to read, write, and communicate via computer networks has become essential for success (Warschauer & Healey, 1998). However, by changing the conventions of reading and writing, the Internet itself has altered the way we understand literacy. First, computers have added new grammars and new rhetoric to literacy. Second, they have altered the way we construct meaning from a text. On-screen text has its own grammar, which is different from the well-known characteristics of conventional text in English, whereby a page is read from the upper left to bottom right corner, and with features such as running heads, page numbers, standard margins, footnotes, titles, and subtitles (Selfe, 1989).

In contrast, hypertext is an entirely new form of text that exists only online. Hypertext is defined as "nonsequential writing—text that branches and allows choices to the reader, best read at an interactive screen" (Nelson, 1992, p. 2). Unlike the linear process of reading conventional text, reading hypertext is a nonlinear process, and following nonlinear, associative thinking is more difficult than following linear thinking. Because the reader starts

reading hypertext from where he or she chooses and ends at a point not defined by the author but by the reader, and because hypertext contains so much material, the reader may become frustrated and disoriented (Slatin, 1990). Although recent advances in electronic texts such as e-readers and iPads have brought e-text closer to conventional text in terms of appearance and portability, there are still enough differences to pose challenges. However, in this age of technology, NNES preservice English teachers are expected to be familiar with different types of electronic texts so that they can be efficient readers and introduce these texts to students.

This article investigates NNES preservice English teachers' reading experiences in a Turkish EFL context, inside and outside the classroom, through a description of their reading activities, in both their native language and the target language, in both print and on-screen modes. More specifically, it investigates how much preservice language teachers read in Turkish and in English, what they read, and which mode (print or on-screen) they use.

METHOD

The Questionnaire

For this descriptive study a questionnaire with both closed-ended and open-ended items was developed. The first part of the questionnaire consisted of 20 yes/no items covering respondents' access to computers, whether they mostly read in Turkish or English, and whether they read online or printed materials. The second part asked how much they read a day on average. The third part asked the length of time respondents could read in either language, online or in print, before needing a break. The fourth part consisted of two demographic items about respondents' gender and level of education. The fifth and final part consisted of three open-ended items designed to elicit what they read in Turkish and in English, preferences for particular types of book and magazines, preferences for either electronic or printed materials, and reasons for these preferences.

The reliability of the instrument was established through the test-retest method, which "involves administering the same test

twice to the same group after a certain time interval has elapsed” (Fraenkel & Wallen, 2000, p. 177). The instrument was administered twice to the same group within 3 months, and the reliability coefficient was found to be .78.

Respondents

One hundred and five preservice English teachers at a state university took part in the study. Out of 18 classes in the English Language Teaching Department, 5 were randomly selected for participation. Population (the total number of preservice teachers enrolled in the department) consisted of 536 preservice teachers; 386 were female, 150 male. This ratio was reflected in the subpopulation used in this study; 79% of 105 participants were female. The class distribution of the participants was 19.0% freshman, 46.7% junior, 23.8% sophomore, and 10.5% senior.

FINDINGS AND RESULTS

How Much Do They Read?

As can be seen in Table 1, almost half of the preservice teachers reported spending less than 1 hour a day reading, whether for course work or for other purposes, and almost all spent less than 2 hours. None of the NNES preservice teachers reported reading 4 or more hours a day.

On average, although participants reported that they could read continuously for more than 1.5 hours in Turkish, in English the average was less than 1 hour (Table 2), showing that they could read for longer in their native language. Similarly, they reported being able to read printed materials (nearly 92 minutes on average) for almost twice as long as online materials (nearly 48 minutes on average).

TABLE 1. Breakdown of Preservice Teachers According to Daily Reading Time

	Less than 1 hr (%)	1 to 2 hr (%)	3 to 4 hr (%)	More than 4 hr (%)
Reading for course work	42.9	50.4	6.7	0
Reading for other purposes	46.7	45.7	7.6	0

TABLE 2. Means of “Reading Without a Break” (in Minutes)

	Mean	Min	Max	SD
Turkish	101.8	2	360	64.7
Print	91.6	25	360	63.5
Online	47.9	0	360	48.8

What Do They Read?

Almost all the preservice English teachers (92%) reported that they enjoy reading. They indicated that they mostly read in Turkish (86%) compared to in English, and mostly print materials (90%) compared to online materials. These NNES preservice English teachers reported that in Turkish they read newspapers (96%), books for their own interest (93%), e-mail (90%), magazines (84%), and books for courses (56%), and in English they read books for course work (97%), books for their own interest (69%), e-mail (60%), newspapers (56%), and magazines (47%). It appeared that although they read newspapers, books, e-mails, and magazines in both languages, the majority reported reading these materials mainly in Turkish, except for the course books, which were predominantly published in English. Answers to open-ended items reveal similar tendencies:

- I read magazines and other Turkish books. I like reading books but I rarely read in English and now I feel this has had a bad effect. (Fatih, junior)
- I prefer to read in Turkish, but in order to improve my reading skills I read in English as well. (Gül, sophomore)
- In Turkish, I like reading historical books. In English, I read the books which my teachers want me to read. (Tülay, freshman)

As can be observed from the quotations taken from participants’ answers to open-ended items, these preservice teachers reported reading in both languages, although more in their native language than in English. They seemed to be aware of the necessity of reading in English to improve their language proficiency. However, it seemed they did not read in English for pleasure as much as in Turkish. The main reason for reading in English seemed to be course requirements.

In addition to books, newspapers, and magazines, open-ended item analysis reveals that some of these preservice teachers also read plays, short stories, poems, comic books, instructions (especially online instructions related to computer games), online sites such as mynet, forums, and websites related to health, music, sport, and the like. When it comes to types of materials, the majority indicated interest in adventure, historical, and romantic books. The next most popular areas were science fiction, psychology, literature, horror, thrillers, biography, philosophy, and sociology.

Participants were also interested in reading magazines on various subjects. The most mentioned covered different countries and cultures, such as *National Geographic* and *Atlas*; comics such as *Penguen* and *Uykusuz*; and science magazines such as *Bilim ve Teknik* and *Sızıntı*. They also mentioned magazines that cover psychological issues and personal development, such as *Genç Beyin*; news, such as *Newsweek*; and women's fashion, such as *Cosmopolitan* and *Hey Girl*. In addition to these, some preservice teachers also mentioned magazines on politics, music, television, sport, decoration, food, literature, art, and computers.

Which Mode (Print vs. Online) Do They Use?

Almost all (90%) of the participants had access to the Internet, and a majority (76%) owned a personal computer. However, only a minority (16.8%) indicated that they preferred reading online materials. The majority (90%) preferred to read printed materials. Some (6.8%) enjoyed both. The analysis of open-ended questions indicates physical, cognitive, and affective reasons behind this preference.

Physical reasons mentioned for this preference include avoidance of eye strain and a preference for holding the materials while reading. Participants also indicated that printed materials were portable and could be read anywhere, such as in the comfort of their bed.

Because of the computer screen, now I have to wear glasses.
(Zümrit, sophomore)

It is the best thing to touch the paper itself and smell that bookish odor. (Burcu, junior)

I mostly read printed material . . . because sitting in front of the computer makes me very tired and after a while my eyes hurt, I couldn't look at the screen. It is easier and more comfortable to read print. I can read it whenever and wherever I want. (Ayse, freshman)

The frequency analysis of the open-ended items reveals that a majority of the preservice teachers (78%) complained that reading on a computer screen tired their eyes and caused long-term negative effects, such as the need for glasses.

The cognitive reasons for disfavoring electronic text included inability to concentrate and read for a long time; inability to underline, highlight parts, or take notes; and difficulty comprehending and recalling the information. The preservice teachers indicated that print materials were better organized, and they could turn back while reading and understand much more. It appeared that these participants had not developed cognitive strategies for online reading, but preferred to rely on strategies developed for reading printed materials, such as underlining and note taking.

When I'm reading on-screen, I can't concentrate on things. (Nur, senior)

I like reading printed materials because I understand better while reading them. I can see the whole materials, also highlight the important points. (Imren, senior)

It is easier to read print compared to on-screen. I lose my concentration while looking at a screen, my eyes become sore, and I cannot read for a long time. Therefore, I like to read books, magazines, and newspapers. (Dilek, freshman)

I like printed materials. Because reading is very boring, tiring work when you read something on-screen. . . . Also, you can underline and take some notes, if you read printed materials. (Gür, sophomore)

I like printed materials because I find reading materials on-screen really hard. . . . When I am reading printed materials, I find it easier to get involved in the text because I can take notes on the paper, and I can highlight important points by underlining or circling on the text. (Begum, sophomore)

Frequency analysis of the open-ended items reveals that a majority of the preservice teachers (85%) complained about the impossibility of concentrating while reading from a computer

screen and about their ability to interact with the text because they could not apply accustomed strategies, such as underlining. It seemed that they had not developed ways to interact with on-screen text, possibly because of lack of on-screen reading experience.

These preservice English teachers also mentioned affective reasons for preferring to read printed materials. They indicated that virtual reality was artificial, not as real and not as connected to life as printed materials. The majority appeared to neither enjoy nor engage in reading online materials. In contrast, they indicated that when reading printed materials they felt comfort and pleasure. It appeared that they had become used to reading printed materials and did not believe learning took place while reading online material.

Printed materials attract me most. I don't like spending hours in front of a screen just staring at it. I don't get the same pleasure. While reading printed materials, I really feel "reading." The smell of the books fascinates me. (Merve, junior)

I prefer to read printed materials. I find them more real. I don't get pleasure when I read a book or a magazine on the net. It is artificial. (Hanife, freshman)

I don't like reading on-screen. I want to touch the paper while reading. If I don't do this I can't get pleasure from reading. (Tulay, freshman)

They seemed to have emotional attachment to printed materials, which were more familiar, and to resist reading text on-screen, which they found artificial. Reading a text on-screen was rather unfamiliar. They seemed not to have extended their definition of reading to include reading from a screen.

Content analyses of open-ended items reveals that these students reported using different modes for different purposes. They reported a preference for reading printed books for pleasure and for using a computer and an Internet connection to search for specific information. Thus, it appears that while making use of computers and the Internet as aids similar to a dictionary or an encyclopedia to find specific information, they preferred print materials such as books and magazines for pleasure.

For pleasure, I prefer the printed materials as they are easier to follow. For courses, I prefer the on-screen ones as we have

Ctrl+F combination—searching for the key words. (İbrahim, sophomore)

I read news on-screen, and some websites which are related to health problems and solutions, and useful information related to people's life style. (Nur, sophomore)

I read newspapers on-screen and summaries of some English books. Because when I read the summary, I can understand the book more clearly. (Gizem, freshman)

It appears that although these NNES preservice English teachers tended to read on-screen the new genres (news forums, websites) created by computer technology, they insisted on reading old genres (books, magazines) in print. In fact, for these preservice teachers, the act of reading was closely associated with print, on-screen text being a relatively new concept. Their on-screen reading was limited to forums, e-mails, and certain websites, and had not affected their reading of printed texts to any significant degree.

CONCLUSION AND SUGGESTIONS

The results of the current study reveal that the overwhelming majority of these NNES preservice English teachers in the Turkish EFL context claimed to enjoy reading, although none reported reading for 4 or more hours a day for either courses or pleasure. Second, they indicated that they read various materials such as newspapers, books, magazines, e-mails, websites, plays, short stories, poems, and so on in both Turkish and English. However, the reading was mostly in Turkish, even though English was their major. Lastly, almost all reported having access to the Internet and the majority owned personal computers; however, they reported a preference for print to on-screen reading for physical, cognitive, and affective reasons.

The finding indicating that these preservice teachers do not read much in general is consistent with the results of previous related studies conducted in the Turkish context (Arici, 2008; Ataklı, 2000; Ögeyik & Akyay, 2009; Oguz, Yıldız, & Hayırsever, 2009). These studies indicate that inservice and preservice elementary school teachers and Turkish and foreign language teachers tend not to read much due to lack of time, the fact that they are unaccustomed to reading, heavy work load, lack of access, and high cost of books

(Arici, 2008; Ataklı, 2000; Ögeyik & Akyay, 2009; Oguz et al., 2009). In the current study, the NNES preservice English teachers reported enjoying reading in general, which is consistent with another study conducted with preservice English and German teachers in the same context (Ögeyik & Akyay, 2009). In contrast to the earlier study, however, the participants of this study seem to prefer reading in their native language, Turkish.

Preservice English teachers in the current study reported reading less in English even though it was central to their studies. This lack of interest may indicate that they do not see English as a natural part of their lives, but as a foreign language removed from their day-to-day reality. Neither is it seen as a mutual language that they can use to participate in different discourses, but as a school subject, an academic subject, with no clear connection with their everyday reality. They need to be encouraged to read more, especially in English, through raising their awareness of the importance of reading in the process of becoming an effective professional, through encouraging them to participate in online communities, and through providing extensive reading programs that supply materials and spaces in which preservice English teachers can read.

It appears that the materials such as books, magazines, web pages, and so on that preservice teachers reported reading are not directly related to language teaching and learning. Moreover, they mentioned no membership in any forum or social network related to language teaching and learning. Teacher preparation programs need to raise the awareness of preservice teachers in regard to the close ties between reading and professional development. These programs also need to emphasize the importance of the role of reading in the professional development of teachers.

Results also indicate that these NNES preservice English teachers have not become accustomed to reading materials online. They have neither fully accepted nor adjusted to this new mode. They seem to have strong emotional bonds to reading print materials and resist the new mode. It is possible that the different cognitive skills demanded may discourage openness to this mode. As predicted, the different layout of online material and the hypertext features of the electronic text seem to frustrate these

readers (Slatin, 1990). When more recent advances in electronic text such as e-readers and iPads, which are more like printed text in terms of being portable and allowing highlighting and bookmarking, become available to these preservice teachers in the near future, these devices may alter how they approach reading electronic text in English. In this sense, preservice teacher training programs should incorporate extensive reading programs that provide electronic as well as conventional texts and assistance for students to develop necessary technological skills.

Finally, the current status of English around the world and consequent high levels of intercultural contact should be explicitly discussed in teacher education programs in order to raise prospective teachers' awareness of how reading could enable them to gain the implicit cultural knowledge essential for intercultural understanding. Through developing literacy in a foreign language, one can learn more than simply vocabulary and structure; one can "begin to understand another way of thinking, . . . be sensitized to different cultural frames" (Kern, 2000, p. 1). Through reading and evaluating various texts, NNES preservice English teachers can be sensitized to the different norms, beliefs, values, and assumptions of the producers of the text.

This study was conducted to investigate NNES preservice English teachers' reading experiences. The results indicate that these teachers need to be encouraged to read more in English in order to gain awareness of the importance of reading in improving their proficiency and to gain access to implicit and explicit information provided in English. Furthermore, in this age of technology, NNES preservice English teachers need to be equipped with the knowledge of current advances in electronic literacy and the necessary skills to cope with electronic texts.

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REFERENCES

- Arici, A. F. (2008). Pre-service teachers' reading tendencies: Implications for promoting reading. *American Journal of Applied Sciences*, 5, 645–652. doi:10.3844/ajassp.2008.645.652
- Ataklı, A. (2000). The views of classroom teachers on the reading habits of Turkey. *Hacettepe Üniversitesi Eğitim Fakültesi Dergisi*, 19, 20–28.
- Barnes, A. (2002). Maintaining language skills in pre-service training for foreign language teachers. In H. Trappes-Lomaz & G. Ferguson (Eds.), *Language in language teacher education* (pp. 199–217). Amsterdam, The Netherlands: John Benjamins.
- Carrell, P. L. (1998). Introduction: Interactive approaches to second language reading. In P. L. Carrell, J. Devine, & D. E. Eskey (Eds.), *Interactive approaches to second language reading* (pp. 1–5). New York, NY: Cambridge University Press.
- Carrell, P. L., Devine, J., & Eskey, D. E. (Eds.). (1998). *Interactive approaches to second language reading*. New York, NY: Cambridge University Press.
- Cunningham, A., & Stanovich, K. (1998). The impact of print exposure on word recognition. In J. Metsala & L. Ehri (Eds.), *Word recognition in beginning literacy* (pp. 235–262). Mahwah, NJ: Lawrence Erlbaum.
- Elley, W. (1991). Acquiring literacy in a second language: The effect of book-based programs. *Language Learning*, 41, 375–411. doi:10.1111/j.1467.1770.1991.tb00611.x
- Ellis, N. C. (2009). Optimizing the input: Frequency and sampling in usage-based and form-focused learning. In M. H. Long & C. J. Doughty (Eds.), *The handbook of language teaching* (pp. 139–158). Chichester, England: Blackwell.
- Eskey, D. (2005). Reading in a second language. In E. Hinkel (Ed.), *Handbook of research in second language teaching and learning* (pp. 563–580). Mahwah, NJ: Lawrence Erlbaum.
- Fraenkel, J., & Wallen, N. (2000). *How to design and evaluate research in education*. Boston, MA: McGraw-Hill.
- Gee, J. P. (1990). *Social linguistics and literacies*. London, England: Taylor & Francis.

- Goodman, K. (1998). The reading process. In P. L. Carrell, J. Devine, & D. E. Eskey (Eds.), *Interactive approaches to second language reading* (pp. 11–21). New York, NY: Cambridge University Press.
- Grabe, W., & Stoller, F. (2002). *Teaching and researching reading*. New York, NY: Longman.
- Hermann, F. (2003). Differential effects of reading and memorization of paired associates on vocabulary acquisition in adult learners of English as a second language. *TESL-EJ*, 7(1).
- Hudson, T. (1998). The effects of induced schemata on the short circuit in L2 reading: Non-decoding factors in L2 reading performance. In P. L. Carrell, J. Devine, & D. E. Eskey (Eds.), *Interactive approaches to second language reading* (pp. 183–205). New York, NY: Cambridge University Press.
- Kern, R. (2000). *Literacy and language teaching*. Oxford, England: Oxford University Press.
- Krashen, S. (2004). *The power of reading*. Westport, CT: Heinemann.
- Lavender, S. (2002). Towards a framework for language improvement within short in-service teacher development programmes. In H. Trappes-Lomaz & G. Ferguson (Eds.), *Language in language teacher education* (pp. 237–250). Amsterdam, The Netherlands: John Benjamins.
- Mason, B., & Krashen, S. (1997). Extensive reading in English as a foreign language. *System*, 25, 91–102. doi:10.1016/S0346-251x(96)00063-2
- Nelson, T. (1992). *Literary machines*. Sausalito, CA: Mindful Press.
- Ögeyik, M. C., & Akyay, E. (2009). Investigating reading habits and preferences of student teachers at foreign language departments. *International Journal of Language, Society and Culture*, 28, 72–79.
- Oguz, E., Yıldız, A., & Hayırsever, F. (2009). Assessing reading habits of future classroom teachers in the context of their socio-demographic features. *International Journal of Psychological and Behavioral Sciences*, 1, 141–144.
- Pasternak, M., & Bailey, K. M. (2004). Preparing nonnative and native English-speaking teachers: Issues of professionalism and proficiency. In L. D. Kamhi-Stein (Ed.), *Learning and teaching from experience: Perspectives on nonnative English-speaking*

- professionals* (pp. 155–175). Ann Arbor: University of Michigan Press.
- Pitts, M., White, H., & Krashen, S. (1989). Acquiring second language vocabulary through reading: A replication of the Clockwork Orange study using second language acquirers. *Reading in a Foreign Language*, 5, 271–275.
- Selfe, C. (1989). Redefining literacy: The multilayered grammars of computers. In G. E. Hawisher & C. L. Selfe (Eds.), *Critical perspectives on computers and composition instruction* (pp. 3–15). New York, NY: Teachers College Press.
- Slatin, J. (1990). Reading hypertext: Order and coherence in a new medium. In G. E. Hawisher & C. L. Selfe (Eds.), *Critical perspectives on computers and composition instruction* (pp. 870–883). New York, NY: Teachers College Press.
- Stanovich, K. (2000). *Progress in understanding reading: Scientific foundations and new frontiers*. New York, NY: Guilford Press.
- Wagner, R., & Stanovich, K. (1996). Expertise in reading. In K. Ericson (Ed.), *The road to excellence* (pp. 189–225). Mahwah, NJ: Lawrence Erlbaum.
- Warschauer, M. (2003). Social capital and access. *Universal Access in the Informtion Society*, 2, 315–330. doi:10.1007/s10209-002-0040-8
- Warschauer, M., & Healey, D. (1998). Computers and language learning: An overview. *Language Teaching*, 31, 57–71. doi:10.1017/S0261444800012970