THE RELATIONSHIP BETWEEN ONLINE READING RATES AND PERFORMANCE ON PROFICIENCY TESTS

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Abstract

This article examines the relationship between online reading speed rates and performance on proficiency tests, given the proliferating use of the Internet. The study involved twenty-five post-graduate students enrolled in an ESL Course at the Private Center for Teaching English as a Foreign Language in Kuwait and who are also involved in postgraduate studies. Twelve were familiar with the computer while others were not. Tools used included a background questionnaire to tap into readers' online accessing of reading materials and their computer familiarity, the Online Speed Reading Test, and a simulated TOEFL Reading Subtest . The main finding of this study is that high rates of reading speeds are positively correlated with good performance on the CBT TOEFL subtest of Reading Comprehension. A correlation co-efficient assessed between the statistics of high-speed readers and high performance rates of subjects of the study reached 0.92. The results of this study suggest that designers of online information should consider that reading online is slower than on paper, which may affect performance on proficiency assessments.

I. Introduction

Reading is becoming more and more important in the new knowledge economy and remains the most effective human activity for transforming information into knowledge, be it reading on paper or from the screen. The significance of reading as a major skill and of its sub-skills is attested for so that academic goals need to be pursued right from the beginning in second-and foreign-language classroom settings, especially if the students are expected to be involved in later academic pursuits at advanced levels such as reading abstract materials, getting down to key ideas from lectures, writing critiques, and summaries, and so on and so forth (Richard-Amato, 1996). However, reading from computer screens is becoming more and more common in our daily lives as the amount of reading material available on line is rapidly increasing (Sawaki 2001). With the computer being more integrated into daily life, more and more people need to read online information.

With the advent of the Internet in the 1980's and a proliferating application to different educational practices, the need for online rending has become urgent. There is an acute change towards online journalism, internet- based literature reading, online news casting, ads, research findings dissemination, and more importantly, examinations, particularly importantly, examinations, particularly language proficiency examinations which all poignantly indicate the importance of screen online reading.

As well, reading online especially during test taking is becoming more and more common (Dyson and Haselgrove, 2000). Not only does that hold true in cases of test taking, but also it is becoming more and more common in our daily life as the amount of reading material available online is rapidly increasing (Stern and Woolfe, 2000). Research shows that reading is around 25% slower from a computer screen than from paper. This difference generally increases with increasing reading speed (Sawaki, 2001; Ziefle, 1998).

Unfortunately, this is far from the real situation. The average reader is five times slower than the good reader. Things are even worse if we consider reading efficiency as well as speed, especially during performance on CBT proficiency exams. Efficient reading is not just speed-reading. The goal of an efficient reader is to understand what they are reading, and to learn from it, while not wasting time. Speed is a part of efficient reading, but certainly not the only part, and not even the most important part.

Now that the trend is more in line with the field of L_2 assessment transforming into a computer-based medium, the need to examine this issue of the relationship between reading speed rates and the online medium has been addressed in the context of English as a first language. A few studies have dealt with the relationship between online reading rates and performance in English as a second language; none has so far been done in the case of English as L_2 for students whose native language is Arabic. This study seeks to investigate whether reading speeds from the screen during online administration of proficiency tests may affect performance of testers on such tests or not. In the following section, a review of the literature of reading comprehension from on the screen and from paper is highlighted.

II. Review of Related Literature

In this section, the researcher reviews the main issues related to online reading speed rates versus the traditional mode of paper and pencil during proficiency test taking processes. Thus, the section is divided into subsections as follows:

2.1 The importance of online reading as compared to P&P:

Because of the importance of reading online, a large number of studies investigating factors affecting reading of electronic text were conducted. Muter and Maurutto (1991) listed a number of differences between reading from paper and screen that may account from the slower reading speeds on screen. Another study also found that reading from papers is 20-30% faster than reading from monitors (Bailey, 1999).

However, Nielsen (1998) suggested that with better screen resolution (300 dpi) the reading speed from the monitor will equal the reading speed from paper. Ziefle (1998) investigated the effects on reading performance using hardcopy and two resolutions of monitors: 1664x1200 pixels (120 dpi) vs. 832 x 600 pixels (60 dpi). Participants read from the same 19-inch monitor using black characters on light background. The subjects viewed the material from a distance of 20 inches (50 cm). The study found that reading from hard copy was reliably faster (200 wpm versus 180 wpm on screen).

In terms of online information layout formats, a previous study (Lam, Lam, Liu & Shin, 2000) comparing the reading speed in reading one and three column passage found that the majority of the subjects read the three-column passage faster than the one column passage. Another study investigated user preference between one and three- column

format passages and found that the subjects were significantly more satisfied with the three-column format when the passage was displayed on high-resolution screen (800 and 1000 pixels) and found no significant difference with 600 pixel screen (Andreyev & Martynov, 2000).

2.2 The differences between reading from printed vs. electronic text.

One should note that online reading is different to screen reading, now that the tension of time limits and other logistic factors may be harsher than reading from the screen, which may be totally under the control of the reader. The case is made clear if we can compare a student setting for the TOEFL and an ordinary Internet browser reading some news online.

Online reading speed rates may affect the way students are assessed, and more perilously, the way their scores are interpreted. Some readers may involve the use as phonological processes in reading which surely induces low reading achievement. Rack, Snowling, & Olson (1992) call this *cognitive dyslexia*. Moates and Lyon (1993) attribute this possibility of a reading disability in educational evaluations to the fact that many of the tests used in these evaluations lack technical adequacy. More specifically, Spray, Ackerman, Rckase and Garlson (1989) argue that the presentation mode effects on test performance found in previous research may partly be due to differences in the flexibility of test administration conditions. According to their research, mean scores and cumulative score distributions for the reading scores across modes on a test for the ground Radio Repair course involving a reading component, were not significantly different between the p & p and the computerized test groups. Additionally, they found no item bias due to presentation mode effects, concluding that p & p and computerized test results would be equivalent when the same test-taking conditions flexibility is maintained across modes.

Greaud and Green (1986) reported low- cross-mode correlations in a speeded clerical skills test when corrected for attenuation, indicating virtually across-modal differences on performance between a p & p and an online armed services vocational aptitude battery. Mead and Drasyow's (1993) meta-analytical review found in their meta-analysis of 159 correlations obtained in the previous mode of cognitive ability assessment presentation studies that the estimated cross-mode correlations were 97. and 72. for timed power tests and speed tests, respectively.

2.3 Effects of CBT and computer familiarity on the reading subtest:

Usually, computer-based testing is said to impair the validity of reading tests as compared to the conventional mode of reading material presentation of a paper and pencil tradition. Green (1988) in this respect compared the construct validity of the CAT versus the traditional paper – and – pencil mode of presentation of the Armed services vocational Aptitude Battery (ASVAB).

Another aspect of construct validation of an online reading test has to do with the effect of examinee backgrounds on test performance and on attitudes towards new forms of language tests. Sawaki (2001) clearly and aptly observes that investigation of these issues related to construct validation of CBT is important because a test score obtained from a computerized test should refer the construct of interest only; i.e., if the test scores across modes is on longer possible.

However, there are a few studies that related to computer familiarity and its potential in affecting performance on CBT's and CAT's of primary significance in this

respect is the study by Taylor, et al. (1998) who conducted a large scale study that investigated the effects of computer familiarity on ETS-CBT TOEFL candidates performance after providing examiners with computer familiarization exercises to readjust themselves to a CBT TOEFL version. A CBT version of the TOEFL was administered at (12) worldwide sites to a sample of candidates contrasted with a p & p version. The candidates were classified as either computer familiar, or computer unfamiliar, groups based on their responses to a computer familiarity scale. Results show that performance between the familiarity groups versus the non-familiarity groups were statistically and practically significant, furthermore, examinee background in terms of previous TOEFL taking significantly interacted with computer familiarity on the TOEFL reading subtest, with a virtually practical significance level. In 1994, Oltman compared the complexity levels of mouse manipulation required on performance the reading and math subtests of the CBT academic skills assessments for the praxis series: professional Assessment for beginning teachers. The reading and math subtests were given to 333 minority statements and 148 white students enrolled in a local university who were not experienced mouse users. Oltman (1994) concluded that the difference was statically significant but not albeit practically significant.

In another context, Yassis (2000) tackled the cross-modal reading performance of students in terms of the reading rates in speed between on line and conventional reading modes. Yassis (2000) conducted his study on 44 undergraduates and graduates involved in an advanced ESL course at a North American university who participated in weekly timed and paced reading exercises on paper, while another 9 students performed these exercises on the computer. By the time they had to exit the ESL course, participants read two 1000 word passages at the 8th grade readability level on the IRL Scale, one on paper and the other on the computer and then answered a 10 multiple choice reading comprehension questions after each passage. By regression analyses, the mode differences on reading comprehension and speed were not significant furthermore, the researcher pointed out that while the computer practice group read more slowly them the paper and pencil practice group, they performed significantly computer based practice but the differences are attributed to differences in practice conditions. Based on group the findings of the study, it was concluded that the computer-based practice group was focused on the content setting their own reading pace, while the other paper-based reading practice group had their pace determined by their trainers. Furthermore, a positive attitude was a significant predictor of better comprehension, not of reading speed.

2.4 Dubiety and confusion raised in the literature that compares online reading speed rates with P&P:

Findings on reading speed rates in the studies are rather mixed in nature (Dillon, 1999). In terms of the level of reading comprehension, six studies out of nine reviewed in Dillon (1992) reported that comprehension was similar across modes (Feldmann & Fish 1988 ; Fish & Feldmann, 1997; McGoldrick, et al. 1992; Macknight, et al., 1990. Reinking 1988 Zuk 1986). One study favored P & P over CBT (Heppner, et al. 1985), while two school interactions with the passage (Belmore, 1985) and the other with the text difficulty and type of text manipulation (Reinking & Schreiner, 1985).

To add to the complexity and dubiety in the findings reviewed in Dillon (1992) synthesis, three studies (Belmore, 1985; McGoldrick et al, 1992; and Zuk, 1986)

indicated that reading took a longer processing time on the screen than on the paper based reading tasks while another three (Feldmann, & Fish, 1988; Fish and Feldmann, 1987; and McKinght, et al. 1990) reported that reading rates were not significantly different cross-modally. Research reviewed by Dillon (1992) showed that though three studies investigation effects of online reading on reading speeds reported that reading from the screen was slower than reading from print.

Furthermore, the study by Hansen, Doung, and Whitlock (1978) examined how subjects in their study took a longer time performing on a CBT of science. As Sawaki (2001) looks at this finding, the results may not be directly relevant to the case of reading, but the researchers, explanations on why the subjects took longer to perform on the CBT Science are worth noting here. It was pointed out that two sources of differences in the time spent by the CBT group of science test takers and the conventional p & p group: these are attributed to a) computer system requirements such as in time used to go back to the table of contents to select the next task and the time on the screen; and b) participants' unfamiliarity with the computer and computer systems. Neuman and Baydoun (1998) found high cross-mode correlations between P&P and computerized testing. In this respect, Sawaki (2001) notes that qualitative and quantitative analyses of equivalent of the construct being measured and psychometric properties between the test forms must be examined. This is one problem associated with cross-modal presentation of tests in general and reading tests in particular to reiterate, there is, unfortunately little empirical research on the effects of the mode of presentation on the reading comprehension subtests, especially in L2 or FI reading research following, however, will be a concise outline as a patchwork of research on the topic as specifically related to reading comprehension.

2.5 What the research needs to investigate:

But the research findings are not consistent, thus validating the need for more research in this respect. Most of these studies have been conducted on subjects whose first language is English, which may exclude other factors related to proficiency in English as with non-native speakers such as the subjects of the present study whose native tongue is Arabic, and English to them is a foreign language. Five only of the studies above reviewed have been taken in contexts where English is I_2 . Due to lack of research in the area of investigating reading speed rates as related to performance on proficiency tests, this study may look appropriately in need.

III. Layout of the Study:

3.1 The Context of the Problem:

This study seeks to fill the gap in previous research studies done to investigate the relationship between online reading speed rates and performance on proficiency tests; previous research above referred to has been undertaken in L_1 contexts, and some of it have been taken to examine reading in course disciplines other than language. As well, the results revealed are of a mixed up nature where some rebut the others. Therefore, we need to identify the relationship between online reading speed rates and performance on major English as a foreign language proficiency tests – i.e., the reading component on the TOEFL or the IELTS for non-native speakers of English in the state of Kuwait. The problem of the study can be rephrased in the following research question:

• What is the relationship between the reading speed rates of non-native speakers of English and their performance levels on proficiency tests?

3.2 Hypothesis of the Study:

Now that training on computerized test taking and familiarity with the screen may help as identified in previous research (Green, 1988, Taylor, et al., 1998), it could be hypothesized that there is a significant and positive relationship between the reading speed rates of non-native speakers of English and their performance levels on proficiency tests.

3.3 The participants in the study:

Twenty-five post-graduate students involved in an ESL Course at the private Center for Teaching English as a Foreign Language in Kuwait and who are also involved in postgraduate studies volunteered to participate in this study. 21 were Kuwaitis; while the other four belonged to other Gulf nationalities. Twelve were familiar with using computers in accessing data, e.g.: news, research findings ads, etc. Their age levels ranged between 27-39 Academic records of the students indicate that they have reached levels ranging between intermediate and upper intermediate students so as do control for the variable of proficiency levels. Students who participated in this study usually set for a scholastic aptitude test in English when they set for an undergraduate or a graduate course in the Kuwait University. Their scores on the English proficiency test taken for matriculation in graduate studies indicate that they have reached the intermediate to upper intermediate levels. As well, they should submit valid TOEFL scores so as they may be admitted in graduate studies. In addition, the candidates participating in the study do not suffer from any visual or manual impairments; this has been ascertained to through the subjects medical files in the graduate studies office upon their consent; this procedure has been taken so as to make sure any visual or manual impairment was absent so as not to affect the results. Reading speed rates may be badly affected by the students' visual disabilities even if minor (Wilkins, A. ,1986; Rack, J.P., Snowing M. J. and R. K. Olson (1992; Brodney AC, Pozil R, Mallinson K, Kehoe P., 2001).

3.4 Instruments:

Instruments used include a *background questionnaire* (Appendix I) intended to tap into readers' online accessing of reading materials and their computer familiarity, the *Online Speed Reading Test* available online from www.readingsoft.com, and a simulated *TOEFL Reading Subtest* given on the computer for subjects of the study. The Reading subtest was taken from Baron's 10th Edition by Pamela J. Sharpe (2001).

3.5 **The research design:**

The design manipulable here is of the type "Post-test control group design".

3.6 Testing Procedures

The online reading test is composed of the instructions followed by a passage of 10 paragraphs including a table, all made up of 646 words. The test is administered online at <u>www.readingsoft.org</u>, and is scored online. The test is composed of 11 question items of the multiple-choice format. Their performance was determined by the score they were assigned on the test online generated automatically when they submit their answers.

3.7 Procedures

The subjects were given an online reading speed test available @ <u>www.readingsoft.com</u>; the test is available in hard copy as Appendix II. The test description is avail able online @ www.readingsoft.com. It is also marked automatically by the computer online; the participants who volunteered to be involved in this study were equated on the variable of proficiency.

Participants were tested individually and simultaneously in a computer lab attached to the English education centre. They were introduced how to work out the reading speed test. Findings of this test indicated that the computer familiar group was reading between 13-20, while the other computer unfamiliar group read at IRL of below 12.

Participants, on another day of the experiment, were asked to test on the TOEFL reading subtest using a CBT-based reading exercise provided in on a CD. The online reading test was administered to assess the reading speed rates of each student in the sample. Then, given the reading subtest in sample TOEFL test number one on the Sharpe (2001) CD, they were assessed for performance as determined by the number of correct answers weighted by time.

3.8 Statistical Treatment:

Means, Standard Deviations, and Correlation Coefficient were used to analyze the obtained data.

IV. Results:

1- The following table summarizes the findings of the online reading speed test for a computer familiar group (12 students) and the other unfamiliar group (13):

Group	Mean scores	SD
Computer familiar	6.2	5.8
Computer Unfamiliar	8.9	2.3

Group		Mean	SD
Computer familiar Group		17.3	2.3
Computer	Unfamiliar	26.1	4.1
Group			

2- The following table summaries the statistics of the examinees on the TOEFL reading subtest:

3- The main finding of this study is that high rates of reading speeds are positively correlated with good performance on the CBT TOEFL subtest of Reading Comprehension. A correlation co-efficient assessed between the statistics of high-speed readers and high performance rates of subjects of the study reached 0.92. High performance of subjects setting for the TOEFL reading subtest was determined in terms of completing the reading tasks within the limited time and achievement on the subtest which ranges from 30.

It is clear from the results that, for Arabic speaking students performing on the reading subtest of a simulated CBT TOEFL, candidates with a strong computer familiar background, and whose reading speeds are higher reaching between 13 -20 on the ILR scale of proficiency determined by the ACTFL association.

The results of this study are ambivalent in terms of other studies reviewed in the literature, such as that by Eighor, Taylor, Kirsch, and Jamieson (1988) or that by the same authors (1998) who concluded that computer familiarity does not play a major role in CBT-TOEFL performance further more, the study findings are not inconsistent with that Hansen et al. (1978).

However, this study bore findings partially consistent with those borne by the studies of Fulcher (1999), Dhman (1994) and that by Oborne and Holton (1988) who all attributed differences in reading speed to insufficiencies in controlling extraneous variables or familiarity with the computer. The most striking aspect of this study is that it attempted at assessing effects of reading speed rated on performance on the CBT-TOEFL subtest of Reading Comprehension.

V. Summary

The general trends reviewed in Dillon (1992)'s synthesis and analytical review and the studies Gould, *et al.* (1987) reveal that comprehension of CBT-based reading is at best as good as that of print-based reading (sub) tests, with slight occurrences of speed rate differences in reading affected by mode of presentation. Furthermore, extraneous factors of texts, eye-screen distances, which is essentially different to the eye-book distance as well as the way the reader is positioned before the computer which is yet different to the way a book is held for reading all are conducive to differences in CBT and print reading not to mention other visual information processing factors. Therefore, several researchers indicated that more research is needed to investigate the differences in modes of presentation of reading (Belmore, 1985); Oborne and Holton 1988; Sawaki, 2001).

Therefore, evidential empirical data, which will allow researchers, language, test makers and language test users to investigate the soundness of computerized language

tests with regard to reading comprehension, is needed (Chalhoub-Deville and Deville, 1999).

The results of this study suggest that designers of online information should consider that reading online is slower than on paper, and they should take steps (using bigger font sizes, high contrast between text and background) to enhance online reading speed.

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Appendix I The Background Questionnaire

Name: Number Telephone E-mail: Put a circle for each of the following questions: 1. What is your gender? Male Female 2. What is your age 28-30 25-27 22-24 30-38 3. How long did you study English? 6-9 12-16 9-12 4. What is your nationality" Kuwaiti Gulf Arab Arab Non - Arab 5.Do you have any English speaking relatives? Yes No 6. Are you familiar with the computer? Yes No 7. How often do you use the computer? Many times a week Everyday None 8. Did you take the ETS- CBT TOEFL? Yes No 9. If yes, please specify your total score and your score on the reading subtest

APPENDIX II

Speed Reading Test Online

This is a reading online speed test used in this study and is available online @ <u>www.ReadingSoft.com</u> (The information contained here is directly from <u>www.readingsoft.com</u> and must be cited as such).

Description of the Online Reading Speed Test

-Are you an efficient reader? What kind of reader are you

-You will know in a few minutes after you have completed this free online speedreading test

-You will get your reading speed as soon as you have finished your timed reading. You may then perform a comprehension test with a series of questions about the text you have just read

Instructions

-Get ready to read, click the Start button and start reading. The button starts the timer. -Don't speed but read normally to find your present reading level

-Click the Stop button as soon as you have finished. This will stop the timer and display your reading speed

-Before you start the real test you may click Start, scroll down without reading, then click Stop to see what happens. You may also size the window of your browser to adjust column width

Speed Reading Test

If top readers read at speeds of above 1000 words per minute (wpm) with near 85% comprehension, they only represent 1% of readers. Average readers are the majority and only reach around 200 wpm with a typical comprehension of 60%. This seems surprising since most readers, actively reading work documents, newspapers, magazines, books or the contents of a computer display are practicing daily for at least one hour. With such an intense training everyone should be close to top performances

Unfortunately, this is far from the real situation. The average reader is five times slower than the good reader. Things are even worse if we consider reading efficiency as well as speed. Reading efficiency is reading speed weighted by comprehension rate and it amounts to 200 x 60% or 120 efficient words per minute (ewpm) for the average reader and to 1000 x 85% or 850 ewpm for top readers. Thus, an efficiency ratio of seven divides these two categories

Compare the results of the average reader to other areas. We may imagine a sprinter practicing every day for several years on the running track and then just calmly walking for a race. We can also picture a racing driver never exceeding 30 mph or a pianist playing every day of the week for 20 years and only able to play music like a beginner. Unfortunately, since the age of 12, most readers do not substantially improve their efficiency and never reach their full capacity

Every computer-user who is also a slow typist is aware of the benefits he could obtain with a typing course, but nearly no one suspects the much higher profits he could reach by improving his reading comprehension and speed. The rapid improvement of voice recognition may gradually make typing virtuosity obsolete since a good typist performs well under the speed of speech. On the other hand, human or computer speaking, with an average speed of 150 wpm, will always remain many times slower than a good reader without any consideration of the skimming and skipping possibilities

There are three possible ways to improve reading. The fastest is probably a speedreading seminar based upon good materials and animated by a dynamic instructor. It is quite usual for a slow reader to double and even triple his reading efficiency during a two-day class offering a positive atmosphere, carefully selected texts and comprehension tests. However, as this rapid and encouraging improvement is not sufficiently anchored, it often fades with time

A book about speed-reading is the second possibility. Such a book usually provides speed and comprehension tests as well as techniques to improve reading. It often includes more general information about concentration, interest stimulation, skimming techniques and ways to approach a text. Some methods may include audio or videocassettes. A book-based method requires a good deal of time as well as a strong commitment from the reader

Finally, a speed reading computer program is probably the most efficient way to achieve top reading levels. Computers offer unique exercises to boost reading efficiency through interactivity, text animation and pacing. Higher reading skills obtained with a computer screen are totally transferable to reading from paper. Unfortunately the inverse way does not work so well. Speed reading software delivers enjoyable and fast paced training, thus giving the consistent practice necessary to break lifelong slow reading habits. This is the task that seminars and speed-reading books usually leave up to the reader

Speed Reading Results

Typical reading results:

Measurements of speed and comprehension depend upon the text contents and upon a set of questions. Results in the table do not correspond to a specific test but give a general idea of reading efficiencies

Screen	Paper Comprehension	Reader profile:
100 wpm	110 wpm	50% Insufficient
200 wpm	240 wpm	60% Average reader
300 wpm	400 wpm	80% Good reader
wpm	1000 wpm	85% Excellent,
±		accomplished reader

You read at words per minute.....

Reading Comprehension Test

Online Speed Reading Comprehension test

For a better score, answer in harmony with contents of the previous speed reading test article. Your own knowledge or opinion may somehow differ from the facts and numbers provided. To answer, **click** the corresponding radio button.

Quiz

Q1. Compared to average reader, the accomplished reader reads with?

 $A^{\mathbb{C}}$ higher speed and worse reading comprehension $B^{\mathbb{C}}$ higher speed and better reading comprehension $C^{\mathbb{C}}$ higher speed and same reading comprehension

Q2. Readers reading above 1000 wpm?

- $\mathbf{A}^{\mathbb{C}}$ Are average readers
- $\mathbf{B}^{\mathbb{C}}$ Are the majority of readers
- \mathbf{C}^{\bigcirc} Are the 1 % minority

Q3. The average reading speed is around?

- \mathbf{A}^{\bigcirc} 120 wpm
- **B**[☉] 150 wpm
- C^{\odot} 200 wpm

Q4. The average reader comprehension is around? A^{\odot} 50 %

B[°] 60 %

C[©] 85 %

Q5. A sprinter running as the average reader reads, runs 100m in?

- $\mathbf{A}^{\mathbb{C}}$ 10 seconds (near record time)
- **B**^O 35 seconds (jogging)
- $\mathbf{C}^{\mathbb{C}}$ 70 seconds (walking speed

Q6. Which is the most effective way to acquire knowledge from information?

- \mathbf{A}^{\bigcirc} watching TV
- \mathbf{B}^{\bigcirc} reading text
- $\mathbf{C}^{\mathbb{C}}$ listening to a speaker

Q7. The average speaking speed of a race driver is around?

- \mathbf{A}^{\bigcirc} 120 mph
- **B**^C 150 wpm
- C^{\odot} 200 wpm
- Q8. Most computer users want to?
- \mathbf{A}^{\bigcirc} Improve typing

BO	Improve reading					
	Buy a larger screen					
Q9. V	Q9. What will lessen the importance of fast typing?					
\mathbf{A}^{\bigcirc}	Spelling-checkers					
BO	More ergonomic keyboards					
\mathbf{C}^{\bigcirc}	Progress in voice recognition					
Q10. A speed reading seminar or book lacks?						
\mathbf{A}^{\bigcirc}	Rapid results					
B ^O	Consistent practice					
	Deep enough explanations					
Q11. What is probably the best way to reach top level reading efficiency?						
\mathbf{A}^{\bigcirc}	a speed reading book					
B ^O	a speed reading seminar					
	a speed reading					
Comprehension results						
Your comprehension is %.						
You g	correct answers out of .					