ADOLESCENT STUDENT'S PRIOR KNOWLEDGE ABOUT INTERNET AND READING STRATEGIES WHEN LOCATING INFORMATION ON THE WEB

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Abstract

In order to provide information about how prior knowledge of Internet use is linked to the strategies reported in a reading task on the internet, the following research was conducted. 29 students in junior high school in Mexico City were selected based on their level of prior knowledge on how to use the internet for doing homework. Participants were asked to complete a reading task on the internet and their reading strategies were observed. Important discussion about the way reading strategies on the internet are being measured is relevant; also it has to be considered that prior knowledge about the use of the internet not necessary. Participants recover or retrieve when they working in the reading task on the internet in the same way, thus the preliminary results of this research allow us to think through the design of instruments in order to get more precise measures of prior knowledge before and during the reading task.

Keywords: Internet, reading, prior knowledge, reading strategies, adolescents.

1 INTRODUCTION

In Mexico responding to the challenge that is represented by the growth in Internet use by adolescents has become a priority (Asociación Mexicana de Internet AMIPCI, 2015), thus it demands greater understanding about how teens are approaching to the Internet as an important information source. From the model of new literacies (Leu et al, 2007) we known that the reader needs to locate, evaluate, synthesize and communicate information on the internet in order to answer questions, furthermore in this process two elements have been central to understand how to achieve more when reading on the Internet; prior knowledge and reading strategies.

What kind of prior knowledge is required to read on the Internet? Research has identified that it is important to know about the topic you are reading, also know how to use Internet resources. Both prior knowledge about the topic and prior knowledge about internet are related with the achievement on a reading task (Coiro and Dobler, 2007; Castek et al, 2011) yet we need to know more about how these two forms of prior knowledge are related.

Reading strategies also play an important role while you're reading on the Internet. Leu, Kinzer, Coiro and Cammack (2004) have found that reading strategies are useful to identify important questions, locate information on a site, critically evaluate its usefulness, synthesize, answer questions and communicate with others. Zhang and Duke (2008) have done research about how different kinds of reading strategies overlap and arrange depending on the purpose of the reading. Two types of reading strategies have been identified when students are reading on the internet: those that are new and exclusive to the Internet; and those who are adapted from printed text to the internet, both widely registered on research (Arancibia, 2010; Asselin & Moayeri, 2010; Castek et al, 2011; Coiro, 2003a; 2003b; Coiro and Dobler, 2007; Dalton and Proctor, 2008; Hutchison y Henry,2010; Leu et al, 2005; Rasmunsson and Eklund, 2012) how strategies are recovered and what its relationship is to prior knowledge about the use of internet? is a question that has not been completely resolved yet.

Research in this field (Arancibia, 2010; Coiro and Dobler, 2007; Coiro, 2007; Rasmunsson and Eklund, 2012) has identified that readers use both types of prior knowledge to read on the internet. Readers combine two types of strategies when they reading on the Internet (Leu, Kinzer, Coiro and Cammack, 2004) strategies adapted from the printed text in order to use them on the Internet and strategies that are new and unique to the Internet. Strategies are related to prior knowledge when you read on the Internet (Arancibia, 2010; Castek, Zawilinski, McVerry, O'Byrne and Leu, 2011; Coiro and Dobler 2007; Hutchison and Henry, 2010). However, questions remain about the relationship between prior knowledge and strategies to read on the Internet (Leu, 2010). A recent study suggests that prior

knowledge of the topic may be less significant when reading on the Internet (Coiro, 2011) in comparison with the prior knowledge about internet. Our research provides information to help understand how prior knowledge of internet and reading strategies are linked, when readers search for information on the Internet.

2 METHOD

2.1 Participants

Selection of participants was based on their scores obtained in two questionnaires: a) ten question questionnaire about prior knowledge of the axolotl and b) survey adapted from the original "Digital Divide Measurement Scale for Students" (Carter and Henry, 2006) about the use of the Internet for doing homework. Both instruments' reliability and validity indices were obtained from the pilot study. Students who fell above the 75th percentile and those who fell below the 25th percentile based on their level of prior knowledge were selected, with 29 students in total.

2.2 Instruments

A questionnaire was designed to assess prior knowledge of the participants on a specific topic. The specific topic chosen was "the Mexican axolotl". Ten multiple-choice questions were developed with four answer choices, only one option being correct. Analysis was performed to assess the internal consistency, through discrimination rates and difficulty of each item (Baker, 1992). Indicators of item difficulty (less than 74 and greater than 20) and item discrimination (rates .30 or greater) were obtained from a sample of 131 students who participated in the pilot study showing indices acceptable.

Survey adapted from the original "Digital Divide Measurement Scale for Students" (Carter and Henry, 2006). The method of adjusting the instrument to be followed in this research was based on a design-translation procedure (Hambleton, 1996). This instrument assesses four areas, for which Cronbach's alpha reliability indicators were obtained for each area: a) School uses of the internet.85; b) Non-school uses of the Internet .76; c) Performance of reading on the Internet .01; and d) Perceived experience using Internet .80

We also designed a reading task on the Internet and students selected worked on this reading task. When they were finished with the task, they were interviewed. Twenty-nine interviews were conducted, and each of these three types of data was obtained: 1) a screen recorded while the task is performed (with software called Camtasia); 2) an audiotape of the interview; and 3) a Word document prepared by the student as part of the task. The reading task on the Internet was intended to locate information online and acquire knowledge on a specific topic and was designed from the proposed Zhang and Duke (2008). A pilot study reading assignment with a group of students whose feedback was used to make adjustments to the design of the reading task was made, appropriate instructions and decisions were agreed on the protocol of the interview was taken.

The design of the task was developed into a PowerPoint presentation with images and text. The instructions included the following slogans: a) This is a reading assignment on the Internet and begins with a question: "What animal lives in Xochimilco and features retain their larval stage to adulthood" The goal of this question It was to find out what prior knowledge of the specific subject reaches the reader before beginning the search for information on the Internet; b) Once registered the participant's response, proceeded to read the following slogan loudly as he continued silent reading: The answer is: "The Mexican axolotl" Please obtain more information on this topic on the Internet. In doing so, he imagines that you were asked you to talk about it for 10 minutes with friends or to do one 10-minute presentation on the topic.

In order to identify the strategies used by the participants during the performance of a reading task on the internet we also designed a checklist (Appendix 1) to register those strategies reported by students when they locate information and acquire knowledge on a specific topic reading on the internet. A conceptual validation was made from the literature review, and then a group of experts validated the checklist and agreement among judges, over what are essential items, and were searched. The criteria used to decide which items preserve was that there were positive correlations between judges, based on Lawshe scale proposed by Tristan and Molgado (2007).

2.3 Interviews

For information on the strategies used by the readers while they worked in the reading activity in internet think aloud protocol called stimulated recall (Ericsson and Simon, 1984) was followed. The retrospective report was given by the participant immediately after completing the task, this report was supported by including the videotaping of the screen on the computer to stimulate the memory, and to include this element in the verbal protocol helped achieve accuracy verbal reports.

A protocol of semi-structured interview that followed the investigation of the following aspects are also designed: a) The vision that the student about text Internet; b) Previous experience with the text that has Internet; c) what strategies students used regularly to locate, evaluate, synthesize and communicate information to use the Internet to do homework; d) what knowledge gets when performing the task on the Internet, how to use that knowledge gets to make decisions about what strategies to use.

3   DATA ANALYSIS

The analysis of the data required two stages: at first the strategies reported by participants during the reading task on the internet have been used to organize the participants into three groups according to their performance and the number of reported strategies. In the second moment correlations between scores on the scales from the instruments who evaluated prior knowledge on the Internet with scores on the checklist designed specifically for assessing self-reported strategies are analyzed.

The analysis of the interviews was used to record the number and type of strategies reported by participants. Using screen recorded videos and audio from the interview as data, strategies reported by the 29 participants were used to obtain performance percentiles. For correlations with scores on prior knowledge about the use of internet at first correlation coefficients T-Kendall is obtained between the variables identified from the Questionnaire tool uses Internet for homework and the scores in the checklist on strategies reported by participants. After groups were identified according to the levels of prior knowledge and these groups were compared in relation to strategies reported.

The variables that were introduced in the statistical analysis were: reported strategies to locate, evaluate, and synthesize information; Reported strategies related to communicating information on the Internet; Internet access; Internet practices linked to social and entertainment purposes; Practices and uses of the Internet for school activities and the acquisition of knowledge; Perception of experience using the Internet; and; Reading strategies on the Internet.

4   RESULTS

The analysis showed that participants, who reported higher scores in the prior knowledge on how to use the internet, reported a larger number of strategies during the internet reading task. The correlation was observed in the subscale of prior knowledge about internet and the number of strategies to locate ($τ =.496$); to evaluate ($τ =.759$); synthesize ($τ =.661$); and communicate ($τ =.635$). This information supports the idea that prior knowledge about how to use Internet correlates significantly with the achievement on a reading task, thus participants who reported a wider range of strategies, also performed better when asked to locate specific information on the internet.

We also found that students who reported having more access to internet scored higher on reading activities, both with practices linked to social and entertainment purposes ($τ =.407$); and when using the Internet for school research ($τ =.464$).

The descriptive analysis showed that strategies to locate were the most commonly reported indicating that most participants in this work established a purpose for a reading activity and Internet text used the title of the site in search results Finder, to choose which enter. While underreported strategy was to use quotation marks to write a sentence or question in the search box to narrow the list of results.

Strategies to evaluate the information were the least reported by this group of readers, using strategies such as criteria for assessing the credibility of internet sites like using the URL or brief description of the site in the list of search engine results. However, the strategy reported was to evaluate the information of a site in terms of its usefulness for a specific purpose.

In relation to strategies to synthesize information, participants reported more often maintaining multiple sites using tabs simultaneously, integrating information and navigating through multiple sites

identifying information to help you fulfill your purpose. While strategies were less reported integrate information from different formats (e.g. video, audio, written) or compare and contrast content either to express an idea or in deciding what information to use.

Strategies related to communication on the Internet, this group of participants reported an average of more strategies to avoid distraction, ignoring advertisement popups and copy and paste information. Although they did not report that to form an opinion about what they read, compare and contrast the opinions of others with it, a strategy linked to this aspect.

5   DISCUSSION AND CONCLUSIONS

The analysis of the data showed that participants who reported higher scores on the instrument to be assessed their reading strategies on the internet also reported a greater number of strategies during the actual reading task. This information coincides with the assumption that prior knowledge about Internet use correlates significantly with the performance, because we can assume that participants who have showed a wider range of strategies also performed better in the task that required them to locate internet specific information.

This statement is further supported by the fact that students who reported greater access to internet, also reported that they often do reading activities on the internet linked to social and entertainment purposes such as using social networks, listen music videos; or practices and uses of the Internet for school activities and the acquisition of knowledge and using the internet to read on the subject of Spanish or science, or for homework.

An important aspect was the fact that we didn't find statistically significant correlations between the perception of experience using internet and the actual internet reading strategies reported by participants during the task. This could explain why, even though participants see themselves as expert as users of the internet for different activities, including homework assignments, that experience was not reflected in their performance in the actual reading task on the internet.

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APPENDIX 1

Checklist used to identify the reading strategies reported by students

LOCALIZAR
1. Establece un propósito para una actividad de lectura de texto de internet.
2. Utiliza palabras clave para orientar su búsqueda que son coherentes con el propósito.
3. Escribe preguntas o enunciados en el buscador o en la barra de navegación para orientar su búsqueda que son coherentes con el propósito.
4. Utiliza COMILLAS al escribir una frase o pregunta en el buscador para delimitar la lista de resultados.
5. Hace preguntas para buscar información, aunque no las escriba.

6. Utiliza el título del sitio en la lista de resultados del buscador, para elegir a cuál entrar.
7. De la lista de resultados utiliza la dirección URL para elegir el sitio al que entrará.
8. De la lista de resultados del buscador, utiliza las descripciones breves para elegir el sitio al que entrará.
9. Cuando navega en una página o sitio, ajusta sus intereses de búsqueda conforme encuentra hipervínculos que pueden contener información adicional.
10. Utiliza las sugerencias de búsqueda mostradas por el buscador
11. Al navegar entre sitios reconoce cuando la ruta ya no le lleva a información que le interesa.
EVALUAR
12. Evalúa la credibilidad de sitios web mediante la lectura de las direcciones URL en la lista de resultados.
13. Evalúa la credibilidad de sitios web mediante la lectura de las descripciones cortas en la lista de resultados.
14. Evalúa la información de un sitio contrastándola con la de otros sitios.
15. En un sitio o página, evalúa el grado de dificultad de la información para decidir si la comprende.
16. Evalúa si el texto le servirá identificando el tipo de texto (ej. cuento, novela, artículo científico, noticia, etc.)
17. Evalúa el grado de dificultad del texto para decidir si continua o no leyendo.
18. Evalúa información de un sitio en términos de su utilidad para un propósito especificado.
19. Evalúa la credibilidad de un sitio usando su conocimiento previo sobre la información contenida.
20. Reconoce y utiliza sitios confiables que ha visitado anteriormente.
21. Evalúa la credibilidad de un sitio web a partir de sus similitudes con otros sitios que considera confiables.
SINTETIZAR
22. Mantiene abiertas varias pestañas de sitios para usarlos simultáneamente e integrar la información.
23. Entra a un sitio y ve los encabezados lee el primer párrafo para anticipar qué información habrá en un sitio.
24. Utiliza criterios de búsqueda para seleccionar la información que utilizará.
25. Escanea deliberadamente el contenido de una página antes de leer con detalle.
26. Averigua de qué trata un sitio viendo las imágenes, tablas, gráficos.
27. Para expresar una idea, integra la información proveniente de diferentes formatos (video, audio, escrito).
28. Para expresar una idea, integra información proveniente de diferentes sitios.
29. Navega a través de varios sitios identificando información que le ayude a cumplir su propósito.
30. Para decidir qué información utilizar, compara y contrasta contenidos con diferentes formatos (video, audio, escrito).

COMUNICAR
31. Para evitar distraerse, ignora la publicidad en ventanas emergentes.
32. Identifica y evita sitios que solicitan información personal con fines de lucro o de engaño.
33. Identifica y evita un sitio de internet si está solicitando que comparta el sitio a cambio de premios.
34. Para formarse una opinión acerca de lo que lee, compara y contrasta la opinión de otros con la suya.
35. Identifica opiniones de expertos sobre el tema que está leyendo.
36. Para decidir si va a leer un sitio, reconoce a qué audiencia va dirigido el contenido del sitio.
37. Comunica información pensando en la audiencia a quien va dirigida.
38. Copia y pega información para comunicarla
39. Evalúa la calidad de la imagen en términos de resolución y formato
40. Evalúa la utilidad de la imagen en términos del propósito.