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The Think-Aloud approach: A Promising Tool for Online Reading Comprehension

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Abstract

Despite its unquestionable interest from a theoretical and practical point of view, so far there has been little research on online reading and there is a lack of attention paid to this topic in most European educational institutions. In particular, primary and secondary school teachers are not adequately trained on how and when to intervene to support students' proficiency in the online reading comprehension. After presenting a rationale demonstrating why students may struggle with online reading comprehension and the importance to adopt a self-regulated reading, this study proposes a Teacher's Guide that could support late primary and secondary school teachers in planning online reading lessons with the Think-Aloud (TA) metacognitive technique.

Keywords: *online reading, critical analysis, media texts, Italy, primary education, secondary education, reading*

Most students spend a lot of time surfing on the Internet which has become the preferred choice for news, ahead of television, newspapers, radio etc. and, more generally, the most popular source of information, through videos, blogs, posts, online newspapers, and more. The readiness and efficiency with which the sophisticated algorithms of search engines provide responses to whatever the readers may search, make young web surfers addicted to these technologies, making them feel confident enough to relax their minds and take what they get on the Internet for granted. Thus, young readers generally read (or skim) just the first of the search results produced by the search engine, usually the most popular within the specific database of that search engine. However, the first results do not necessarily respond to the information needs; nor are they always of good quality.

Moreover, it is essential to bear in mind that the symbolic contents conveyed by the media are always aimed at different purposes (e.g. to inform, share, persuade, sell, etc.). As Buckingham (2007) pointed out, the web is not a neutral source of information. In this vein, it is critical to be fully aware of how the author uses the "panoply of media forms within a single message [...] to shape a reader's interpretation" (Leu et al. 2004).

As users experience it, the Internet is an open hypertext, where decision points follow one another (Tapscott 1998; Coiro 2003; Kuiper, Volman,Terwel 2005), and the reader must select the appropriate orientation cues among a wide array of distractors and competing stimuli (Cress and Knabel 2003). The possibility to combine any form of symbolic expression and the large variety of authoring tools to compose texts, while it makes easier to create and publish texts, also makes it more challenging to comprehend online content. Certain kinds of words, images, music, along with the "nontraditional combinations of font size and color" (Leu et al. 2004) are thought to capture the interest of a specific group of readers (Kuiper, Volman, Terwel 2005) and can affect the meaning-making process in a very relevant way.

Reading online texts requires specific metacognitive strategies that allow readers to stay engaged in self-directed paths of text processing (Coiro and Dobler 2007) as well as specific literacy skills that can be taught and learned, just as it happens for any another medium (Hobbs 2010; Hobbs and Moore 2013). In absence of a targeted intervention, young readers tend to adopt a naive, uncritical reading and use a range of inappropriate or superficial criteria to determine the reliability of online resources (Coiro et al. 2015). In a few words, they tend to accept as true whatever is displayed on the screen (Wallace et al. 2000; Kuiper, Volman and Terwel 2009; Zhang 2013). Thus, it is necessary for teaching programs to help young web surfers to develop appropriate attitudes, strategies and knowledge to face properly with the overload of information available on the web.

In particular, the ability to access to online texts and the ability to analyze authentic texts "in a variety of forms by identifying the author, purpose and point of view" (Hobbs 2010) are essential skills of the new literacies, which is a new concept that is interpreted in various ways (Leu et al. 2007; Hobbs 2010; Leu et al. 2013), whose key processes (locate, critically evaluate, synthesize, self-directed text construction) are the bases for the practice of online reading comprehension.

Despite its unquestionable interest from a theoretical and practical point of view, so far there has been little research on online reading. In particular, primary and secondary school teachers are not adequately trained on how and when to intervene to support students' proficiency in the online reading comprehension. As recently pointed out by the EU High Level Group of Experts on Literacy (2012, 66):

> The current digital divide is not whether primary age children in Europe are using digital tools, but the quality of their use. Online reading is largely ignored during initial primary teacher education, although evidence shows that a majority of children engage almost equally in digital and print reading from early on in primary education. Only five EU Member States currently require competences for teaching online reading in the education of primary teachers. Very few countries define learning outcomes for digital reading.

As in most European countries, the Italian National Curriculum (Indicazioni Nazionali 2012) fails even to mention "online reading." However, the same guidelines point out that primary and secondary school students should develop a critical attitude and greater awareness of new media and communication languages, in addition to the mastery of digital tools, which are often learned outside of the school environment. Thus, the school is expected to help pupils to become familiar with the experience of multimedia (television, cinema, digital media). Actually, as Felini (2014, 31) candidly recognizes "media literacy education is currently taught on a voluntary basis by motivated teachers."

After presenting a rationale demonstrating why students may struggle with online reading comprehension and the importance to adopt a self-regulated reading, this study proposes a Teacher's Guide that could support late primary and secondary school teachers in planning online reading lessons with the Think-Aloud (TA) metacognitive technique.

Literature Review

Cognitive Processing and Strategies in Online Reading Comprehension

Theoretical considerations suggest and empirical research confirms that the comprehension of online material is maybe poorer, certainly different than the comprehension of printed material (IRA 2002; Coiro and Dobler 2007; IRA 2009; Afflerbach and Cho 2010; Coiro 2011b; Leu et al. 2013). The new literacy skills and strategies are quite complicated and recent international comparative surveys on digital reading clearly demonstrated the need to teach them to young readers (OECD 2011).

Classically, print reading is viewed as an active construction of text meaning by integrating the new information to existing background. In details, the comprehension process involves: (a) prior knowledge, (b) inferential reasoning, (c) search for and selection of the most relevant information, (d) information synthesis

from various parts of the text and different texts, (e) variation of reading strategies to fit them to the text and situation (Paris and Stahl 2005). Needless to say, the relative involvement of each skill depends on the type of text, the issues addressed, and this process varies considerably from reader to reader as well as in the same reader according to his/her own contingent purposes.

However, besides the practices involved in the comprehension of printed materials, online reading involves an additional set of similar, but more complex skills and strategies, the acquisition of which is difficult to occur spontaneously, but requires a specific learning process (Coiro 2011b). Actually, while the comprehension of online texts does not rely so much on the extent and organization of prior knowledge (see below), it deeply involves the ability to use appropriate strategies to surf the web. In addition, quite peculiar of the comprehension of online material, is the ability to face the so-called "multiplicative effects" (Lemke 1998; Leu et al. 2004), that is, the combination of different symbols leading to a final product which is much more than the simple sum of the effects produced by the single parts.

Internet content generally involves and combines icons, audio, animated symbols, video, etc. Each of these symbol systems has its own set of elements and conventions aimed to convey a specific meaning (Bull and Anstey 2009). Several studies stressed the importance of "the visual character of the web" as one of the most influential factors affecting young readers' judgment and evaluation. According to Kuiper Volman and Terwel (2005, 287), the web "strongly appeals to children, who often judge a site mainly on the basis of illustrations and other graphic characteristics." It follows that a complete comprehension of online texts requires an adequate knowledge and understanding of the specific grammar rules at work in the different symbol systems, with a particular emphasis on the techniques used to link together words and images, as well as a full awareness of the author's intimate purposes.

Most studies in the field of online reading and hypertext comprehension, focused on the critical role of strategies, defined, according to Salmerón et al. (2005, 174) "as the decision rule that a reader follows to navigate through the different nodes." In this vein, Afflerbach and Cho (2010, 203) stated that "strategies help readers deal with the sometimes unknown and unpredictable structure, content, and interactivity that Internet reading can involve." Finally, Coiro (2011b, 357) focused on "similar and more complex applications of (a) prior knowledge sources, (b) inferential reasoning strategies, and (c) self-regulated reading processes" while Zhang (2012, 138) indicated some "effective supporting strategies to help students move beyond cursory, fragmented, and opportunistic online reading."

The importance of having effective strategies for online reading is consistent with data from the skilled online readers whose expertise seems to mainly rely on valuable strategies for skimming, scanning, searching and navigating. For example, the *skimming mode* is very helpful to manage the large amounts of material in Internet. "Skimming is defined when students quickly scroll a web page to gain a cursory view of the content without looking into the text in detail" and "it mainly serves the purpose of determining whether a site [is] related to one's question" (Zhang 2012, 141). By "quickly reading the web pages to locate the best link to the information required" (Hobbs 2010, 31) or selecting the results of search engines before reading more narrowly, pre-reading strategies support traditional print reading, too (McNamara 2007).

However, the skimming mode *per se* can be problematic and does reflect the difficulty of developing meaningful online reading practices. Wallace et al. (2000) found that young readers focused on finding a ready-made answer to their question by quickly skimming websites, rather than reading to understand the content. Analogously, Kuiper, Volman,Terwel (2009) revealed that many young readers believe the web does not need to be read. It follows that a specific learning program is necessary to teach young surfers to use the skimming mode as a self-regulated strategy.

Recently, Zhang (2012) compared a group of trained readers with a group of untrained readers on their approach to reading websites. The time spent to skim or read the various websites was taken as a dependent variable. The results showed that untrained readers tended to browse websites quickly, but hardly ever stopped to read carefully a website. Typically, they scrolled up and down a web page, shifted frequently among different elements of a site, and their attention was mainly drawn by pictures and animations, even if not relevant. In a few words, their reading was fragmented and disconnected, and they only picked up some

keywords and sentences so that their comprehension was significant poorer than that of trained readers whose reading was more deliberate, thorough, and purposeful.

With respect to the role of prior knowledge on meaning-making from online texts, the results are far from being unequivocal. However, there is now a wide consensus that rather than by prior knowledge, the online reading is affected by the knowledge of how best to gather information in hypermedia systems. Actually, it seems that a skilled web reader may overcome some knowledge gaps by means of the resources available from the web. Consistent with this, young readers with low knowledge of the topic addressed, but high online reading skills, are able to use the Internet to find the background information they need. That is, Internet may introduce new opportunities for low-knowledge readers (Coiro 2011b).

Thus, one could state that in online reading, prior knowledge mainly consists of basic new literacy skills that serve to orient readers in the nonlinear systems of the Internet, helping to combat disorientation which is a typical problem of hyperspace (Conklin 1987; Cress and Knabel 2003). When navigating the Internet, with all the choices available, it is easy to find yourself lost in a mess of information, unsure of which way to go because the label appearing in the link does not provide enough information to decide. This phenomenon has been called "informational myopia" (Conklin 1987, 40) and results in an increase of predictive inferences about hidden contents. In this context, the mental representation of the website structure as well as the familiarity with hypertext hierarchies and the knowledge of the navigation devices become essential factors that allow online readers to choose the most appropriate route (Lawless and Kulikowich 1996; Barab, Bowdish and Lawless 1997) leading to a targeted navigation.

In summary, in the distracting online environment, the reader is engaged in a complex series of processes and operations much more challenging than the printed paper. Therefore, if he/she is not able to focus on well defined targets and apply self-regulating strategies, he/she may get lost, risking an incomplete, inaccurate or even incorrect reading, because based on random sources consultation or on information fragments often unreliable and/or irrelevant (Coiro 2011a).

The Importance of Self-Regulation

Self regulated learning (Zimmerman 2008) is an integrated learning process which involves cognitive, metacognitive and emotional dimensions to support the pursuit of an effective reading of any textual form (Pressley and Afflerbach 1995; Pressley 2002; Azevedo and Cromley 2004; Azevedo Guthrie and Seibert, 2004; Azevedo 2005). In particular, the self-regulated reading implies conscious processes of evaluation and self-regulation, leading to a metacognitive reading practice based on self-questioning and re-planning strategies (Coiro and Dobler 2007).

It has been demonstrated that there is a significant difference between more strategic online readers and less strategic online readers. Less strategic online readers tend to read only the headline or pieces of stories. On the opposite, more strategic online readers do adopt effective strategies to monitor the adequacy and check the validity of the chosen path (Coiro 2011a). In a few words, they are always in control of their text processing.

Before they even start to surf, proficient online readers spend time to clarify what they want to get out from the web as part of their planning process. Moreover, they keep themselves open to changes that the navigation process may present, although they have the power to resist distractions. Like good detectives, proficient online readers frequently stop their reading and refocus their target, adjust the navigation speed and/or direction, plan the access to the various parts of hypertext, and verify what they have understood so far (Coiro and Dobler 2007; Dalton and Proctor 2008). Finally, a successful online reader demonstrates perseverance as well as an appropriate level of skepticism.

Techniques for Self-Regulation

Without targeted instruction and scaffolding, many web surfers will not develop attitudes and strategies best suited for online reading comprehension. Until now, however, online reading has been misinterpreted as simple access to the web and navigation to various web pages. Several hypotheses, not mutually exclusive, can be put forward to explain this situation. First and foremost, teacher education programs do not involve any

specific training on online reading techniques. Second, the strategies required for effective online reading are difficult to be taught. Finally, there is no doubt that adult people tend to overestimate the expertise of the so-called digital natives. The outcome is a lack of awareness about strategies (Kymes 2005) and techniques used to comprehend online texts (Hobbs 2010). In other words, young readers are left alone to access the online environment, and they only count on their own experience without any preliminary training or strategies that could help them to develop analytic and critical abilities.

We believe the think-aloud process represents a vital reading strategy that models the practice of online reading. The think-aloud process (TA) is "a metacognitive technique or strategy in which a teacher verbalizes thoughts aloud while reading a selection orally, thus modeling the process of comprehension" (Harris and Hodges 1995, 256). Since TA proved to be suitable to stimulate the comprehension of printed texts (Block and Israel 2004) it has been thought that it could be useful to improve the comprehension of online contents, either as a research tool (Coiro and Dobler 2007) and/or as a support for the development of strategies to surf the Web (Coiro 2011a; Ebner and Ehri 2013). Given that the online reading is strongly modulated by the context, it is very important that any online reading strategy would be modeled in an authentic online environment (Lapp, Fisher and Grant 2008). The increased awareness on how and why to verbalize reading strategies has a more general impact on the way of teaching (Fisher, Frey and Lapp 2011). Nonetheless, the literature stresses the need for a specific training to teach teachers the TA technique (Pressley 2002). In particular, the lesson models are essential because they describe in detail the appropriate teacher behavior during online reading.

Modeling, Guided Practice and Reflection: Developing a Think-Aloud Teacher's Guide

We developed a Think-Aloud Teacher's Guide on the basis of the instructional model of online reading (Coiro 2011a) and we specifically targeted late primary and secondary school teachers to help them address two basic competencies: (a) how to find the correct answer to a definite question (Access); (b) how to compare online contents that express different opinions on a topic (Analysis). Both Access and Analysis processes lie on the three main phases of the TA: *modeling, guided practice*, and *reflection*. By means of a digital device, the teacher can create an experience of modeling to be shared with students. It is strongly recommended that before starting the lesson, the teacher will explore the search engine results and the contents of Web sites in order to anticipate as much as possible the content that is likely to be more challenging (Coiro 2011a).

During the modeling phase, the teacher provides students with strategies for online reading. Students will listen to the verbalization of strategies that drove teacher's choices in online reading. After that, during the guided practice phase, teacher will encourage students to practice the assigned task under independent control. Thus, students will play a more active role and will be engaged in an increasingly autonomous way in the application of strategies previously acquired, working alone or in small groups. Finally, in the reflection phase, teacher will promote a collective reflection on the activity so that students can share their experience and co-operate to accomplish the goal.

In the next section of this paper, a detailed example of Access and Analysis is provided. Both are designed to serve as a support tool to plan online reading lessons. These lessons aim to provide students with strategies to find specific information and analyze online content that offers multiple points of view and for different purposes, respectively.

Access: Search and Selection of Online Information

In this online reading path we call "Access," the focus is on the *search and selection of information online.* Therefore, the teacher has to insist on: identifying the keywords to insert in search engines; choosing from the list of results those more relevant; applying appropriate strategies to assess the reliability of authors, sites and content; synthesizing the information fragments. The teacher can focus the online reading on finding a schedule (e.g. train time table, museum, etc.), a date, a name, etc., up to very complex searches as shown on Table 1).

The teacher should evaluate in advance the difficulties that pupils might encounter. Thus, it is strongly recommended that before starting the lesson, he/she could experience the search route on the Internet. However, given the easy changeability of the contents in the online environment, there is no need to trace the whole path in detail.

Table 1
A Model Think-Aloud: Access

1) The teacher chooses a topic and transforms it into a question	
Example: The Colosseum is one of the most famous Italian monuments. In this place, in the ancient times were held shows that we could condemn today. The cinema, the popular illustrations of the nineteenth-century novels and painting have imprinted in our minds the image of Christians abandoned to the ferocity of the beasts.	
"Is it true that the Colosseum was a place of martyrdom of Christians?"	
TA	Example of think-aloud statement (Teacher) *First I read the question carefully to figure out what I will have to look for (to clarify the purpose of online reading). The question begins with "Is it true that ..." Therefore, I think I will have to look for information to confirm or refute this assertion.*
2) The teacher makes a predictive inference on where he/she might find the information sought	
TA	*I am looking for historical information, thus it is likely that I will find it in an encyclopedia or in a website dedicated to this subject.*
3) The teacher shows the criteria to choose the keywords to put into the search engine Read carefully the question is crucial to find the most effective keywords. Pay attention: not always, automatic hints by the search engine (i.e. the most frequent queries) respond exactly to what you are looking for. On the opposite, having inserted correct keywords produces a shorter tail leading to more relevant results.	
TA	*I think I should open a search engine and put into it these keywords: Colosseum Christian martyrs.*
4) The teacher shows how to consider the relevance of the results provided by search engine with a first skimming.	
TA	*First, I am to check the list of the results. The words in bold tell me that most results deal with the Christian martyrs and the Colosseum. Thus, it seems I am on the right way. In the description of the third and fourth result, I can read:* *"It is not documented martyrdom of any Christian".* *"Even though, according to recent studies, there is no evidence".* *The contents seem relevant.*

5) The teacher begins to open resources.

TA *I will begin by reading the page of Wikipedia. I know that Wikipedia pages are written by many people, even non-experts, and sometimes the source is not mentioned. However, the pages of this online encyclopedia are overall well constructed, and contain quotes from reliable sources as well as links to relevant Websites. All this considered, Wikipedia can be a good starting point for my research. Anyway, I'm going to collect some initial information and then to compare them with that coming from other sources.*

6) The teacher shows the strategies to assess the reliability of the site, the credentials of the author, the validity of the online information.

TA *To assess the reliability of the website and its content, you should answer the following questions, respectively:*
As to the website: Is it an official Website? Is it updated? Do the links lead to pages that deal with the same subject from different points of view? Are there output or input links to other trusted sites? Are there information links such as "About Us", "Contacts"? Do the links work?
As to its content: Does the comparison with other sources confirm the validity of the information? Does the content present a distorted, excessive or extreme vision?

7) The teacher shows which parts of the web site (text, video, etc.) are relevant to find the answer, and he/she repeats the steps for each viewed resource.

TA *In the first resource, I can read:*
1. The tradition that wants Colosseum a place of martyrdom of Christians is unfounded. I'm going to search confirmation.

In the second resource:
2. There is nothing relevant.

In the third resource, I can read:
3. Actually in the Colosseum [...] there never have been sacrifices of Christians, but only exceptional shows, admired by more than 80,000 spectators belonging to all social classes.

In the fourth resource, I read:
4. But were Christians actually martyred in the Colosseum? The response of the scholars is that the tradition of the martyrdom of Christians in the Colosseum has no basis.

8) The teacher summarizes the information and gives the answer.

TA *Now I can summarize the information and answer the original question. Based on sources that I read, I can state that the Colosseum was not the place of martyrdom of Christians.*

Analysis: Compare and Contrast Information

The Analysis process focuses on the comparison of online content that expresses different opinions on a specific topic. The comparison can be synch (e.g. on a topical theme, like a news story, a scientific topic, a historical fact, etc.) or diachronic (e.g. on historical facts revisited in later in light of new documents, etc.). Therefore, teachers model or demonstrate: selecting the most important parts of the online content; identifying the author's purpose; and summarizing the authors' point of view. Table 2 shows an example of the think-aloud method for this process.

Table 2
A Model Think-Aloud: Analysis

1) The teacher chooses a topic and transforms it into a question	
Example: The horse race of medieval origin we know as Palio is primarily associated with the city of Siena where it is held twice a year. While, on one hand, the Palio is an attraction for thousands of visitors, on the other it inspires severe criticism.	
"In what ways do different authors describe the Palio of Siena?"	
2) The teacher reads the question and plans the path of online reading.	
TA	Example of TA (Teacher) *First I should read the question to figure out the goal of online reading. The question asks to analyze the way in which various authors describe the Palio of Siena. So I will have to compare different opinions from different websites. I am going to spend a bit of time to learn more about the authors in order to understand the reasons for their opinions.*
3) The teacher searches for online contents that argue the topic from various points of view.	
TA	1. Protection of horse Page Structure: Photos and written words Photo: The blacksmith that is controlling the shoeing of a horse. Written words: The text begins with the favorable testimony of a journalist about horses' treatment in Siena. It continues with a description of the initiatives to protect the horses running in the square. 2. Palii Page Structure: Photos and written words. Photo: Horses and jockeys fell during the Palio. Written words: The text describes in an extremely negative way the horse races and the Palio
4) The teacher starts the analysis of online contents. The first step is to analyze and select the most informative quotations in written words, images, photographs, videos, and sound.	

TA

1. Horse Protection

*In order to get a general idea, I analyze the context in which "*Horse Protection*" appears. The page is part of THE CITY sub-menu of Siena Website. I can figure out exactly where I am, thanks to the position indicator on the top, where I read: You are in: Home / City/Palio/Protection of the horse (in bold). This path traces the organization of the main menu navigation, that drives the reader within the Website. The title appears also in the sidebar menu (left).*

To understand the content, I scroll down and analyze carefully the content, while I try to find an answer to the following questions: What clues make me understand why the authors wrote this way? Which ways do the authors use to convey their message?

The first clues are the title and a photograph. The title immediately emphasizes the attention paid by Siena towards the horses. The color photography occupies almost the entire left half of the page. It shows a beautiful horse while it is shod in a natural outdoor setting. The green grass, the clear sky, the bright colors help to convey a positive message. Now my focus shifts to the right to read the words that accompany the photo. At the beginning I find the quote in bold of a journalist who claims: "I decided to reborn horse" for the good treatment that these animals receive in Siena. Then, there are locutions as: "initiatives for the protection of horses," "solutions for enhanced safety of horses and jockeys," "animal welfare," etc. The choice of these words provides clear clues about the intention of the authors to communicate respect towards animals and to make the reader feel reassured about the treatment of horses in Siena.

2. Palii

Now I will begin reading the second online resource: Palii (Horse races).

I analyze the URL "http://www.lav.it/cosa-facciamo/cavalli/palii" as an indicator of my position. Reading the code from the right to the left lets me know the subtitle of the page where I am, up to the main title and the Website title. To learn more about the author (LAV), I click on "About us" in the top navigation menu and read: "we are fighting for the establishment of animal rights and the fight against all forms of speciesism and animal exploitation." So it is the site of a non-profit organization that supports animal rights.

Then, I will begin analyzing the text. The first clue is a color photograph on the top right corner. The image shows horses and jockeys falling to the ground during the Palio. Because of the zoom effect, it seems unlikely that oncoming horses would be able to overtake the obstacle. Thus, this image conveys a negative message – this looks dangerous for the horses. Now I will have to find more clues in the written words. At the center of the page, in bold and with larger characters, I read a few sentences that clearly summarize the views of the authors: "The most famous Palio, the Siena, is a risky game and often the scene of accidents: throughout the period 1970-2011, 49 horses died."

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5) The teacher identifies the most informative parts (words, images, photographs, video, sound)

TA

In the first resource, I can read:

1. "initiatives for the protection of horses," "solutions for enhanced safety of horses and jockeys," and "animal welfare

In the second resource, I can read:

2.“to the death,” “injured,” “suppressed” (these words are repeatedly used).

6) Teacher identifies the author's purpose	
TA	*The first resource is designed to convince readers that the horses are safeguarded in Siena. The second resource is designed to convince readers about the dangers of the race.*
7) The teacher identifies what the author thinks about the given topic	
TA	*About the first resource, the authors’ point of view about the Palio is very positive. About the second resource, the authors’ point of view about the Palio is very negative.*
8) The teacher compares the online contents to detect the multiplicity of perspectives with which various authors describe a given topic.	
	The reflection allows teachers to emphasize that a same topic can take different meanings depending on the author’s opinion. This reading experience promotes critical thinking since it induces to stop and think, to look for the reasons, to direct the attention to alternative hypotheses, while avoiding to automatically accept what is presented by the media.

Discussion and Next Steps

In this paper, we have described a model Teacher’s Guide that could support primary and secondary school teachers in planning online reading lessons with the TA technique. The development of a think-aloud process for helping teachers teach online reading may support future research and practice in the field. Needless to say, several issues remain to be addressed. The TA approach should be compared with a different approach to the online reading comprehension rather than with a “no experience” condition. Also, data on the effectiveness of the TA approach should be substantiated by additional empirical evidence from large samples of participants from different countries and contexts (i.e. students from different grades of school). All these issues are currently under investigation in a pilot study devised to assess the effects of the use of the TA procedure on the online comprehension in Italian students ranging from the fifth grade of the primary school to the second grade of secondary school.

Notwithstanding its great interest from a theoretical and practical point of view, so far there has been little research on online reading, especially in Europe. Furthermore, primary and secondary school teachers are not adequately trained on this subject. Several studies confirm the effectiveness of the think-aloud technique to empower learners to develop a self-regulate reading (Pressley 2002; Azevedo and Cromley 2004; Azevedo, Guthrie and Seibert 2004; Block and Israel 2004; Azevedo 2005; Kymes 2005; Coiro and Dobler 2007; Afflerbach and Cho 2010; Coiro 2011a). Actually, it seems that a structured procedure like the think-aloud approach has potential to help web surfers to evaluate the reliability of a website based on objective criteria and to disentangle true reliability from simple relevance. Given that the evaluation of the reliability of a specific website represents one of the main obstacles to an effective online reading (among the others: Coiro et al. 2015), TA training may help learners to overcome this difficulty. Strictly linked to the difficulty of a correct evaluation of the websites’ reliability is the young readers’ worrisome tendency to accept aprioristically as true whatever is shown in electronic media (Wallace et al. 2000; Kuiper, Volman,Terwel 2009; Zhang 2013). Moreover, the TA procedure may improve online reading comprehension because it helps online readers to synthesize information from various parts of the text and different texts, which is a fundamental sub-skill of comprehension (Paris and Stahl 2005) in online as well as print reading.

A final point deserves consideration. It is well known that the way young people approach the Internet is critically modulated by their cultural backgrounds. All this considered, there shouldn’t be any need to

emphasize the importance to make young web surfers more aware of the risks of a naive approach to the Internet environment.

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