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## «One is not born, but rather becomes an internet user!» A media education activity for the Italian junior secondary school (1)

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**Summary.** After analyzing the concept of credibility and the challenges posed by the Internet and digital media as regards the assessment of online information credibility, an education experience for a critical understanding of digital information, carried out in an Italian junior secondary school, is presented. Though limited in time and number of participants, the activity is still indicative of the great work that still has to be done. In line with other research studies of a broader reach, students showed they have a lot of naïve beliefs on the way the Internet works and on the source credibility problem. The school activity carried out in class called into question such naïve beliefs and focused on the development of critical thinking and information assessment skills, accomplishing some initial positive results.

**Keywords:** critical understanding, digital information, credibility, young people, education.

### Introduction

In the last ten years, the image of «digital natives» to depict those generations that grew up on «bread and bits» has gathered ample success. Authors like Prensky (2001a; 2001b) and others (see e.g. Taposcott, 1998; Oblinder and Oblinder, 2005) have given us a picture of young people born after the 80's as gifted with new cognitive styles and able to deal with great quantities of information critically. Familiarity with continuous flows of information apparently render «digital natives» more skilled in interpreting information and in distinguishing between reliable and unreliable information (Veen and Vrakking, 2004). In this sense someone has defined them as «net savvy» (Levin and Arafeh, 2002).

In reality, as different sources have remarked (Calvani et al., 2010; Jacquinet, 2009; Bennet et al., 2008), young people's familiarity with technology and their technical skills should not deceive us. National and international research studies on a wide scale show that students generally tend to trust the reputed good quality of contents found on the web, revealing scarce critical reflection and passivity, and leaving much up to chance without any kind of source assessment (see e.g. Sutherland-Smith, 2002; Eagleton et al., 2003; Ravestain et al., 2007).

Thus, judging from the results of these research studies: one is not born, but potentially could become an internet user... So, what does become an internet user mean? What specific problems do the Internet and digital media cause, especially for the younger generation? How can we empower young people's ability to critically understand media and online digital contents?

In this brief article, we will deal with these questions and present a didactic activity with junior secondary school students aiming at developing forms of critical reflection towards the Internet, as a digital information environment.

### Credibility and reliability in digital environments

We have stated that one is not born, but potentially could become an internet user. So, what does become an internet user mean? The answer can be concise but complex at the same time. Becoming internet users means acquiring a set of competences, skills and knowledge to read online information and contents critically, to assess their credibility and reliability, to create information rather than just receive it passively. The concept of credibility itself, together with that of reliability is what renders this definition complex. What do we mean when we say that information is credible? What criteria do we have to assess source credibility? Does the concept of credibility change in the digital era? And how does it change?

When we try to reflect on the concept of credibility and similar concepts, we realize that we are dealing with fluid meanings that are difficult to define. An interesting attempt at reconstructing the semantic evolution of the concept of credibility can be found in Metzger and Flanagin (2008), who illustrate that from Aristotle onwards, the theme of credibility has been dealt with from different research perspectives giving also different results, so that today a clear-cut and shared definition of this concept does not exist. Although Aristotle distinguished between three dimensions, that is, *ethos* (e.g., appeal derived from the orator's characteristics), *pathos* (e.g., appeal on emotions) and *logos* (e.g., appeal based on reasoning), ultimately, he maintained that credibility depended on the orator's characteristics. Later, in the 20th century, social psychologists returned to the theme: the Yale Group defined credibility in terms of expertise and reliability and, for the first time, outlined a distinction between source credibility, message credibility and the people's credulity. After, interest in the theme of credibility was shown by media professionals. Here, the significant discovery was that the more the public depends on the media the more it considers them credible. In other words, media credibility also exists. A new era of studies on credibility then started towards the end of the last century with the arrival of the Internet and digital media. Within these environments, notions that were previously kept distinct, like source, message and media credibility, are merged together. In particular, the Internet has introduced new significant problems as regards assessment of information credibility/reliability: so, what are the elements that distinguish online information from that transmitted through traditional channels?

First of all, the fact that everybody – provided they have access to digital technology, obviously – can produce digital content and publish it online, even anonymously, is a novelty: who is responsible of the information in this case? How far can a particular piece of information be considered reliable?

Information sources are a very crucial element for judging and assessing credibility. Nevertheless, on the Internet, sources are unclear and ambiguous. Sometimes they are missing, other times they are incomplete and others they are either indecipherable or ambiguous or hidden. A source can be missing because there are no common standards of publication; it can be indecipherable because it refers, for example, to specific situations that are

unknown to the majority of readers; it can be confusing or ambiguous because it was produced by more than one person (e.g. Wikipedia: what is the source in this case?) or because it is taken from other sites through aggregators, thus creating a sort of context deficit.

One should also consider that there are no quality controls capable of guaranteeing information reliability, just as there are no common standards for publishing online information: it can easily be modified or plagiarized.

Moreover, the information and media channels convergence can influence credibility judgements, confusing the user on various levels: think of, for example, the «levelling effect» (Burbules, 1998), that is, the leveling of information quality due to the way search engine systems present results, with commercial sites and non-commercial ones appearing together on the same page,

In brief, abundance, lack of quality control, fragmentary nature, context deficit, disintermediation and so on transfer onto the user most of the cognitive work, necessary to assess online information credibility and reliability (Ranieri, 2006).

At the same time, in social networks, new mechanisms of establishing credibility through new forms of social approval are emerging, which compensate for the anonymous nature typical of digital environments. In their careful analysis of the problem, Metzger and Flanagin (2008), indicate four new strategies: *conferred credibility*, which depends on the positive reputation of the person or entity that recommends a source; *tabulated credibility*, which is based on peer ratings that are tabulated to give a metric for quality or credibility of an aspect of an individual, organization or product; *reputed credibility*, which is based on the reputation a person or an organization has within a social network; and finally *emergent credibility*, which springs from the work of people or social groups who collaborate in an open environment to create repositories of digital resources (e.g. Wikipedia).

What impact do these characteristics of digital information have on young people? What competences are necessary to assess online information credibility?

Online information credibility is particularly problematic and more dangerous with young people. First of all, younger generations use the Internet to research information more than adults: young people are «big consumers» of digital information and very often it is their only source. Moreover, their perception of the risk factor can be lower because they do not deem themselves as possessors of sensitive data (e.g. financial information). Their lack of life experience makes it difficult for them to understand some of the mechanisms that produce credibility. Apart from their personal experiences, young people are different from adults as regards their cognitive and emotional development (Eastin, 2008).

All these elements call for a thorough education to empower critical thinking and forms of higher cognitive reflection, in line with what Dewey said more than a century ago, and more recently Morin.

### Critical understanding and digital media: a webquest on digital teens

We shall now focus, on an educational activity aiming at enhancing the ability to critically understand and use online contents, and some results that emerged during the implementation of the activity in a junior secondary school. The unit, entitled «To be or not to be...digital teens» (2), was designed and implemented by Marco Guastavigna and Maria Ranieri within the European Project on Media Education «On Air» (3). As stated before, the purpose was to enhance students' critical understanding of media messages, especially online contents available on the Web, and develop awareness of and reflection on reading and writing even different types of media. The focus on diverse media was based on a cross-media approach to the issue of digital communication. The idea was that to develop critical thinking it was important to face with different needs on the basis of relevance, extension, and intensity, or on the basis of the presence of a target and the use of a spoken language.

The project for the activity was inspired by the WebQuest model (Dodge, 2005), a teaching method derived from Inquiry-Based-Learning, where students are asked to accomplish a task using a given set of Internet resources and also other digital resources found, selected and evaluated by themselves. The topic proposed as a field of inquiry was how media (TV, newspapers, the Web) represent teenagers and their relationship with digital media in order to promote students' reflection on their own relationship with the Internet.



**Fig.1** The Home Page of the webquest «To be or not to be...digital teenagers?».

The activities in the unit were:

- initial exploration of the given online resources about the relationship between adolescents and digital media;
- extension of the initial set of resources through the search for further information using the internal search engines of the BBC and YouTube;
- analysis, comparison and evaluation of the located resources with the aim of discovering views and values, implicit representation of adolescents and so on;
- organization of the selected material and synthesis;
- presentation of the synthesis in a variety of communicative formats such as oral presentations, power point presentations, editing of a post in a blog, writing of an article for the newspaper.

In order to develop students' awareness of the search strategies carried out to locate new online resources, pupils were provided with a reviewing tool to note down key words used for the search, the number of obtained results and comments. Other didactic tools which could be used during the activity were: a document about the fundamental rules of journalism, a document about conceptual maps as tools to structure ideas and concepts and a draft of a conceptual map as a cue to organize the information found during the search and selection process.

As regards evaluation, three levels were considered: students' satisfaction, learning results and change of perceptions and representations. For each level a specific assessment tool was created.

The unit was implemented in the province of Massa (Italy), in a junior secondary school, during the period April-May 2010. 18 students were involved. The activity was carried out in the computer room and was managed by the maths teacher supported by a student who was doing her thesis and supervised by Maria Ranieri (4). The activity required 16 hour (2 h. per week).

We do not have enough space here to provide a detailed report of the experience (5). We will just focus on the answers given by the students to the questionnaire, administered before and after the experience, to explore their ideas about the Internet as an informative source. We believe that from the comparisons important differences emerge and that these differences show that even a short experience – if supported by well designed learning tools – may influence and even change students' perceptions of the Internet and their relationship with information.



**Fig. 2** Activities carried out in the classroom (6)

The dimensions explored through the questionnaire were: «How do you select information found on the web?»; «Do you think the information on the Internet is neutral?»; «When you have to write a report on a certain topic, do you consider only the information on the Internet or not? If not, which other sources do you consider?»; «Do you know how a search engine works? How do they influence the results?».

From the answers obtained before the educational experience some main topics have emerged pertaining to two dimensions: technology and critical thinking. As regards the technological dimension, we noticed that even though pupils very often use Google, they have no conception of how a search engine works: 8 out of 10 pupils revealed that they have no idea about what exactly a search engine is, and how it influences the results. The majority of the students tends to use only the information on the first page of the results. Only 2 students out of 10 go on Google and «think about and then write the exact key word to receive the useful information, and then select only what best fits the needs», or «among several pieces of information select only the most appropriate for the purpose».

As regards critical thinking, we can notice that pupils have confused ideas about the neutrality of information: 7 out of 10 declare they do not doubt the reliability and credibility of the information found on the Internet. They answered that «Information is neutral because when I look for a word I always find the correct answer», or «Yes, information is neutral because on Google and on Wikipedia there is everything I look for».

Only 3 pupils out of 10 gave a negative answer: «Information is not neutral, because many people create fake websites on the Internet»; «No, because on Google you may find incorrect information», or «No, because everyone has access to the Internet, and much of the information can be false».

Finally, before starting the educational activity the majority of pupils considered information found on any website as valid as if it were found in a book, or in an encyclopedia; few pupils doubted whether information on the Internet was always credible or reliable.

The same questionnaire was administered at the end of the experience. The results showed that there still was a bit of confusion about the knowledge of search engines, or of how information is given, but there was a significant change about how students perceive the neutrality of information on the Internet. The majority of pupils, who previously answered that online information was neutral and credible, now changed their minds: «No, information is not neutral because on the Internet no one checks site contents», or «No, because on the Internet there is a lot of fake information», or «information on the Internet is not regarded as being true like in books, simply because everyone can write their thoughts on the Internet».

Significantly M. who in the first questionnaire wrote: «Information on the Internet is neutral because when I look for a word on Google or Wikipedia I find what I am looking for, and the meaning that I find is correct», in the second questionnaire she wrote «Information on Google is not always neutral because there are so many websites I have to be careful, because the information I find can sometimes not be true».

We can consider these answers as positive results of the experience, which allowed pupils to start a deeper reflection around the issue of source credibility of online information and contents.

## Conclusions

The considerable impact that digital information today has on our lives requires more refined competences to critically understanding information. In the digital era, information is always more fragmentary, lacking context and having ambiguous sources. At the same time, the growing complexity that characterizes today's systems of creating credibility in digital environments demands an urgent and deep reflection on the underlying mechanisms and on the new strategies of assessing information that are being developed on online networks. A study of these mechanisms has just started and much is left to be done.

On one hand, research on the media should provide useful elements for a better understanding of the transformations underway. On the other, media education still remains an important answer to help younger generations make use of digital contents critically. At school first of all, but also in other contexts, development of competences to critically understand information should, in our opinion, be a priority of 21st century education. The experience we have presented here, though limited in time and number of participants, is indicative of how far we still have to go: «one is not born, but rather becomes an internet user», and because of this, the intervention of the school and the education institutions is fundamental.

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## Notes

- (1) It is the title given to a workshop by CLEMI (Paris, France) on Internet education, recalling what Simone de Beauvoir wrote about women in *The Second Sex*, sixty years ago (Jacquinot, 2009).
- (2) The activity is available online at the following address: <http://www.noiosito.it/med/wqen>.
- (3) The «On Air» project was proted by the Italian Association of Media Education (MED), (<http://www.medmediaeducation.it>) and the Faculty of Communication Studies of the University La Sapienza (Rome). Detailed information about the project, the partners, the objectives and the results achieved are available at the following address: <http://www.onair.medmediaeducation.it>.
- (4) She is Sabina Guadagni, who has followed all the implementation process in the classroom with great sensitivity and attention.
- (5) A detailed account of the experience is available on the project web portal: <http://www.onair.medmediaeducation.it>.
- (6) Pictures have been taken by Sabina Guadagni.

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