READING BY INTERNET TOOLS: CONTRIBUTIONS TO THE ACT OF READING FROM UNIVERSITY STUDENT’S SAYINGS

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Abstract
This study analyzes the possible contributions of digital reading from the perception of university students about Internet tools. A semi-structured interview was conducted with 15 students of Medicine and Psychology from a university in Paraná and data produced were analyzed in the light of the critical-dialectic approach. The results state that digital reading is part of participants daily life, being mentioned by the majority as the most used support due to the accessibility. University students are in agreement with a national survey, which notes the increase in the percentage of readers due to information and communication technologies.

Keywords: Information and Communication Technology. Act of reading. College education.

1. Introduction
Globalization expansion in a capitalist society has enabled Internet and media development and popularization worldwide. For these reasons, by the 1990s, new human needs emerged from the use of information and communication technologies (ICTs) for everyday life, providing a new way of living in society, which until then was unknown, especially in relation to the resignification of communication between the different populations.

However, it must be pointed out that, since the 1970s, with the convergence of telecommunications and informatics (LEMOS, 2002), new symbolic relations between society, culture and new technologies have begun to help ensure that ICTs promoted a revolution in the media. Thus, since ICTs diffusion, which took
place between the 1970s and 1990s, society lives in cyberculture. This is because human practices are linked to ICTs and have configured contemporaneity as a culture of mobility (SANTOS, 2009).

In this perspective, Lévy (2010) states that transformations coming from the world of telecommunications and computer science influence social and work relations, as well as new ways of thinking. Increasingly, people use the means of communication for work, which brings unprecedented professions resulting from information technology, as well as the development of social networks.

The constant changes in society reflect directly in the training context, influencing conceptions about educational practices. It is possible to perceive the percentage growth of Brazilian readers, from 50% to 56%, from 2011 to 2015, through data from the national survey Retratos da Leitura no Brasil (Portraits of Reading in Brazil) (FAILLA, 2016). Associated with this data, there is also an increase in the number of people using the Internet, from 81 million in 2011 to 127 million in 2015 (MARQUES NETO, 2016).

In this direction, the author also shows that 81% of Brazilian readers are Internet users, in contrast to 63% of the readers of the general population. This fact is considered positive for pedagogical activities, since “readers tend to incorporate technologies and make use of all of them in their habit of reading and living” (MARQUES NETO, 2016, p. 64). In this way, the human being is always reading what is around him/herself, and, through ICTs, constitutes himself/herself as a historical and social subject.

In this way, today’s higher education students, unlike those who attended it in the 20th century, have their academic life permeated by ICTs and this access enables them to solve everyday situations quickly, besides attending a social context that also requires agility on information and mastery of these new technologies. These aspects may enable the student’s relationship with culture to be expanded and, subsequently, the appropriation of cultural instruments, since, by using ICTs with intentionality, the socialization and dissemination of knowledge are enhanced.

Thus, it is noted that intellectual technology (LÉVY, 2010, p. 54) reorganizes the world perspective of its users and their mental reflexes. In addition, the author argues that, as computerization progresses, significant changes are triggered, enabling new relationships in a process positioning the man as a producer of history and assigns to education the responsibility of providing conditions for the human being to effect the appropriation of culture produced by humanity.

The comparison to the paper-based book is justified by the fact that it is still seen, in everyday speech, the resistance to digital book (MARQUES NETO, 2016). Thus, in the semi-structured interview, such analogy was used, so that students understood the questioning meaning and that their answers made possible an
explanation in this aspect of the theme. In light of the above, the purpose of this article is to reflect on the university students’ perception about the Internet as a reading tool, when compared to books, as well as analysis, through the literature on the theme, on ICTs influence and their possible contribution to reading in higher education.

2. The possibilities of the act of reading with ICTs: approximations

Regis, Timponi, and Maia (2013) emphasize that in the twentieth century, many scholars, such as those at Frankfurt School, classified media and entertainment systems as inferior with respect to cultural elements, classifying them as alienating and of low aesthetic and cognitive standard. However, the authors point out that researchers of cyberculture, contrary to such assertions, are reversing this picture by arguing that ICTs allow sociocultural practices capable of stimulating the refinement of cognitive skills.

In this perspective, Lévy (1999) describes that, constantly in researches, colloquiums, and round tables, the possible impacts of new information technologies for society are announced. The author points out the misconceptions of such a statement since it presents technology as an autonomous agent, separated from culture and the fruit of a passive society, guided by this external agent. But, in fact, human activities encompass the interaction between “living and thinking people; material, natural and artificial entities; ideas and representations” (LEVY, 1999, p. 22).

A real example of such an affirmation was demonstrated in the *Retratos da Leitura no Brasil* survey (FAILLA, 2016). As the focus of the present study is the reading provided by ICTs connected to the Internet, it has been used data showing that digital reading reaches all regions of the country, even if the Internet is still needed in some locations, as there is a favorable trend for consumption of e-books and other digital texts (CARRENHO, 2016). University context is not isolated from this reality since it is often the use of smartphones and computers for work, research, preparation of seminars, as well as for interpersonal communication. In this way, human beings are in constant relation and interaction with technological artifacts, which are products of human culture itself.

Given the aspects presented, it is necessary to consider the collective intelligence proposed by Lévy (1999), by which the individual is free to be the sender in the communication process, collectively and in a network, overcoming previous reality, in which subjects were passive human beings, only able to read the material made available via the web. With cyberculture, there is the establishment of a generalized and open connection, characterized by the possibility of speaking and joining, adding those who think in the same way, thus creating a political potential.

Lévy (1999) presents elements that contribute to this perspective, since he emphasizes that collective intelligence already exists at the animal society level,
embedded in building anthills habitation, or beehives, for example. However, the collective intelligence of human being presents a special character, i.e., the language capable of guiding questions, stories and human needs.

Through this process mediated by intentional language, there arise institutions in which each member has a personal consciousness, a representation of their role in the functioning of the whole in a reflexive way. In this way, it is necessary to problematize the virtualization process in content reading, in other words, the need to develop the act of reading about what is exposed through ICTs.

Thus, human collective intelligence does not consist of natural biological development, but results from a qualitative cultural elevation, allowing technology to mediate symbols. An effective example presented by Lévy (1999) is about language as a qualitative and quantitative improvement, with the emergence of the alphabet, use of paper, the invention of writing, symbolic systems, mathematics and, consequently, communication and scientific organization.

In view of these aspects, it is necessary to think about how these countless changes “[...]
reshape society material basis at a fast pace” (CASTELLS, 2000, p. 21), transcending these transformations to the educational context, impelling the need to problematize these aspects, taking into consideration that students of this contemporary society come from the information society and live in this context permeated by ICTs.

In each historical moment, man-made technologies allow for different experiences, so that “they contribute to promoting collective goals, social relations, daily practices, and different behavioral expectations” (LALUEZA; CRESPO; CAMPS, 2010, p. 48), favoring, in this way, the subjects’ development. Therefore, when thinking about the act of reading associated with the use of ICTs by students of higher education, it is necessary to understand that “[...] teaching linguistic system is not the same as teaching how to read; teaching how to read is to teach one’s own social and cultural practices that require the mastery of this system” (ARENA, 2010, p. 242). Since, in the act of reading, according to the author, the production of meanings is effected in situations produced by human culture and social practice, and in cultural relations are the mediation elements of the act of reading.

In this sense, it is necessary to understand existence and experience in a new space, i.e., the cyberspace, which is configured as an environment where possibilities of communication and learning end up instituting new processes and products, with new training and research possibilities (SANTOS, 2005, p. 40).

In this way, it is lived in a propitious society to tread diverse paths and qualitative advances of researches on formative processes, allowing a teaching action with domination on the society’s organization forms, from the use of TICs, stimulating
the ownership of knowledge through their use. According to Lévy (1999) in any environment, the quality of the process of ownership of human relations experienced by the subjects interferes directly in the way people use new technologies.

Faced with such aspects, education is responsible for the transmission of the most elaborate knowledge ever produced by mankind, which is classic knowledge. Educational work cannot simply be limited to a specific way of doing in classroom guided by spontaneous and everyday knowledge, but also to be aware of the very nature of contents representing humanity’s greatest cultural and scientific achievement (Duarte, 2015).

It is necessary to reflect on the practices of reading experienced in educational institutions that, distanced from social reality, have often silenced the elaboration of meanings by the reader, based on the simple reproduction and decoding of loose words, making it impossible to read as a dialogical process, which, together with cultural experiences, enables human formation.

Thus, education, when faced with ICTs reality, needs to develop methodologies allowing the construction of knowledge and developing learner’s autonomy (Altoë, 2003, p. 438). Given that the current students come from a society in which knowledge is extremely widespread, making it possible, in this way, access to numerous scientific collections, besides having access to international bibliographies, participating in debates, online courses, it is necessary that this context is taken into account in the formation of the act of reading of these students.

According to the aforementioned authors, ICTs use can provide, through various tools, the act of reading to students. And it is not a question of putting books to the detriment of ICTs, but of emphasizing that they are assuming a role of great value and usefulness in the contemporary world, and, therefore, the study before the themes and the investigation of their contributions is justified. It should be valued how much these resources have contributed to knowledge dissemination. However, it is emphasized that, in the face of theoretical framework defended, intentionality and conscience are necessary before its use.

3. Research contextualization and methodological procedures

Constant movement driving and concretizing changes in society are brought about by dialectical relations established in all spheres of human social life. Therefore, to understand a phenomenon, it is necessary to consider all its aspects and relations, i.e., its totality as a concrete reality. According to Gamboa (2010), it is the synthesis of multiple determinations, it is the result, in thinking, of several abstract elements rising up until building the concrete. Thus, for the accomplishment of this study, the critical-dialectic approach of qualitative design was used, since, “[...] man knows to transform and knowledge has meaning when it reveals the alienations, oppression, and miseries of the present phase of human development” (Gamboa, 2010, p. 9).
Analyzing perceptions and the use of technology as a reading tool does not make it an isolated element of society, but a material human production composed of social, technological and cultural dimensions, embedded in the varied relations produced throughout history. Therefore, it started with research field characterization, as well as tangible dynamic and continuous movement between the real world and subject. In other words, from the comprehension of totality “[... from part to whole and from whole to part; from phenomenon to the essence and from essence to phenomenon; [...] from object to subject and from subject to object” (KOSIK, 1976, p. 37).

In the case of this study, it was possible to identify the perception of university students on the Internet as a reading tool when compared to the material book, as well as to analyze, through literature, the influence of ICTs on the possible contribution of the act of reading in education using screen’s support.

Regarding the research procedures, information production occurred through a semi-structured interview with 15 university students, 10 from Medical course and 5 from Psychology course. All of them study at the same university, located in the north of Paraná, and were between 18 and 23 years old. The criterion for selecting the participants was for convenience since they were the ones showing themselves to be cooperative with the research after collective invitation.

A relevant feature in the studied institution is that in all undergraduate courses all disciplines have a specific online task, which is performed by students after school, complementing the classroom activities. It is a work planned and supervised by the teacher of each discipline contemplated in the syllabus. It composes part of the workload of each discipline and its value should not exceed 20% of the total grade of each one of them. Normally, it constitutes itself as a form of synthesis, in the elaboration of a text, summary, critical commentary of a film, among others.

There is a predefined deadline for the teacher to post the task in an online platform providing visualization of disciplines, texts, and teachers’ posting. Students who do not meet the deadline will lose the grade assigned to this task. Regarding supervision, during the course of teacher’s performance, it can be made in classroom or online, being the latter with the support of communication tools of virtual learning environment, primarily through discipline’s doubts forum.

Faced with this context in which students are required to use technology to express and present their ideas and understanding of certain content in different ways, all processes involving the fulfillment of this requirement allow them to use digital reading. And not only for accomplishing this specific work but for any type of academic use the university provides incentive and use of the Internet and the technological apparatuses beyond every day, covering the communication and entertainment tools.

Therefore, it is not only the material applicability of online teaching but also the creation and interaction mediated by the teacher. As argued by Chaves (1999),
crucial aspects of new technologies provided by the Internet are the possibilities of creating rich environments for learning in itself, while allowing people to engage in a formal teaching process.

The aforementioned author’s assertions were perceived in the moments preceding data production. Although the interview was an individual methodological procedure, the invite to join was done collectively, as well as the explanation of the theme. At that time, it was possible to identify in students’ comments the constant use of technologies for communication, entertainment, and academic activities.

Interviews lasted about 10 minutes and the first questions were identification: age and course, and then on the theme: In your opinion, can the Internet be considered a reading tool compared to books? Why? Do you use it? Participants’ answers were identified along with the following topic by the following denominations: S (student) and a number (1, 2, 3, etc.), which rank in the answer’s order. It should be emphasized that, for the analysis, it was necessary to articulate a theory organizing answers obtained from the inquiries about reality, in order to guarantee greater scientific rigor in the production of knowledge.

4. Reading on the Internet: University student’s sayings

As Lévy (1999, p. 158) prescribes, the present demands the building of new, emerging, open, continuous, flowing, non-linear models of knowledge space, reorganizing according to objectives or contexts.

The author’s consideration makes possible to reflect that the use of information and communication technologies envisages a diversified pedagogical practice, which seeks to heal the distance between educational process and dynamics of contemporary society, to mobilize actions aimed at an active and autonomous student, and to instigate critical awareness in the use of language and in training as a participatory being.

Students of higher education are not different from those of other stages of basic education, they use artifacts and technological tools for essential daily tasks such as communication and leisure. However, once they are more experienced subjects and because they are facing demands of greater scientific rigor, they can use ICTs to carry out academic activities of different disciplines, besides using different ways of sharing with professors and other graduates; there is also the availability of digital materials. Do the students of these courses know the possibilities of reading through ICTs? If they know, do they see differences in reading activity depending on textual, digital or printed support? Chart 1 describes the participant group’s answers to these questions.
### Chart 1 - Students’ perception of the Internet as a reading tool

<table>
<thead>
<tr>
<th>Identification</th>
<th>In your opinion, can the Internet be considered a reading tool compared to books? Why? Do you use it?</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>S1</td>
<td>Yes, and I always use it, there are books available free of charge on the Internet, as well as articles and texts. I also use it for social networks.</td>
<td>Psychology</td>
</tr>
<tr>
<td>S2</td>
<td>Yes, because many books are available on the Internet.</td>
<td>Psychology</td>
</tr>
<tr>
<td>S3</td>
<td>Yes, and I always use it, because I have access to books, articles, and texts through the Internet. I also use it for social networks.</td>
<td>Psychology</td>
</tr>
<tr>
<td>S4</td>
<td>Yes, I use digital media a lot. There is a social network called Tumblr, in which I read many poems and short stories and I even venture myself to post a few.</td>
<td>Psychology</td>
</tr>
<tr>
<td>S5</td>
<td>Yes, and I use it because through the Internet I have access to books, periodicals, theses, etc.</td>
<td>Psychology</td>
</tr>
<tr>
<td>S6</td>
<td>Yes, it is a tool, but of course, the book is better, due to the ease of reading. However, the Internet is fast and access is easy, I always use it.</td>
<td>Medicine</td>
</tr>
<tr>
<td>S7</td>
<td>Yes, because I find many books available, but I do not like reading on the screen, so I print them. I end up using it for college research.</td>
<td>Medicine</td>
</tr>
<tr>
<td>S8</td>
<td>Yes, because there are sites and online bookstores that make them available, I always use them and only buy or take in the library those I cannot find on the Internet.</td>
<td>Medicine</td>
</tr>
<tr>
<td>S9</td>
<td>Yes, nowadays, it is possible to access books online, I use it a lot, although I still have to buy many to use in the course.</td>
<td>Medicine</td>
</tr>
<tr>
<td>S10</td>
<td>Yes, because there is wide access, even to books, magazines, articles, newspapers, among others. I use it for academic research and social networks.</td>
<td>Medicine</td>
</tr>
<tr>
<td>S11</td>
<td>Yes, because it offers scientific readings of easy access (even by the cell phone), allowing an in-depth study like any book, but with greater practicality. I use it a lot!</td>
<td>Medicine</td>
</tr>
<tr>
<td>S12</td>
<td>Yes, because, for example, I want to read a book that I do not have at the moment, then I can get it on the Internet and read it. Yes, I use it.</td>
<td>Medicine</td>
</tr>
<tr>
<td>S13</td>
<td>Yes, it can be considered a reading tool compared to books. Because there is a lot of knowledge in texts we find on the Internet. We should stop thinking about the Internet only as a social network. When we talk about the Internet in relation to books, basically what has changed is the information vehicle, the speed, the format, but the content can be similar, if not, the same. And yes, I use it.</td>
<td>Medicine</td>
</tr>
<tr>
<td>S14</td>
<td>I think so, because nowadays we are able to download practically everything we need from the academic world on the Internet. I use it a lot and also for social networks.</td>
<td>Medicine</td>
</tr>
<tr>
<td>S15</td>
<td>Yes, a lot! There are several readings available, easily accessible on the Internet. Sometimes we do not find the book, but it is there, on the Internet. I also use social networks, which end up involving reading.</td>
<td>Medicine</td>
</tr>
</tbody>
</table>

Source: Elaborated by the authors.
Although participants are students of different courses and periods, the answers have similarities. It is a fact that they are young people about the same age, born after the 1990s and are part of cyberculture. And they are in a university context requiring a mastery, even a minimum, of technology and of the Internet to perform academic work, even because they have also been inserted in the courses’ curricula, which offer a physical structure to use them.

Regarding the first question, everyone answered that the Internet can be considered a reading tool when compared to books. The answers reveal how much digital book is changing the ways of reading and being well-accepted in the perception of these students. The Retratos da Leitura no Brasil survey does not make this comparison between the two supports but reveals that printed book is rarely cited by Brazilians as reading material – only by 15% of readers – while reading news and information in digital media is mentioned by 52% (FAILLA, 2016). It is noticed that students’ answers show how much they are inserted and are part of totality in movement, transformed by means of human work, that in the course of time, changes the subjects’ source of reading.

Considering the information mentioned at the beginning of the study in relation to the percentage increase of Brazilian readers, Carrenho (2016), when analyzing some results of said research on reading and digital support, mentioned how representative digital books are for the growth of the number of readers. After all, among those using the Internet, 14% indicated they had read digital books.

According to Marques Neto (2016), informal everyday speeches are common about the impossibility or discomfort of reading on the screen of a cell phone, since the screen is very small. However, the aforementioned research shows the opposite in Brazilian reality. Among those who have read a digital book, 56% did so on their cell phone or smartphone, the latter being the most commonly used device. The computer was mentioned by 49% of the readers, followed by tablets. Thus, results show that cell phones or smartphones are the main supports used for reading a digital book. And in this study, from the 15 participating university students, only two mentioned the ease in reading on printed media: “Yes, it is a tool, but of course, the book is better, due to the ease of reading.” (S6); and “Yes, because I find many books available, but I do not like reading on the screen, so I print them” (S7).

Another point to be highlighted is that, from the 15 participating university students, 13 stated they use Internet tools for reading due to the easy access to digital books. At the national level, this material accounts for only 14% of digital readings. However, according to Carrenho (2016), it cannot yet be said that it is low since the digital book in Brazil began in 2012, i.e., it is still incipient support for reading.

An important element to be analyzed in the students’ answer was the reference to the use of social networks by a third of them. The question did not specifically ask about what makes it possible to verify that, when thinking about reading on the internet, they relate to their use of social networks. But it is verified that the use of
social networks is something prominent on the national scene – 50% of Brazilian Internet users access or participate in some network, as well as blogs and forums (CARRENHO, 2016).

This totality expresses the movement of particularities that they are reading in other spaces, in other ways and accessing other contents not previously read. Thus, it is important to investigate the quality of some online publications (BARRETO, 2010; SOARES, 2002), which can often overlap with a reading of a scientific content material contributing for the formation of the subject in his/her highest human qualities.

S4 student stated, “There is a social network called Tumblr, in which I read many poems and short stories and I even venture myself to post a few.” About that, Lévy (1999), in presenting the relations between cybertulture and education, points out the relevance of digital media in the production of knowledge, once, as readers overcome passivity and become active, they can share their productions online for the whole world. Thus, when considering the act of reading a production of meaning that contributes to human formation, it is necessary to emphasize that reading itself is reader’s act of creation, whereas when he/she reads, he/she produces mentally or by writing something about, overcoming the receptive reading, modifying the work he/she reads (MANGUEL, 1997). Such assertions make it possible to glimpse ICTs contributions to the act of reading.

To this end, these spaces of knowledge, which currently have the potential to be cyberspace, must be permeated by instruments that Vygotsky (2007) calls signs, which consist of mediating agents in the social context. With this understanding, the teacher allows interaction between students through language and mediation with technological artifacts, so that they develop their higher psychological functions.

After all, the origin of higher psychic functions is found in social relations man develops, since the historical and social development is directly linked to the production of human materiality, in which work presents itself as a mediation activity. As such, ICTs in the classroom can provide the interconnection of perception with sensation and other higher functions, as well as adding to the historically accumulated experience.

That is real that ICTs are present in many different places, mediating relationships and establishing new ways of life. Data from this study show that, for participants, reading on the Internet is frequent, and the ease access surpasses the search for a printed book. It seems that a change is taking place in relation to the reading support, i.e., in the form, as mentioned by S13 university student “When we talk about the Internet in relation to books, basically what has changed is the information vehicle, the speed, the format, but the content can be similar, if not, the same.”

According to Marques Neto (2016), in the last eight years, digital technology has promoted a revolution in forms of reading, access to information and devices used
for communication. This revolution was also reflected in the writing, in the support and in the forms of access to the contents. Thus, it is necessary to ally to teaching practice, through ICTs, the possibility of the act of reading as a humanizing need in addition to mere decoding (NASCIMENTO; FRANCO, 2016). So that teacher's performance is a mediator of a human learning and development process.

5. Final considerations

It was not the purpose of this study to make a dichotomous judgment about technology, as if it were good or bad, as something capable of producing impacts on a passive society. It should be recognized the qualitative changes in signs’ ecology and the unique environment created with information and technologies – cyberspace – which is the result of the extension of new communication networks to social and cultural life. This new space notably increases the possibilities of production and sharing of knowledge and information. In this sense, new technologies consist of the multiform activity of people who have materialized their ideas through computer programs and communication devices.

In view of this study's purpose, which was to analyze the possible contributions of digital reading to the act of reading from the perception of university students about the Internet tools, it is verified that digital reading is present in a university context, accepted by the students. So, it is plausible to think about contributions of use of these artifacts to the act of reading, however, associated to a teaching proposal permeated by intentionality and aiming at human development in the educational context. However, it is worth emphasizing the need for investigations about quality of some materials made available in the electronic medium, so that daily information is not privileged and read by most subjects, to the detriment of scientific knowledge.

Through his/her pedagogical practice – praxis –, a teacher can, in several ways, provide opportunities for reading and appropriation of content by students with technological artifacts, as well as to direct their out-of-class readings on the Internet. Providing the act of reading is to contribute with a humanizing need that goes beyond simple decoding of words. It is to enable culture appropriation and scientific knowledge, which are part of human culture. In other words, it is to enable the university reader to have a critical, reflective and transforming world perspective.

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