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Multimedia Resources as Examples of Polymorphic Educational Hypertexts in the Post-Literacy Era

Margarita Goodova, Elena Rubtsova, Rafael Filiberto Forteza Fernandez*

The Ural Federal University "Boris Yeltsin", Mira 19, 620002, Ekaterinburg, Russian Federation

Abstract

The digital revolution has brought possibilities of communication never thought before in the history of humanity. The effects have been felt in all areas of society, but much more in education. A response to such effects in the educational sphere has been the creations of interactive multimedia resources which enhance learning from different platforms at university or research centers. The multimedia resources for the humanities presented in the article, designed and created on the bases of socio-psycholinguistic and cultural analysis research to facilitate post-literacy reading practices, have meant a cultural response to the university needs to improve the teaching learning process. Their cognitive-affective appealing features have contributed notably to the student's responsibility and creativity to such extent that constant updating of both contents and functions have become a must.

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1. Introduction

In today's contemporary culture, the so-called "information society", the relations resulting from the interaction between its technological foundations and the consumers have brought changes in the perception and practices of its subjects and phenomena in general, and reading as a social institution in particular; the latter has gone through great cultural and pedagogical transformations.

* Corresponding author. : +79826034890.
E-mail address: rafaelforteza@gmail.com

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The fact that Internet as a multimedia superhighway, according to Castells (1996), is at the same time the source and the channel of information has placed professors and students in new educational conditions and posed a need for a joint response to the technological challenges of modernity.

Most professors today complain their students "do not read". Despite that, university students in the humanities have always needed expert, professional guidance as to what and how to read. The future graduate should acquire comprehensive, useful knowledge as well as skills to meet the demands of the profession and life. However, as Sarkar (2012) puts it: “The concept of moving the traditional classroom of desks, notebooks, pencils, and blackboard to an online forum of computers, software, and the Internet intimidates many teachers who are accustomed to the face-to-face interaction of the traditional classroom.” This classroom phenomenon has two different perspectives.

Above the surface, the problem that students “don’t like or know how to read” or post-literacy (McLuhan, 1962) suggests illiteracy in the computer era as well as lack of habit, desire to learn or, even lack of purpose and professional commitment. However, when looked at questioningly from the point of view of cultural studies analysis, instead of complaining, educational practitioners have to look for a quite different substantive phenomenon. How responsive is their classroom to the socio-historical conditions imposed by the digital revolution?

Referring to a culturally responsive classroom, Jones-Goods (2015) quotes Ladson-Billings advice: “… culturally responsive practices empower students intellectually, socially, emotionally, and politically by using cultural references to impart knowledge, skills, and attitudes of inclusion”. In the absence of such practices, she warns: “the students may experience slower literacy development (ibid)”. In other words, the issue is not a problem with the desire to read, but the new reading conditions and practices brought about by the availability of information on the Internet.

The present article is aimed at socializing the experience in the design and creation of multimedia resources as well as their theoretical bases, achievements and shortcomings at the Ural Federal University “Boris Yeltsin” in the Russian Federation.

2. Socio-psycholinguistic and cultural analysis bases of reading

Post-literacy is a cultural and historical form of literacy in which each and all preceding forms are contained. In other words, to be literate today means being competent in all forms of reading demanded in today’s culture so as to function effectively at the social level. In a long, step by step, active, complex process since childhood, the modern individual learns how to read and transmit information at the beginning from pictures, then on from conventional signs and symbols. It takes him a long time to be able to digest the coherent and, sometimes, intricate patterns of the written language. Moving steadily through all stages of literacy development in the culture from pictographs to books progressively prepares the individual to master computer literacy, whose main condition is to acquire the command of pictographic, symbolic and alphabetic writing.

In the new post-literacy educational conditions, it is not often clear whose task is more complex: that of the students’ who perceive the post-literacy situation and Internet as something quasi-natural in their lives; or that of the professors’ who remember very well the times when reading was not a problem and relate to the possibilities given by the Internet with much apprehension. Many professors perceive Internet as only technology. This point of view narrows the potential results to the minimum for they are mostly connected to the traditional educational strategy of finding information. That is, it is easier for the student to download knowledge it took professor and scholars many years of hard work and research to produce.

To solve this contradiction it is extremely necessary to recognize, first, that the modern student’s reading has many levels at the cognitive and affective levels; second, the enormous morphological diversity of texts produced by today’s information culture for the consumer society is constantly growing.

Though traditionally paper-based sources of reading giving the opportunity for a peaceful, slow reading are still common today, in conditions of free Internet access more and more resources of electronic reading permeate the educational process. However, it is often difficult for the student, especially in the academic area, to evaluate the quality of information and separate what is useful and important from what is not as well as to grasp the gist and put aside what is not relevant.

Such is the preoccupation with learning in the educational world today that preceded by a tentative assessment on the need to redefine the understanding of literacy in the IT age *Science*, a journal not devoted to educational research, ran a series of articles on Science, Language and Literacy five years ago. In one of them, Schleicher (2010), driving attention to the huge amounts of information produced every day, suggests that the reproduction of knowledge acquired through reading skills is no longer enough. Success in the industrialized world requires reading to learn from unstructured, conflicting information on the Internet, for which it is essential to identify, understand, interpret, create and communicate knowledge "using written materials associated with varying situations in changing contexts". Achieving the above is further complicated by the fact that academic language is quite different from its everyday use. Its features, Snow (2010) asserts, are "conciseness, achieved by avoiding redundancy; using a high density of information bearing words, ensuring precision of expression; and relying on grammatical processes to compress complex ideas into few words". Each pose a great challenge for comprehension, which together with its authoritative prose character may also affect the learner's decision on what to pay more attention to, criticize, or simply discard, such as is the case of excluding theories, hypotheses and conflicting research findings. In addition, Osborne (2010) asserts, "… argument and debate, though common in science, are virtually absent from science education".

Many teachers argue the language of science is complex, especially scientific terms, which is true. Specialist's terminology, however, is just the tip of the iceberg, the visible part. The grammar of science, on the other hand, is the quite often-neglected hidden part of the academic language iceberg in our classrooms. Below its surface, at text level, academic terminology is used is complex syntactic structures—embedding, grammatical metaphors, unambiguous reference and repetitions—in intricate patterns, which make, even simple sentences, difficult to understand. A fact that becomes more acute if the text is in a foreign language. A second issue, also related to comprehension, is ideology, which, in turn, has to be associated with critical reading, in the authors' opinion, an essential skill today.

Any teacher engaged in the teaching of academic language, no matter which, must keep in mind that, first, comprehension precedes production; and second, that understanding does not necessarily lead to it. Both are closely related but entirely different psycholinguistic processes.

The problems in understanding scientific text construction depend on the ways into which the scientist is compelled to put into language complex thought (concepts, their relationship, processes) as a result of genre restrictions. In other words, on how he 'packs' new knowledge, which conversely, makes 'unpacking' for understanding difficult. M.A.K. Halliday (1995) states: "Knowledge is semiotic transformation: to know something is to have transformed it into meaning, and 'understanding' is the process of that transformation. The transformation of experience into meaning is carried out by lexicogrammar …Thus the lexicgrammatical system is a theory of human experience."

Therefore, the strategic aspect of reading cannot be neglected. That is, reading is more than absorbing information per se; it is a form of communicative activity where the writer and reader engage in interaction mediated by a text. While the writer encodes information through language using his knowledge of the field and different strategies such as word choice, repetition or omission to convey his message, the reader has to use his own knowledge and other strategies to decode that same information. This relationship between knowledge of the field and the use of reading strategies can be summarized as follows:

- Background knowledge of the field of discourse.
- Previous experience of text-types as well as the best strategies for reading them.
- Multiple and meaningful opportunities to put that previous experience into practice.
- Knowledge of vocabulary inference techniques and how to use a dictionary.
- Strategies for previewing texts, monitoring understanding, and determining the most important ideas and the relationships among them, remembering what they has been read, and making in-text connections and inferences.
- Activating the previous knowledge and making the necessary connections with the new one.

Appropriate application of the above-mentioned will enable the students to gather and filter what has been read into a coherent body of classified and organized information, which will later be analyzed and summarized to enable speculation and prediction; in other words, the new reading not only offers new knowledge, but also possibilities for its application.

On the other hand, easy access to electronic educational resources, digital libraries, electronic databases, magazines and journals makes online reading one, if not, the most common practice among university students. However, very many also engage in off-line reading after downloading the material to PCs, tablets, e-readers, and even their mobiles. Audio-reading has also become a very common practice today, especially in foreign languages studies, making it possible for the student to assimilate the phonetics, lexicon, morphology and syntax of the target language. Out of these, mobile reading is considered the most radical way allowing both off and online modalities, being the latter only possible if the reader has internet connection.

In real classroom situations, sometimes during preparation for a written or oral exercise, the student reads on-line; this is could be said is a fast search or viewing-reading, just to have an answer at hand; however, this is not enough to learn, process and retain information (Goodova, 2012).

From the technological civilizations' viewpoint, the above is an "advanced approach". Far from agreeing with that, the authors hold the view that the Russian university educational practice urgently needs to graduate technically and intellectually well-equipped students in the humanities and socio-political sciences, able to read at an ever-increasing pace, interpreting, pondering the message, its codes, discriminating information, and taking an individual critical stance on what has been read. In other words, the process of reading requires considerable mental and intellectual effort.

An advantage to achieve the goal stated above is that while constantly making use of and communicating on the social networks, today's students engage in and, ultimately acquire different types of media-text reading skills to cope with traditional verbal and visual texts in which photos, illustrations, graphics, and maps are usually combined with some sort of verbal description. At the same time, this type of activity on the social networks empowers the students to deal with hypertexts; that is, a combination of audio, video-fragments, banners and texts with hyperlinks. Practically "living on the Internet", the students polish their skills to read polymorphic multimedia texts generated by the modern culture. Therefore, the professors in the humanities must bear in mind that by adapting the teaching material to the learning conditions and potentials for development offered by the internet, they are appealing cognitively and affectively to the application of already generalized skills and, in this way, satisfy the students' learning needs.

In other words, educational texts have to be organized as enjoyable multimedia hypertexts, whose most outstanding characteristic is to make the reading processes and the activities accompanying them attractive while cognitively guiding the students to go from the general to the particular, from the less to the more complex ideas, facilitating in this way the ultimate goal: learning.

Elements of game such as going through a reading labyrinth come into play when asked to fill a chart, complete a review or apply knowledge to solve a problem. In this labyrinth, each of the parts of the text is hidden behind a twist, a chunk of text leads to another which in itself is connected to others. As intrigue is also present, reading also becomes an intellectual adventure.

Another very important multimedia organizing principle has to do with text-chunks size. Seminars or practical lessons for which the students have to read around fifty pages or more is not very commendable practice for two reasons: time and time. The university student likes to learn faster and from practice rather than theory. This implies learning today is usually built around production and services environment, very rarely near campus. This means the students have very little time to read. At the same time, instead of reading fifty pages, the students prefer watching a documentary on the subject or find a shorter version of the material, thus saving time. Therefore, text-chunk size is usually short, no more than two or three very concrete paragraphs, in most cases with no need to scroll the page.

In short, the combination of enjoyment, intellectual challenge and the possibility to save time while learning make the use of multimedia in university classrooms a useful, appealing though challenging way to teach and learn. However, though the form and design the resource takes are very important issues, the content, what the student has to learn, must by no means lag behind. Unarguably, learning has to be a meaningful activity for the individual.

As a rule, professors in the humanities during their pedagogical activity have accumulated different types of texts in the form of audio, lectures, supplementary printed materials, music, posters, paintings, as well as films and documentaries which to be used in class implied the need to of technical devises to reproduce them. However, in the digital multimedia era, the only imperative technical support for the teaching- learning process is a computer with Internet from which the multimedia, usually stored in a cloud or the university database, is accessed. The logistical

problem of sometimes bringing to class a bag full of material aids and the equipment to reproduce them has been solved with the multimedia.

Therefore, for any university faculty computer literacy has become a must for the creation of educational multimedia and interactive resources that, based on solid socio-psycholinguistic and cultural analysis research, can help the students meet their learning needs and new reading styles materialized as a result of the contemporary digital technological revolution.

3. Multimedia resources for aesthetics, ethics and cultural studies

The educational multimedia resources (available at: http://media.ls.urfu.ru/182/;http://media.ls.urfu.ru/420/; http://media.ls.urfu.ru/501/; http://media.ls.urfu.ru/493/;) created at the "Boris Yeltsin" Ural Federal University in Yekaterinburg, Russian Federation and stored at its website are vivid examples of the application to the new reading practices in the post-literacy age of solid socio-psycholinguistic and cultural analysis theory into practice. The resources are not only open for students and professors of this Russian higher education institution, but for anyone interested in the problems of the history of culture and modern society anywhere in the world.

These educational multimedia, already awarded several prizes at the region and federation levels, contain not only updated materials taken from lectures and textbooks, but also classical articles and current publications written by professors and post-graduate students in Russian and English. The authors consolidated them around an imaginary "humanitarian society" and the time they promoted the university on the Internet that allows organized discussions of key questions in modern culture through the use of provocative texts on theories in the humanities.

Experts and users have expressed the multimedia contents are easily perceived and emotionally attractive not only because of the way in which the main ideas are illustrated, but also how the theoretical view on contemporary culture problems have been complemented. Another feature is that the use of morphologically different texts did also allow for the elaboration of more varied and complex cases than those ones feasible in the traditional verbal form.

Already in use for two academic courses, such resources have gone constant improvement of their contents and features. A very important not long ago incorporated one were enhanced possibilities for interaction built-in. On a monthly basis, the authors add recently published relevant materials updating the contents. These new contents are highlighted in the links directing the users to particular areas of interest where they can expand and improve their knowledge. At the same time, the students may upload individual or group essays, presentations, case-solutions, articles and reviews.

Such type of interaction between the professors and students mediated by the resource in question gives "life" to the teaching learning process at the time it reflects the real student's vision of problems in the humanities as well as their actual learning and intellectual development. Giving the students the possibility to upload their work, the authors thought first of this as a way to control their work. A collateral unexpected effect on the learning process was increased motivation as evidenced by the students' dedication for the quality of their work, where intellectual effort and creativity had been rarely commendable. At the same time, these have compelled the authors to be more careful and creative in organizing and updating the learning material, quite often after each lesson.

Designed and organized on the idea of giving the future graduates the possibility to assimilate intellectual content and meet the course objectives, the multimedia resources allow access from social networks such as VK or Facebook making learning possible from any place, not necessarily only the classroom. It may happen the student is ill or travelling and wants to keep on with the educational process, as the authors have witnessed on many occasions. In such cases, one of the added features is that such a student can, and indeed, uploads his work without missing the essence of the teaching learning process.

At the moment, the multimedia is undergoing the necessary processes to control the users' activity with the aim of transforming the resource into a more effective tool than perceived hitherto. Such transformations include number of users, areas consulted, quality of answers to activities and suggestions for improvement as well as open criticism.

4. Conclusion

The availability of these educational multimedia resources has given both students and professors the opportunity to count on appealing cognitive and affective resources for the development of the teaching learning process. As a result, this process has become more interesting for they not only are a response to the new conditions, but also to its aims. Allowing the students to interact through uploading the product of their work has increased their motivation and creativity, two key aspects for success in the contemporary era.

Thanks to them, such process has also become more variable because of a new ways of working with texts, control exercises and discussion organization; and polymorphic because of the different text formats included. Constant updating of the material and added functions guarantee they may be used as long as the curriculum is not changed.

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