

EXPERIENCES AND TRENDS IN DIGITAL TEXTBOOKS USING

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Abstract: Under the inevitable impact of technological developments, whose speed exceeded transformations that followed the pattern, the effects on the individual acquires new meaning for family, environment and education. Adopting digital school textbook is based by previous approaches. For example, in Ireland, digital textbooks are used since last year, instead of their paper copies. This decision was taken after a successful pilot study conducted in many schools selected by the company Educational of Ireland. While in Ireland, the digital textbook system was adopted only at secondary level, United States of America believes that until 2017 every children at any level, will use digital textbooks, after the two years pilot study that was successfully concluded.

Keywords: *digital textbooks, tehnological development, learning tools, adapting, resilience*

The textbook is one of the work tools for students, the most important, which reflects the structure and detailing systematic curriculum themes, units of study, evaluation forms for each subject and for each class. From the perspective of learning activities, the textbook has three main functions: information, structuring the learning function, learning function guide¹. The textbook contains information that are processed and integrated by teaching principles, psychological and praxiological. It is an important instrument of the student's work and, therefore, in addition to information it should contain working methods or methodologies, showedor logical infused intodidactic exposure².

The textbook – way of communication

The textbook reconstructs the route from one generation to another, following a trail of history, the values, the principles, the states of mind and feelings. Generations become less connected by messengers expressing the past of a stage and the establishment of another. Relationship is turning around, retaining only the functions for which it was created. Medium is the message³, so the intermediate, the carrying of the message itself is the message and that teachers had this in mind⁴. Textbook is a networking medium where information from past and future trading, reflecting expectations of students, especially of the educational policy makers, of parents and from the emerging society.

The rhythm of development and the revolution of mediums brings gaps between projections of a generation and the reality of it – induced by unpredictable conditions of accomplishment. Teachers could not foresee the changes and students don't find necessary consistency of the process entrusted to adults - experiencing unimaginable ways of life in the time of their formation. This approach to education crosses the intersection of the three forces. Student's ability to identify with others in a community of learning, the student's ability to construct knowledge and to confirm their meaning and learning. Online social networks such

¹Seguin, 1989, p. 22-24

²Cerghit, I, 1980, p. 68

³McLuhan M., vol. Galaxia Gutenberg, 1975

⁴Șoitu L., Pedagogy of Communication, EDP, 1997

as Wiki and blogs are essential in helping institutions to investigate the current needs of the labor education both campuses and distance learners⁵. Textbooks are the strongest physical connection between society and human capital to be educated. Textbooks should be regarded as condensed image of the society that produced it. The manual is the "support educational content knowledge depository ... reflux deformed, incomplete and delayed ... the state of knowledge of an era, the main issues and stereotypes of a society. It is also a teaching tool ... In the end, it is the transport of a system of values, ideology and culture, and it participates in the socialization of young generations to be addressed"⁶.

Relationship between new technologies and teaching resources

ICT⁷ transform perceptions for users. It establishes a change of temporality through a snapshot dictatorship manifested as: accelerate time, rhythm to achieve a goal, power capture, present perpetually biased visible, the staging of itself⁸. From a teaching perspective, it is unjust and not allowed to ignore these changes - much more obvious to generations of students than to teachers with more experience.

ICT changed: a. relationship between humans, generating another way to see the world - operating with the "picture of image", b. interpersonal relationship, and in this way the structure of social relation, c. perception of space and time; d. rhythm multiplier effects of any phenomenon; e. dissemination and knowledge value / non-value; f. propaganda and public opinion became prime factors of social control⁹. Solution of harmony is given also by ICT. Digital textbooks bring us closer to the world of instant, the flow and rhythm of the recovery time (there are Asian experience - Thailand, Japan - schools measure time by the percentage of use in hours. An insufficient use of time requires restoration of work, repeating situations of incomplete recovery cause the elimination of the teacher from system). Therewith, the power of students to collect – used to observe and to solve simultaneously more actions – increases the value of new technologies capable of generating different reports through the priority given to itself.

The imperialism of new technologies, their ability to invade any space, cause the retire of policy makers – giving priority to of the methods instead of the goal. School was called to adapt, providersgave everything - including what has abounded. The essential role, however is to demand, to compel any industry, to accomplish human needs of rebuilding. School may promote the development of technologies if them serve the objectives of education.

Digital textbooks using

Adopting digital school textbook is based on previous approaches. For example, in Ireland, digital textbooks are already used at the beginning of last school year, instead of their

⁵Miller G., Collaboration vs. Competition, Annals of UAIC, Science of Education Tom XIV / 2010, volume dedicated CIEA III, p.145

⁶Choppin, A., L'histoire des manuels scolaires: une approche globale Histoire de l'Education, 1980, no. 9, p.1

⁷Information and communications technology

⁸Lochard H. G. Boyer, Media communication, 1998

⁹Soitu L., Audio-Visual Rhetoric, p. 211

paper copies. The decision was taken after the success it had a two-year pilot in several schools selected by the company Education of Ireland (Edco). The company announced that it has completed all the necessary electronic textbooks for secondary school program last year, to be available for the start of the new school year. The company also announced that electronic books have been used by over 4,000 students across Ireland who read over 100 electronic titles and followed over 8,000 interactive activities and resources¹⁰. While in Ireland this new digital textbook system was adopted only at secondary, two years after a pilot program in the United States of America, it was announced that it is wanted that until 2017 each student to use a digital manual¹¹. Moreover, this year, all schools in every state received a national recommendation to use for this purpose, the funds for purchasing printed books, to use them for digital textbooks - easy to read on iPad, Kindle or other similar device. Also, schools were advised to buy and software for digital textbooks¹².

On the other hand, companies that produce textbooks were encouraged to work together to accomplish this goal and, moreover, to reduce prices to make textbooks more affordable for the approximately 50 million students in the United States. Although the Irish pilot program was successful, and in the United States of America exist even a national program to provide schools with digital textbooks that may be updated periodically on the Internet, still remains the question if this is the solution to make children learn better¹³.

In 2011, a study was conducted by the Organization for Economic Cooperation and Development¹⁴ that investigated the impact of technology on students, namely the frequency with which 15 years old teenagers use computers and the Internet for learning. It was shown that in the 16 countries surveyed (except Israel and the USA), most students prefer printed materials, but in South Korea, Australia, New Zealand, China, Iceland, Sweden students prefer digital materials. Of course, the generalization of new technologies is dependent on the economic situation of each country. South Korea and Finland are examples of excellence in education, but most South Korea invest in learning new technologies, and it is evident since there is an interest in developing a generation of leaders in high technology. CourseSmart's Third Annual Survey on Education and Technology¹⁵ - a dedicated digital educational system - in conjunction with Wakefield Research - started a study in 2013 that focused on digital material impact on students. 500 high school students from California were included in the study. 59% of them prefer to bring into the classroom laptop or tablet, while 41% prefer a traditional textbook.

Another study that pointed students' attitude regarding rising costs of textbooks. Specifically, they observed: students' perceptions on the use of online textbooks, cost's impact on the number of courses that a student buys, price influence the selection of courses, types of digital media that students prefer. In autumn 2010 and spring 2011, 14,221 undergraduates and students in 11 universities of the state of Florida, respectively from 26 high schools completed the online survey. 56% of respondents said they spent between \$ 201-500 and they

¹⁰<http://www.edco.ie/>

¹¹Toppo, Greg - 31 January 2012, Obama Wants Schools to speed digital transition, USA Today

¹²Kang, Y., Wang, MJ, & Lin, 2009, Walsh, M., Asha, J., & Spranger, N., 2007

¹³Brown, G. J. 2001, p. 390-391; Clyde, 2005, Dillon, 1992

¹⁴<http://www.oecd.org/newsroom/educationkoreatopnewsnewoecdpcisasurveyofdigitalliteracy.html>

¹⁵www.CourseSmart.com

needed additional financial support. 51% of respondents were forced not to follow a course due to the high cost of it textbook. 45% would buy or rent digital textbooks to save money. Over 60% (63.2% and 60.2% of highschool students and undergraduated) prefer electronic books, and for many of them, the printable electronics are among the favorites¹⁶. A link between educational objectives and the use of digital learning materials among secondary school students was determined by analysis of learning needs in relation to existing digital resources - they can cover various learning needs both online - Internet, mobile; and offline - DVD, CD¹⁷. In 2012, digital textbook came more on the market, claiming the need to offer a textbook designed into a digital language and for a virtual world. A large number of products are available to explore cyberspace, crossing the school walls, creating a new educational space. These products meet the difficulties facing schools, bringing all the necessary accessories to enter into the digital age, in order to get to students geographically isolated and to enhance student's learning space and their possibilities¹⁸.

There is no doubt that the evolution of information affects the foundation of the educational system whose main approach should be revised before it becomes completely obsolete. Moreover we are facing an era where children dictate how to learn; digital world has become a natural space for learning barely touched by the education system. Interaction with technology enables autonomous acquisition of knowledge, where children can control their learning. Education is not imposed from outside, but engages students in relation to technology. Understanding this relationship is what should determine practical education system. Literature make evidence some aspects that become relevant; many seem to have acquired a new value, but some develop a set of new skills.

General effects of ICT

1. **Autonomy.** As Piaget highlighted, intellectual autonomy should be the heart of any educational system. Today more than ever, the digital world requires autonomy as an essential skill
2. **Ownership learning.** Children are more interested in not what they can do with technology, but what technology can do for them. When students take an active role in learning, their motivation increases and their ability to explore the digital world puts them in a position of power over their learning capabilities.
3. **Strengthen self-esteem.** When there are opportunities to change and act in the virtual environment, looking for opportunities that match the needs of each individual, strengthens the feeling that "yes, I can";
4. **Curiosity and exploration** are natural learning mechanisms, which have gained more value with the digital environment;
5. **Solving problems collaboratively.** Used especially in virtual games, children take the initiative and actively collaborate with others to achieve goals;

¹⁶Florida Distance Learning Consortium. (2011, September). *Florida Student Textbook Survey*. Tallahassee

¹⁷Nokelainen, P. 2006, p. 180; Kujawski A. T., 2011, p. 54

¹⁸Kim, K.J., Bonk, C.J. *The Future of Online Teaching and Learning in Higher Education*. Educause quarterly, 4, 2006

6. Critical Thinking. (evaluation by others, exposure to social networks). Collaboration is embedded in most of developing activities that need acceptance by others, assessment by colleagues and help them become important;
7. Exposure to various stimulus. Students read, listen, interact, see and analyze content, practice skills that are essential for the workforce of tomorrow;
8. Customizing. Students without realizing develop individualized pathways to learn, seeking new ideas and new ways of understanding that meet their needs;
9. Diversity source of knowledge. The teacher was the main source for transfer the knowledge, a role that is much more than this, especially that information are more accessible than ever to students. Many teachers see this as an additional resource, giving pupils the chance to make their own additions, strengthening their motivation. Teachers are not carriers of data, but carriers of meaning;
10. Relevance. Bringing the worldwith it examples within the class, has an impact on school activities. Not only examples in everyday life can be harnessed in the classroom, but also other stakeholders can participate in student life during learning, such as parents or peers;
11. Freedom of choice. Develop the ability to select and prioritize those activities that are vital to achieve the objectives;
12. Flexibility of space. The whole concept of educational space is enhanced by knowledge of new educational models and different needs of the individual. Schools are designed to address the new educational concepts as a community based on common interests¹⁹.

On the contrary, are listed some threats that may arise in the context of new technologies: device monopolizes the discussion, the trainer forgetting to specify the purpose and the expected results. Requests to resume the content of the participants are not considered, eliminating power analysis. The teacher may be limited to abusive interpretations because its mark on the use of new technologies, claiming its previous training²⁰.

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¹⁹ Mindcet, Center for Innovation in Educational Technology *The future of digital textbooks*, Israel, 2012

²⁰ Linard, M. *Image du corp, image de soi, Narcisse et la formation par video*, Connexions, nr. 37, 1984

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