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**DIGITAL TEXTBOOKS – JUST A BEAUTIFUL STORY**  
**CASE STUDY – ROMANIA**

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*Abstract*

Policymakers in Romania decided to replace traditional textbooks (on paper) with digital textbooks, more appropriate for the App Generation. The project started in 2014 with textbooks for primary education. Our study aims to use the findings of Gardner & Davis on the opportunities of digital textbooks (which are ultimately only applications) to favour or block exercising children's creative imagination; for this purpose, we took advantage of the first Romanian digital textbooks to be published for primary education, our research being limited only to the 17 textbooks of Communication in Romanian (we started from the premise that these textbooks promote children's imagination and creativity by the very specifics of their goals and content). To this end, we have examined: whether textbooks present a guide or instructions allowing children to take control in using them as a resource; whether there's the possibility of them being accessed by more children simultaneously, in case they wish to share information, solutions, dilemmas, etc.; whether the units are designed to stimulate option, courage to choose unknown paths or they encourage conformity and compliance.

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## 1. Introduction

Socially, the App Generation lives simultaneously on and off line (sometimes in that order), engaging in face to face relationships and virtual relationships (the two registers overlap only in part): there are proximity friends and virtual friends, there are classroom learning communities and online learning communities, there are even biological (or adoptive) parents and extended family, which involve people and relationships from the online. Applications, as fast and convenient ways of interacting with the world, specific to App Generation, favoured the development of skills, no less specific; these skills develop since early childhood, naturally, by direct, unmediated learning (Seymour Papert), which is why representatives of this generation were also called digital residents (as opposed to digital immigrants, who have to subsequently learn how to use smart technologies). Basically, the App Generation representatives no longer take contact with (material, social, cultural) reality directly, but through applications per se or through senses and thought processes already formatted by the quasi-permanent use of applications. Therefore, when a digital native has a problem to solve, they primarily resort to the repertoire of available applications; subsequently, they appeal to the online community they belong to, sharing information and issues representing another feature of the App Generation.

Besides, the observation is general, the involvement of a child in solving a problem is dependent on the extent that solving it will contribute to their perception of increased autonomy and competence: “Babies are interested in a wide range of novel stimuli, and as they develop into young children they seem interested in learning about all aspects of their environment. Their general need for competence and self-determination operates globally, and they orient to all sorts of inputs. Gradually, however, they develop preferences and behave more selectively, and their competencies tend either to flourish or to atrophy depending on whether they are accompanied by interest” (Deci & Ryan, 1985, p. 127).

In the absence of the intrinsic interest of that child, which energetically supports attempts to solve the problem, it is appropriate to use external rewards to motivate them along the steps they must take. The involvement of a digital native sometimes goes to extremes that experts have called immersion, i.e. breaking the almost total bond with their environment (caught in the heat of the action, if participating in an MMP) or totally absorbed in learning a language, in Facebook conversations with friends on a hot topic, etc.

Using apps gives the impression that the world is as seen through their filter; moreover, that it comes down to what apps can access; in other words, there’s nothing beyond what applications can capture, or there’s nothing really worth the discomfort of stepping out of the routine offered (and strengthened) by applications. Considering these features of App Generation, Howard Gardner and Katie Davis have developed a research program to determine the implications of using digital technology in shaping personal identity, in experiencing one’s own intimacy and “exercising creative and imaginative powers”/ “exercise our creative and imaginative powers (hereafter, the three ‘I’s)” (Gardner & Davis, 2013, p. 3). To Gardner and Davis, applications are mere tools that can be used either to limit the creative mood of the child (intensive use induces and strengthens routine) or to potentiate the creative mood of the child (provide the virtually unlimited resources of the online space for the initiation, development, reconfiguration of highly creative products): “With respect to imagination: Apps can make you lazy, discourage the development of new skills, limit you to mimicry or tiny trivial tweaks or tweets — or they can open up whole new worlds

for imagining, creating, producing, remixing, even forging new identities and enabling rich forms of intimacy” (Gardner & Davis, 2013, p. 33).

It appears that digital natives have a ‘kit’ at hand with specific tools (applications), but their value, as usual, depends on the teacher that may instil higher purposes, the desire to cross unsafe territories of human existence (any true education contains a dose of risk) or may block them in the limited habit of tinkering with already existing materials: remix, collage, pastiche and paraphrases of existing creations etc.

Let us not forget: digital textbooks could represent more than the materialization of adults’ intention about what their children should learn: “Millions of parents have bought computer toys hoping they will encourage their children to practice spelling, arithmetic, and hand eye coordination. But in the hands of the child they do something else as well: they become the occasion for theorizing, for fantasizing, for thinking through metaphysically charged questions to which childhood searches for a response” (Turkle, 2005, p. 34).

## **2. Problem Statement**

Initially, adults (parents and teachers) watched in disbelief the cyberspace and children’s online activities leaving them explore unattended; they lived in front of the computer the feeling of absolute freedom on the one hand, and on the other hand they felt lost; they could not learn from adults (their natural and matter-of-course support) how to use digital devices, which is why they had to learn to rely on themselves or other children; also, video game developers have noticed the void left by parents in cyberspace and hurried to fill it with ‘virtual masters’, role models and adult ‘substitutes’; in this respect, Serge Tisseron notes: “Thus emerged the first virtual guide of our children, whose responsibility was both to explain the rules and give the indispensable tips that allow them to overcome difficulties and guide the child in all stages of its development. Subsequently, games become considerably more complicated and the principle of the virtual master and guardian generalizes” (Tisseron, 2013, p. 84).

Also, responding to child’s natural curiosity gadgets are sold with some preinstalled software, which allows them to explore and discover the functioning of that device without the need for instructions; in other words, designing digital textbooks for primary education (in Romania’s case) would have been the perfect opportunity for the fusion of formal and informal education by activating the natural curiosity of the child in the two registers (informal and formal) and by using the same means in the two registers (informal and formal) to satisfy it.

Unfortunately, the opportunity was missed; thus, of the 17 textbooks, only three (from the same publisher) currently have a guide, in the form of a smiley named Roco, who is meant as a partner for the child; but Roco does not introduce the child to the multimedia subtleties of the textbook (perhaps because the multimedia elements are missing) but seems rather a classic companion interested in pointing out the symbols of the activities a child would come upon throughout the manual, to perhaps warn the child about an element of difficulty, to ask questions related to the studied text, to announce triumphantly that the child did very well in the end. As for the activities the textbook occasions to children, we exemplify: “tick, circle, listen to (not specified in the text whether it is an audio element or it refers to the child’s ability to listen to attentively for a specific time) order, write, copy, transcribe, associate, match, write indented, color, work in pairs, work in groups” (Dumitrescu & Barbu, 2014, p. 5). Basically, only the learning aid is digital, as

the proposed learning activities are specific to classic textbooks (on paper); among Rocco's interventions, we quote: on the text 'A magic show', Roco asks: "What would you like to see at the circus?" (Dumitrescu & Barbu, 2014, p. 18); referring to the text Memories of summer holiday (from a second grade manual) Roco summarizes: "Sun, air, and movement" (Dumitrescu & Ciobanu, 2014b, p. 10); in the third textbook, beyond the trivial questions and summaries of some texts, Roco rewards the child in a sufficiently general manner so as to be inefficient in terms of internal motivation: "Hello! It's me again, Roco! I congratulate you on your second grade graduation. I have accompanied you lovingly on our journey throughout the magical world of words. Starting today, the gates of communication are always open for you. You were able to learn many new things" (Dumitrescu & Ciobanu, 2014b, p. 64).

Other textbooks refer to the existence of audio tracks or video clips integrated into lessons, or of digital materials, but there are no instructions that would allow the child to access them without the assistance of a teacher or parent; in this respect, we illustrate: in the Communication in Romanian textbook: First grade – second part, at the end of the lesson called The Ugly Duckling (illustrated story by Hans Christian Andersen), children are offered a mini-project on the topic of Dragobete (the Romanian equivalent of Valentine's Day) and they are urged to watch the digital content (Dobrescu, 2014, p. 5); in the same textbook, at the end of another illustrated story by Hans Christian Andersen (Thumbelina) the authors mentioned: "Hans Christian Andersen's birthday – 2nd of April – is celebrated every year as The International Day of Children Storybooks. What other stories by Hans Christian Andersen are there in your textbook? Which one do you like best? Why? See digital content" (Dobrescu, 2014, p. 13).

This textbook makes references to nine digital materials that the child can watch, but there is no start button, no hyperlink, nor any reference to another way to access the digital assets mentioned in the textbook (although the textbook is meant to be digital).

In the textbook Communication in Romanian, First Grade, second part, published by Art Publishing House, each learning unit features at least three icons that suggest the child can access them to watch a video, but the icons are not active; instead, we can only assume that the videos in question are connected to the subject of the unit (pieces of film about Romania, about Bucharest, about the stories to be found in the textbooks, etc.) as the icons are not accompanied by any suggestive images or explanatory texts; same with the icons for audio content and same with all other textbooks, whether they feature icons for audio or video content.

### **3. Research Questions**

The main research questions were: Do textbooks represent a guide or a set of instructions to allow children to take control?

Is there the possibility of accessing items by more children simultaneously if they wish to share information, solutions, concerns, etc.?

Is homework designed to stimulate options and the courage to choose unknown ways or is it fostering conformism and compliance?

#### 4. Purpose of the Study

The purpose of our study was to clarify whether the textbooks the Ministry of Education presented as digital really fulfil the criteria defining digital textbooks. Also, it should be noted that the Ministry of Education implicitly considered that Romania has the digital infrastructure needed to implement this type of textbooks (which proved incorrect).

Is homework designed to stimulate options and the courage to choose unknown ways or is it fostering conformism and compliance?

#### 5. Research Methods

Our study used an analysis grid for the textbooks that made the object of our research; the analysis grid comprised of those items that define a standard digital textbook. The items are mentioned in the questions that fall under the Research Questions.

#### 6. Findings

Internet and social networks have enabled the establishment of online learning communities; these learning communities can be divided into two categories: online learning communities established by formal education institutions, with rules, curriculum, teachers etc. (such communities are working to achieve goals that are set by the institution in ways controlled by a pre-determined assessment processes, etc.); in such cases, “it is usually a toolkit application that is predetermined and even institutionalized with little, if any, user discretion, choice, or leverage. It tends to be top-down, designer determined, administratively driven, commercially fashioned. In participatory learning, outcomes are typically customizable by the participants” (Davidson & Goldberg, 2009, p. 13).

The second category consists of online learning communities that are most often ad hoc, responding to personal needs and interests unrelated to any educational institution or with the intention of obtaining a diploma, etc.; such online learning communities practice what is called *participatory learning*: “Participatory learning includes the many ways that learners (of any age) use new technologies to participate in virtual communities where they share ideas, comment on one another’s projects, and plan, design, implement, advance, or simply discuss their practices, goals, and ideas together” (Davidson & Goldberg, 2009, p. 12).

Most often we also meet the third type of learning community (let's call it mixed), including persons in the child’s vicinity, but also friends in the online community; The Net generation naturally uses this (mixed) resource, which suggests that online socialization does not automatically block offline socialization. From this point of view, we aimed to analyze which type of learning community is promoted by the digital textbooks we studied; first, as we noted, there is no digital platform enabling the development of online activities (either individually or in groups); in this situation, given the children’s age (7-9 years), we wondered if the textbooks were designed as instruments to develop skills allowing children to progress effectively in cyberspace; to verify this assumption, we analyzed two types of learning activities that could fulfill this preparatory role: *games* and *group tasks*.

Regarding games, we are aware people may also play alone (both in the past and nowadays, either online or offline), but we consider competition as the essence of games and competition involves at least

two teams (or players); from this perspective we are interested about the extent to which the games present in the analyzed textbooks have a social dimension, considering the natural evolution of digital natives on social networks. Unfortunately, most games engage only two children, and sometimes participants do not get the feeling of entering a competition; in the first case (regarding pair games), we believe this type of games was selected for mere convenience, considering the fact that Romanian schools usually group children two by two at their desks. We exemplify: “**Game.** Work in pairs. Draw an object. Your colleague must guess it by asking questions about its shape, color, use” (Dobra, 2014a, p. 25). For the second case, that of the lack of excitement in players, we quote the same textbook for a game called the chain: “**Game. The chain.** Each pupil reads a line from the poetry” (Dobra, 2014a, p. 46). It emerges that games featured in the analyzed textbooks do not cultivate team spirit or the excitement inherent to a competition; as such, there’s no question of sharing the problems or solutions, the pleasure of participating, etc. On the other hand, group learning means, for the authors of these textbooks, either working in pairs or teamwork (which requires minimum three children); analyzing this type of activities. We came to the conclusion that their purpose is to involve more children in solving tasks and less creating a sense of belonging to a group or enhancing the skill of sharing problems and solutions; in support of our conclusion, we bring to attention some examples: a task for pair work: “Look at the pictures. Recognize the characters and tell what you know about them” (Dumitrescu & Ciobanu, 2014a, p. 53); a task for working in groups of three: “In groups of three, imagine a dialogue based on the image above” (Goian, Minchevici, & Preda, 2014, p. 17); a task for larger teams and which meets (be it partially) the standards of a group task (children are not told of the possibility to use a computer or access the Internet in search for resources): “Work in groups of 4 – 5 children. Make a poster with the rules of conduct that apply in means of public transportation. Present it orally in front of the class” (Dobra, 2014b, p. 7). We discover that the authors of these textbooks have ignored not only the opportunities offered by the online presence of children, but also the idea of creating and consolidating initiatory skills, similar to those children use outside school anyway.

Textbooks are enclosed in didactic context: exercises (repeat, write, copy, read aloud, work individually or in pairs etc.), themes of reflection, games, reading logs, wordplays, etc. This didactic context has a specific role, that of achieving the objectives that the teacher has set for that lesson; we believe that the same objectives can be achieved by various means (taking into account the needs and interests of children), which means that a text may be attached to different teaching contexts. From this point of view, we studied the textbooks from the sample to see if the didactic sum of exercises and activities that were suggested to digital natives meet their group characteristics (these features were previously presented).

The content analysis of the 380 texts of the 17 textbooks has allowed us to identify exercises and activities offered to children in order to initiate and consolidate learning; here is a review: text layout (instructions on how to do this), reading the text (in full or selectively, in turns or roles), formulating sentences based on the studied text, text analysis (in fact, formulating questions and answers based on text content), re-telling a story by the images, describing an object (a person or event), initiating a dialogue, recognizing places, happenings or characters from a picture (possibly describe them assigning moral traits – good or bad), formulating sentences on the side of illustrations (Dumitrescu & Barbu, 2014b, p. 5), mini projects related to text content, the nature calendar (spring, summer, etc.) or holiday calendar for traditional Romanian celebrations (Marțisorul), solving puzzles (including, most times, cutting elements and combining them to get a complete image) (Dobrescu, 2014, p. 12), writing a class reading log: "Write down

in the reading log the title, author and characters of the legend you listened to" (Mihăilescu, Pițilă, Grigorescu, & Coman, 2014, p. 25); writing a personal reading log: "Write down in the reading log three reasons why you would recommend this poem (*The story of the fir trees and the paper*, by Demonstene Baptism – E.S.) to a friend" (Mihăilescu & Pițilă, 2014a, p. 25). We know that the paradox of any educational process is that of achieving independence (in thought, decisions, etc., i.e. personal autonomy) starting from an initial dependence of the child from the adults (in this case, teachers); we are convinced, in the process, that the required topics and activities are limiting, restrictive and direct the child's efforts sometimes at odds with their needs and interests of the moment; on the other hand, the autonomy of the future adult, their ability to make informed choices etc. equally needs themes and activities that cultivate the right to choose, the initiative, creativity, responsibility for their decisions etc. In this regard, analyzed textbooks reveal a significant imbalance in favor of targeted topics and activities, from benign examples to other, more important ones; thus, in a textbook of Communication in Romanian for first grade, we encountered: "Write a text of three sentences about your mother" (Dumitrescu & Barbu, 2014, p. 17). Limitation and targeting refers to the number of sentences, which is not motivated by exercising concision, because the context rather elicits an exercise of imagination and freedom of expression. Another significant example of blocking children's initiative and creativity is linked to a task called *discussion*, which suggests (we believe) only indicating the subject of conversation, to allow children to practice active participation to an exchange of ideas, the capacity to use arguments to support a point of view and to accept others' points of view; in fact, the task restricts and directs children's involvement: "Discuss about the connection between text's content and illustration. What elements from the text can be found in the picture? What elements (from the picture, we suppose – *a.n.*) are not to be found in the text? Suggest another title for the text" (Mihăilescu, Pițilă, Grigorescu, & Coman, 2014, p. 9).

The vast majority of textbooks that we analyzed suggests children writing a *reading log*, in order to stimulate the pleasure of reading, respectively the capacity to understand a text on their own; as such, indications in this manual should be minimized, which (most often) it is not: "Read *The Legend of the Snowdrop*, by Eugen Jianu. Transcribe on a sheet the statements showing the changes in nature that occur during spring" (Mihăilescu & Pițilă, 2014b, p. 31).

Although primary school uses an integrated curriculum, we should say textbook authors miss the specific objectives of a reading log, mistaking it for an observation log, specific to natural sciences. Also, we noticed there is (only) one digital textbook which happily balances restrictive and directive tasks and activities (necessary to create 'habits', skills, etc.) with those giving free rein to children's initiative; in this respect, we quote two tasks (one individual and one for group work) suggested for the story *How the fox fooled a bear* (by Ion Creanga) – the individual task: "Imagine you are a journalist. Take an interview to one of the three characters in the story *How the fox fooled a bear*" (Dumitrescu & Ciobanu, 2014b, p. 37); group work: "Imagine a different end for the story. Write the ending and add a drawing. Present it in front of the class, playing the roles. Display your works. Make a tour of the gallery and vote the best work" (Dumitrescu & Ciobanu, 2014b, p. 37). Although it represents a positive example of classic textbook (on paper) it does not meet the exigencies of an authentic digital textbook. It appears the Romanian project of textbook digitalization for primary education is a failure (actually, we talk about pseudo-digital textbooks); authors ignored two of the possibilities digital technologies make available to children: "One is the *chance to initiate and fashion one's own products*. (...) Rather, any person in possession of a smart device can

begin to sketch, publish, take notes, network, create works of reflection, art, science - in short, each person can be his or her own creator of knowledge” (Gardner & Davis, 2013, p. 180) App Generation is encouraged by multimedia technologies (which are their natural habitat) to take initiative, hold control, learn by producing rather than reproducing; the second possibility Gardner & Davis refer to is „*the capacity to make use of diverse forms of understanding, knowing, expressing, and critiquing* — in terms that Howard has made familiar, our multiple forms of intelligence” (Gardner & Davis, 2013, p. 181). School must break away from the curriculum based on logic-mathematic intelligence, in order to provide free rights of expression to other types of intelligence, in agreement with the opportunities offered by digital technologies.

## 7. Conclusion

As a general conclusion, the authors of these textbooks ignore „the claim of cognitivists that one learns by taking the initiative, making one’s own often instructive mistakes along the way, and then, on the basis of feedback from self and others, altering course and moving ahead” (Gardner & Davis, 2013, p. 182). Regarding detailed conclusions, we mention: textbooks that made the object of our study are not digital textbooks *per se*; they ignore the features of the App generation (the weaknesses and strengths of children growing up in the digital age); moreover, their authors have not aimed to use and practice the skills that digital natives have learned in the informal education space (which is an unacceptable waste of resources).

Images (essential for a textbook dedicated to primary education) are low quality, hindering an appropriate view on digital devices such as tablets or smartphones; on the other hand, the textbooks are provided in PDF format only (and not in multiple formats) which further complicates reading on certain digital devices; the fonts, sometimes too small to be readable on smartphone or tablet, also make for cumbersome reading.

An important feature of digital textbooks is technical support (passive, interactive, assisted); our study revealed that this support is not on the publisher's website or included in the textbook content. Interactivity is specific to digital natives, but analyzed textbooks do not provide this feature (there is no text box, no buttons, texts with incorporated check-boxes or radio buttons, etc.); content is linear (no bookmarks or tables of contents); the child is not able to bookmark the last page they read nor can they quickly navigate within the content.

There is no unitary concept from the Ministry of Education, which is why textbooks use different symbols, which constitute an obstacle to children trying to navigate from one textbook to another to study another approach to the same problem they studied. Textbook digitalization for primary education (and for other educational levels) in Romania remains in draft project, a project which is necessary and, we would say, urgent.

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