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**Title:** Selected aspects of the use of e-books in education in the opinions of future Croatian educators

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# Selected aspects of the use of e-books in education in the opinions of future Croatian educators

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E-books are an important element of culture in the digital age. In Europe, the market interest in this technology is constantly growing, which is a challenge for manufacturers, publishers and booksellers, and in the near future, it may become a challenge also for teachers, pedagogues and parents. The aim of the author's research was to examine and describe future teachers' and pedagogues' opinions about the e-book in an educational context and to evaluate the frequency of using this medium by the respondents. The survey was conducted among students of pedagogy and teacher education from the University of Split. Most of the respondents do not use electronic versions of books for education or hobby purposes or do so very rarely. At the same time, they consider them very useful in the didactic process and would definitely use e-books in their future educational work. According to respondents' opinions, e-books should be an additional (supporting) element, but they cannot replace traditional books in education.

KEYWORDS: pedagogical work; e-book reader; future teachers; literacy; media.

The roots of a traditional book as a codex date back to distant history. In the context of this medium, changes of carriers and tools should be mentioned. The printed version of the book has supplanted manuscripts successfully and a similar phenomenon was prophesied when the electronic book appeared on the horizon. Some experts claimed that the digital revolution was just another stage of evolution in this sector (Katsarova, 2016). Even though e-books and e-book readers are found today in many homes, one still cannot say that they have replaced the traditional paper form of the book. It is rather another "mediamorphosis" (Goban-Klas, 2005). As Badurina and Serdarušić (2015) admit, there are many definitions of

electronic publications and most authors define an e-book on the basis of an analogy to the traditional printed book. The term "e-book" may refer to a physical object, a tangible electronic book or its content. "It therefore encompasses the media (electronic format), device (hardware), delivery (internet) and content (literature)" (Katsarova, 2016, p. 2). Živković (2000) pointed out the urgent need to precisely define the term of electronic publications as early as fifteen years ago. Hillesund (2001) points to the limited and broader understanding of e-books. Gulcz (2015) also drew attention to a certain difficulty in unambiguously defining an electronic book. The border is blurred, but it can be considered the modern equivalent of a text published in print. For the purpose

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of this article, it was assumed that an e-book is the electronic equivalent of a printed book, whereby the same title may or may not have a paper version. Also, the way and paradigm of reading is different (Gudinavičius, 2016; Mozuraite, 2014). E-books can be scientific books, novels, etc.

As Selthofer (2013, p. 95) writes:

[...] e-books imitate the graphic design of a printed book, since their technology is still being developed. The emergence of new technologies changes the way people interact with books. E-books will change significantly before they become as familiar to readers as p-books are.

According to the research results, e-books in Croatia exist mostly in PDF format. Since PDF format is a prepress outcome of every graphic production process, the e-book already exists in digital format, whether it is downloadable or not. The graphic elements of an e-book highly depend on the features of e-formats and e-readers.

The beginnings of this market date to the mid-1990s (Velagić and Pehar, 2013). At that time, the Gutenberg project played a significant role. In Europe, the e-book market started to develop more dynamically in 2014. The first position in the continent is taken by Great Britain, where a few years ago, 11.5% of sold books were electronic ones (Katsarova, 2016) and in 2017, its market penetration was 20.2% (Statista, 2017).

At the beginning of 2016, the rate of market penetration in Croatia was 5.15% (Statista, 2016). In September 2017, penetration was 5.2% (Statista, 2017) and it is expected that in the coming years, the number will increase. Non-commercial projects marked the beginning of the market development in this country. In 2001, the Society for the Promotion of Literature on New Media (DPKM) launched a website with electronic books to download for free. In 2009, as a result of the cooperation of three entities (the Croatian Ministry of Science, Education and Sport; Croatian Academic and Research Network; Bulaja

naklada publishing company), as part of the eLektire project, a platform with free access to electronic books for pupils and students was launched. In the same year, Impero Digital Books platform – created by book lovers – was launched as well. One year later, the e-book market changed under the influence of commercial entities. Profit-oriented websites and online stores-bookstores – Took Book, Planet9, Vip eKnjižara and eLibrika – were launched (Velagić and Pehar, 2013). At present, sales platforms as well as domestic and international applications and libraries provide access to paid and free e-books.

Analyses and research of the e-book market and its significance in Croatians' lives were conducted by, among others: Lončar (2013), Šestak (2013), Velagić and Pehar (2013), and Živković (2000).

The presence, or rather the increased popularity of e-books, is also significant for the nature of readers' habits and education with the use of electronic textbooks. As Chau (2008, p. 1) writes:

this emerging technology has opened the possibility for a large range of new learning experiences for students because of its advantages over traditional printed textbooks. Electronic textbooks can have the ability to support learning and comprehension levels seem to increase when children use them in classrooms. Teachers and other educators should look at perhaps implementing electronic texts in their teaching methods in the near future if they have not done so already.

The author's research was conducted in this very context. Selected aspects refer to the presence of e-books in the lives of people preparing for the profession of pedagogue and teacher. It was assumed that their current opinion, attitude and competence in using these tools may imply the frequency and method of using e-books in their future pedagogical work. The educational value of e-books in the context of school teaching and teaching in higher education

is reflected in the research conducted, among others, by: Badurina and Serdarušić (2015), Chau (2008), Doering, Pereira and Kuechler (2012), Fojtik (2015), Shiratuddin, Landoni, Gibb and Hassan (2003).

The aim of the author's research was to examine and describe future teachers' and pedagogues' opinions about e-books in the educational context, and to evaluate the frequency of using this medium by the respondents. When detailing the thus defined aim, the search for answers to survey problems was limited and articulated by the following questions:

- How often do the respondents use e-books?
- What is the opinion of the respondents about e-books and traditional books in selected aspects?
- Are the field of study and the fact of owning an e-book reader the factors that diversify the opinions of respondents about e-books and traditional books?
- What is the opinion of the respondents about the usefulness and willingness to use e-books in their future pedagogic work?

### Methodology

The presented survey results are part of a broader research project on the meaning of media and new technologies in the training of educators in Poland and Croatia. The excerpt presented in this article concerns only the selected sub-topic of electronic books in one country – Croatia. The description of the methodology refers to the extract presented below. The main research method was a diagnostic survey in which the technique of a written questionnaire was applied, based on a research tool prepared by the author: a survey questionnaire. It was framed after a focus group discussion. Although this is not the main aspect of the research, the students also talked about the concept of the e-book during the focus group interview. It served as an introduction and

the basis for further analysis. In general, respondents agreed to define an e-book as the electronic equivalent of a printed book for analysis purposes. The issues emphasized by the respondents are the form of the publication (publisher), review, volume. Not every electronic text can be called an e-book according to the respondents. These observations are correct, because the border can be quite fluid in the face of the convergence of electronic media tools.

The study group included 233 respondents – students of pedagogy or teacher education at the University in Split (Croatia). The respondents were randomly selected for the study as a layered sample. The study was voluntary and anonymous.

The study of pedagogy offered at the Faculty of Humanities and Social Sciences at University of Split is divided into two cycles – the undergraduate degree programme (BA) and the graduate programme (MA) according to Bologna principles. The pedagogy field is understood more generally. After finishing, the student will be qualified to work as a professional collaborator – pedagogue with pupils and their parents, teachers and educators in schools and rehabilitation centres, as well as in other education institutions working with persons of different ages.

Students are also able to continue their education in doctoral studies. The majority of pedagogy students at the University of Split are double majors. This means that most of them are studying pedagogy and another field from the double degree programmes, such as, for example: history, English language and literature, Croatian language and literature, philosophy.

The study of teacher education is organised as a five-year graduate programme (MA). After finishing, students are able to work as teachers in primary schools in the first level. In the elementary schools of the Republic of Croatia, the first four classes/grades (of a total of eight grades in this educational cycle) are

organised as a general (*razredna*) integrated programme. From the first to the fourth grades, in most cases, pupils are taught by one teacher<sup>1</sup>. The teacher education can be compared to early education studies in the Polish system.

It is not possible to combine the pedagogy programme and the teacher education programme at the same time as a double major programme.

The population of the respondents consists of persons who undertook a field of study preparing them for future educational work with children and young people. Perhaps these persons will have a real impact on using e-books in pedagogical work, developing the preferences of their students in the future. Using an e-book can be understood broadly – e.g. during classes at an educational institution, when using the flipped classroom model. It is important that teachers at school, but also educators who work in cultural and educational centres, promote the reading of books (and reading in general) and encourage this among children and young people. Books can be in paper form, but also in an electronic one. As it turns out, the teacher can be the first guide who will point out these alternatives.

The respondents are also in their early adulthood, which often – in addition to many changes of social and psychological nature – includes the beginning of economic independence. At the same time, they can be recognised as the so-called Generation Y (e.g.: Vojvodić and Matić, 2015), i.e. people who learn technological innovations quickly and use digital media easily. Based on these reasons, it may be assumed that an electronic book is not new to them and many of them have tested it in practice, already having their own opinion about it. A vast majority of the respondents were women. The survey was conducted among students of the 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> years of Bachelor's degree studies and the

1<sup>st</sup> and 2<sup>nd</sup> years of supplementary Master's degree studies in pedagogy, as well as among students of 1<sup>st</sup>, 2<sup>nd</sup> and 4<sup>th</sup> years of the long-cycle Master's degree studies in the field of teacher education.

The respondents were asked to anonymously complete a questionnaire with closed questions or scaled questions, for which each respondent chose answers from five levels of intensity for a particular feature. The subjects evaluated the frequency of using e-books for educational and hobby purposes on a scale, as well as the usefulness and willingness to use e-books in future educational and pedagogical work. Conformity with particular statements about electronic and traditional books was also evaluated on a five-point scale.

The percentage distribution and descriptive statistics of the data were prepared after analysing the submitted answers. In order to verify whether people studying different fields of studies differ statistically in selected aspects, a statistical analysis was conducted with the Mann–Whitney U test using the Statistica program. The same method was used to verify whether the fact of owning an e-book reader is a factor diversifying the group with respect to conformity to the statements contained in the questionnaire. The surveys were conducted from March to May 2016 and the analyses from November 2016 to January 2017.

## Results

By using a diagnostic survey, the author wanted to examine the frequency of using electronic books by students who are preparing for pedagogic or educational work. The respondents evaluated this element on a five-point scale, where 1 referred to “I do not use/did not use it at all” and 5 – “I use/used it very often”. The aspect of use frequency referred to using e-books: (1) only for educational purposes during university classes/while studying; (2) in earlier stages of education, at school or (3) using them in private life

<sup>1</sup> See more: <http://www.ffst.unist.hr/en/departments>

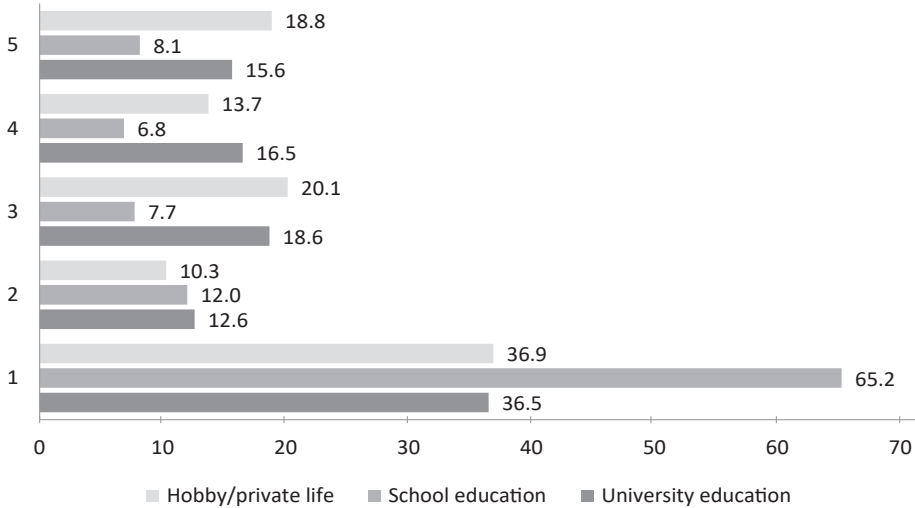


Figure 1. Frequency of using electronic books by students of pedagogy and teacher education on a scale of 1 (not at all) to 5 (very often) in the context of hobby, school education and university education (in %).

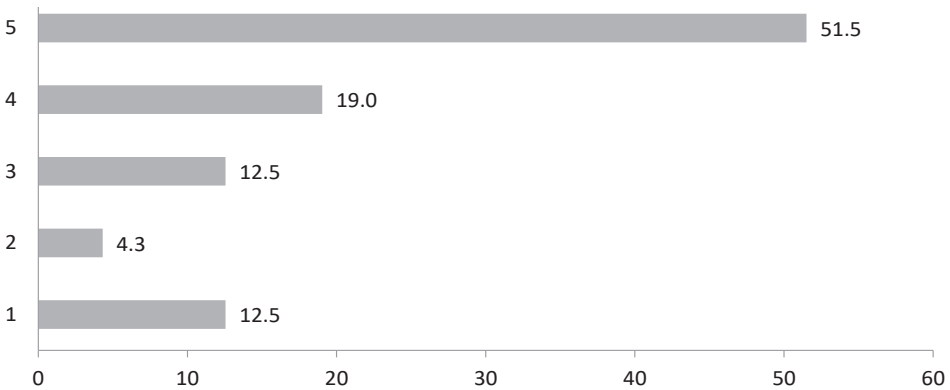


Figure 2. Evaluation of e-book usefulness on a five-point scale for studying/learning at university (in %).

(for hobby purposes). The percentage results are presented in the chart below (Figure 1).

The largest group of respondents in all aspect consists of persons who do not use electronic books at present (for educational purposes – 36.52%; at university and for hobby purposes – 36.90%) and did not use them at all in earlier stages of education (65.23%). Respondents use e-books more often for hobby purposes and for pleasure

rather than for educational purposes. 18.80% of the respondents use e-books for pleasure, in private life, and for educational purposes relating to studies – 15.65%.

At the same time, it is interesting that over half of the respondents (51.51%) admitted, when choosing the highest fifth point of the scale, that using electronic books in studying – studying at higher education (particularly in their field of study) should

Table 1  
*Evaluation level of respondents' conformity with particular statements referring to e-books (N = 233)*

| Use the scale to indicate to what extent you agree with the following statements                             | Scale points |     |    |    |    |     | M    | SD   |
|--|--------------|-----|----|----|----|-----|------|------|
|  | No data      | 1   | 2  | 3  | 4  | 5   |      |      |
| E-books should completely replace paper books in teaching  | 0            | 117 | 45 | 46 | 20 | 5   | 1.93 | 1.11 |
| E-books should be an additional (supporting) element, but they cannot replace traditional books in education | 0            | 5   | 7  | 19 | 48 | 154 | 4.45 | 0.92 |
| Textbooks should be published as e-books   | 0            | 105 | 57 | 47 | 16 | 8   | 1.99 | 1.11 |
| E-books are only for the young generation  | 1            | 138 | 55 | 30 | 6  | 3   | 1.63 | 0.90 |
| Traditional paper books will no longer be used in a few years  | 0            | 104 | 56 | 53 | 17 | 3   | 1.97 | 1.04 |
| E-books contribute to increased readership among children and young people                                   | 0            | 73  | 54 | 74 | 28 | 4   | 2.30 | 1.09 |
| I often use e-books in leisure time (hobby)  | 0            | 145 | 47 | 19 | 15 | 7   | 1.68 | 1.06 |
| I often use e-books for educational purposes   | 1            | 127 | 37 | 32 | 16 | 20  | 1.99 | 1.32 |
| Elderly people can use e-books (there are no contraindications)  | 0            | 28  | 27 | 59 | 67 | 52  | 3.38 | 1.28 |

be considered very useful (Figure 2). A detailed percentage distribution of the answers is presented in Figure 2. The average usefulness in the study group was  $M = 3.92$ .

The Table 1 presents the distribution and descriptive statistics for evaluating the degree of conformity of people from Croatia with particular statements (on a 1 to 5 scale, where 1 – “I totally disagree” and 5 – “I totally agree”) referring to electronic books and traditional paper books. The presented statements refer to the relationship between the new medium and the traditional medium (particularly in the educational aspect), to the age of e-book users, to readership, and again refer to the frequency of using such a type of book by the respondents.

The respondents agreed to the greatest extent with the statement that “e-books should be an additional (supporting) element, but they cannot replace traditional books in education” ( $M = 4.45$ ) and with the statement

that “elderly people can use e-books (there are no contraindications)” ( $M = 3.38$ ).

On the other hand, the lowest number of persons agreed with the statement that “e-books are only for the young generation” (with an average of 1.63) and with the statement that they “often use e-books in leisure time (hobby)” ( $M = 1.68$ ).

In order to verify whether students of different fields of studies differ between themselves in conformity with particular statements (on a 1 to 5 scale, where 1 – “I totally disagree” and 5 – “I totally agree”), analyses using the Mann–Whitney U test were performed. The results of this analysis are presented in Table 2.

The analyses using the Mann–Whitney U test showed significant statistical differences. This means that the respondents studying pedagogy agreed more with the statement that they “often use e-books in leisure time (hobby)” rather than persons studying teacher education.

Table 2

*Field of studies versus evaluation of respondents' conformity with particular statements*

| Use the scale to indicate to what extent you agree with the following statements                             | Field of study    | <i>M</i> | <i>SD</i> | <i>Z</i> | <i>Sig.</i> |
|--|-------------------|----------|-----------|----------|-------------|
| E-books should completely replace paper books in teaching  | Pedagogy          | 1.94     | 1.14      | 0.02     | 0.982       |
|  | Teacher education | 1.93     | 1.10      |          |             |
| E-books should be an additional (supporting) element, but they cannot replace traditional books in education | Pedagogy          | 4.41     | 0.85      | 1.31     | 0.190       |
|  | Teacher education | 4.48     | 0.97      |          |             |
| Textbooks should be published as e-books   | Pedagogy          | 1.98     | 1.03      | 0.24     | 0.814       |
|  | Teacher education | 2.00     | 1.16      |          |             |
| E-books are only for the young generation  | Pedagogy          | 1.49     | 0.72      | 1.24     | 0.216       |
|  | Teacher education | 1.70     | 0.98      |          |             |
| Traditional paper books will no longer be used in a few years  | Pedagogy          | 1.83     | 0.91      | 1.26     | 0.208       |
|  | Teacher education | 2.05     | 1.11      |          |             |
| E-books contribute to increased readership among children and young people                                   | Pedagogy          | 2.30     | 1.05      | 0.24     | 0.809       |
|  | Teacher education | 2.29     | 1.11      |          |             |
| I often use e-books in leisure time (hobby)  | Pedagogy          | 1.92     | 1.23      | 2.29     | 0.022       |
|  | Teacher education | 1.54     | 0.93      |          |             |
| I often use e-books for educational purposes   | Pedagogy          | 2.42     | 1.43      | 4.03     | < 0.001     |
|  | Teacher education | 1.73     | 1.19      |          |             |
| Elderly people can use e-books (there are no contraindications)  | Pedagogy          | 3.53     | 1.21      | 1.37     | 0.171       |
|  | Teacher education | 3.29     | 1.31      |          |             |

Moreover, students of pedagogy agreed more with the statement that they “often use e-books for educational purposes” than students of teacher education. In the case of other statements, no statistical differences between the students of both fields of studies were identified, which means that in most cases, it is not a factor which diversifies the opinions of respondents.

The vast majority (85.71%) of the surveyed group admitted that they do not have their own e-book reader. 61.90% of respondents do not have any other mobile devices which can serve as an electronic text reader, i.e. a tablet, either. Most students have a smartphone (96.96%), a desktop computer (80.08%), and half of the group (50.64%) have a notebook-type portable computer.

Despite the fact that digital texts can be read on all of the above mentioned devices, from the point of view of the research subjects, the author was particularly interested in their ownership, or not, of a device especially dedicated to reading e-books, i.e. a reader. In order to verify whether people who own an e-book reader differ from people who do not own such a device in terms of conformity with particular statements, analyses using the Mann–Whitney U test were performed. Table 3 contains the results of the analysis.

The respondents who own an e-book reader agreed more with the statement that they “often use e-books in leisure time (hobby)” rather than people who do not have such a device. Moreover, people who own an e-book reader agreed more with the



Table 3

*Possession of an e-book reader versus evaluation of respondents' conformity with particular statements*

| Use the scale to indicate to what extent you agree with the following statements                            | Possession of e-book reader | <i>M</i> | <i>SD</i> | <i>Z</i> | Sig.    |
|---|-----------------------------|----------|-----------|----------|---------|
| E-books should completely replace paper books in teaching   | Yes                         | 2.09     | 1.16      | 0.93     | 0.351   |
|   | No                          | 1.91     | 1.11      |          |         |
| E-books should be an additional (supporting) element but they cannot replace traditional books in education | Yes                         | 4.48     | 0.91      | 0.10     | 0.921   |
|   | No                          | 4.46     | 0.92      |          |         |
| Textbooks should be published as e-books  | Yes                         | 2.18     | 1.13      | 1.20     | 0.231   |
|   | No                          | 1.96     | 1.11      |          |         |
| E-books are only for the young generation   | Yes                         | 1.79     | 0.96      | 1.30     | 0.192   |
|   | No                          | 1.60     | 0.89      |          |         |
| Traditional paper books will no longer be used in a few years   | Yes                         | 1.94     | 1.09      | 0.27     | 0.790   |
|   | No                          | 1.97     | 1.04      |          |         |
| E-books contribute to increased readership among children and young people                                  | Yes                         | 2.67     | 1.16      | 2.04     | 0.041   |
|   | No                          | 2.24     | 1.07      |          |         |
| I often use e-books in leisure time (hobby)   | Yes                         | 2.61     | 1.50      | 4.54     | < 0.001 |
|   | No                          | 1.52     | 0.89      |          |         |
| I often use e-books for educational purposes  | Yes                         | 2.67     | 1.57      | 2.87     | 0.004   |
|   | No                          | 1.88     | 1.25      |          |         |
| Elderly people can use e-books (there are no contraindications)   | Yes                         | 3.67     | 1.22      | 1.31     | 0.189   |
|   | No                          | 3.35     | 1.28      |          |         |

statement that they “often use e-books for educational purposes” rather than people who do not have the device. In most cases, the fact of owning an e-book reader did not considerably diversify statistical conformity with the given statements.

During the diagnostic survey, the respondents were also asked about their opinion on the usefulness of e-books in their future pedagogic and educational work and their willingness to use them.

Table 4 presents the distribution and descriptive statistics about this aspect. The respondents evaluated these aspects on a 1 to 5 scale, where 1 stands for “uselessness and unwillingness to use in future work” and 5 – “very high usefulness and willingness to use in future work” ( $M = 3.65$ ;  $SD = 1.30$ ).

Among the respondents, the most numerous group consists of persons who evaluated the usefulness of e-books in future pedagogic work and willingness to use them at level 5 – 32% and level 4 – 30% on the 1 to 5 scale. The average evaluation of the usefulness of e-books in future pedagogic work and willingness to use them according to the surveyed students was  $M = 3.65$  points (with the standard deviation  $SD = 1.30$ ). The surveyed group shows a relatively high willingness to use electronic books in future work, evaluating their usefulness in this regard positively. It is important to emphasise that the answers in this area are declarative. Students declared their willingness to use e-books in their future professional work. This is an optimistic perspective, but when

combined with the lack of e-book readers, it is difficult to accept it as a certainty or a high probability. Also, previous rather poor experience with electronic books in the learning process may indicate that the declaration may differ significantly from reality.

Table 4  
*Evaluation of e-book usefulness and willingness to use in future pedagogic and educational work\**

| Level   | %     |
|---------|-------|
| 1       | 10.30 |
| 2       | 9.44  |
| 3       | 17.17 |
| 4       | 30.04 |
| 5       | 32.19 |
| No data | 0.86  |
| Total   | 100   |

\* Responses to the question: "Use the scale to indicate the usefulness of e-books in future pedagogic work and your willingness to use them in the future" (responses on a five-point scale where 1 – the lowest level of usefulness and willingness and 5 – the highest level).

## Discussion

As the author has shown in the survey, persons who are preparing to work in the profession of pedagogue or teacher studying at the University of Split use electronic books rather rarely. At present, almost 40% of the respondents do not use them at all, either for educational purposes at university or for pleasure, and 65% also have not use them in the early stages of education. Quite a small group use e-books very frequently – although more often for pleasure and entertainment (18.88%). In 2003, Zoran Velagić and Franjo Pechar (2013) wrote that the market for electronic books in Croatia is a niche market, with prospects for future development rather than present use. At the same time, seven main distribution channels provided access to 3447 publications of 55 publishers.

Quite limited interest in such a type of technological innovation may have many reasons. In the context of e-books, Hillesund (2001) indicates two potential reasons: poor quality and the high price of reading devices (which is an adverse implication for users) and the malfunctioning of the digital rights management system (DRM) (which binds the publishers).

The attitude of Croatian students from the scientific centres in Osijek and Zadar was examined by Badurina and Serdarušić (2015). The studies were conducted among a similar population and trial group number. They showed that among 216 of respondents, only 5.10% possessed e-book readers. The authors also surveyed the frequency of using e-books in two categories, i.e. (a) reading for necessity (scientific, technical literature, etc.) and (b) on their own initiative. The categories can be compared to educational and entertainment reading in this survey. In the case of reading for necessity – the most numerous group (45.10%) chose the fourth point of the scale (i.e. "often"). As many as 32.20% of the respondents rarely use e-books on their own initiative or need (second point on the scale) and 29% of the students answered "never" (first point on the scale). The author's survey results showed a lower level of frequency in using electronic e-books among students of pedagogy and teacher education in Split than in the case of the survey conducted among students from Zadar and Osijek in Croatia. What is interesting, as many as 91.40% of the students from the Badurina and Serdarušić survey (2015) never bought an e-book.

In 2013, while preparing her diploma thesis, Šestak (2013) conducted a survey among a group of 249 respondents (where 215 of them were students from large cities in Croatia). She showed that out of 249 persons, 138 never read an e-book and 147 did not read an electronic book for educational purposes while studying at university. E-books are therefore still not very popular and, as further surveys show, it is a just developing market.

In the author's survey, the high percentage of students who did not and do not use electronic textbooks (at all or very rarely) contrasts with the very high evaluation of the usefulness of such a type of publication in their education. Over half of the respondents chose the highest point on the scale in this case. Šestak (2013) presented a similar tendency of a high evaluation, which is not reflected in practical everyday use: of the 249 respondents – 129 persons answered that electronic books are useful, interesting and may offer more than traditional books when responding to the question about their usefulness in education.

A large majority of the respondents of the author's survey definitely agree with the statement that e-books should be an additional (supporting) element, and at the same time, most of them do not agree with the opinion that e-books should replace traditional books in studying. According to the respondents, e-books are not only for the young generation, though it is difficult to state explicitly whether they contribute to increased readership among children and young people (in this case, the largest group chose point 3 on the scale, where the average of this response was 2.30).

The field of studies and the fact of possessing an e-book reader was not a diversifying factor in the case of most statements.

Future teachers and pedagogues, although using an e-book rarely in education and for other purposes, value its potential as an element supporting the study process, which is reflected in the evaluation of e-book usefulness in the educational process at the university, but also in the high evaluation of e-book usefulness in future pedagogical and educational work, and willingness to use them. The average in this case was 3.65, the most numerous group (32.19%) chose the highest fifth point on the scale, and 30.04% – the fourth point on the scale. Such results suggest that e-books are more valued in theory rather than in practical use. In comparison, even in the fast growing US market (Wischenbart, 2014),

survey respondents express some doubts about electronic books (focus surveys of a group of 16 students; Doering et al., 2012).

In the literature on the subject, researchers list elements that can be recognised as advantages of e-books:

- easier distribution and purchase,
- simple backup and storage,
- the ability to adjust font size,
- add text to multimedia,
- read on different devices,
- the ability to have a large number of devices in electronic books (Fojtik, 2015, p. 744).

Library users in Croatia include the following as disadvantages:

- black and white display, and lack of colours,
- non-compatibility of e-book formats,
- lack of specific design and scent (as is the case for paper books),
- vulnerability of e-book readers,
- high price of devices and e-books (Lončar, 2013).

The topic of detailed disadvantages and advantages was not the subject of direct analyses in the author's research.

Not many people in the surveyed group possess devices intended for electronic books, i.e. the e-reader. Taking into consideration the fact that it is not the only device for reading electronic books – as, for instance, portable computers, tablets or smartphones can also be used depending on the e-book format (the most popular are: ePub, mobi, PDF) – it should be stated that this is not a factor that prevents the use of e-books. It may be, though, an indicator which, instead of remaining nothing but a figure, will become a challenge for universities in the near future. As Nelson (2008) indicates, higher education must be prepared to include electronic books in education, which sooner or later will take place. The preparation should include competence in this respect, as well as the infrastructure, equipment and offer.

The prospect of using e-books by future teachers and educators in work can also be

analysed more broadly in the context of the presence or lack of technology in Croatian schools. Although media tools (such as computers, multimedia boards, etc.) are present there, students are not always prepared to use this technology during school education. IT lessons are not obligatory, they are merely an optional supplement. As Zovko and Didović (2013, p. 345) write:

The results of the research have shown that the subject Informatics is attended only by one fourth of the pupils. It is disconcerting to know that there are whole class departments in which pupils do not take Informatics. As a consequence, a great number of pupils use computers and Internet without any training and mostly for fun while effective use of ICT requires having certain knowledge and skills. This research has shown that there is a need for developing that knowledge and skills in the Croatian educational system.

Perhaps students need to familiarize themselves with new tools (such as an e-book or even computer or tablet) in school education. Teachers of the future should be able to help in this task because the need to use ICT in Croatian schools is strongly highlighted (Petrović, 2015). Also, the need of ICT education among teachers is very much emphasised by current students (Ružić Baš, Radetić, Paić and Zarevski, 2013).

The information society requires teachers and educators to take over some new roles among which the main ones consider the usage of information and communication technologies, competence for working with different students, necessity of collaboration with other teachers and educators, collaboration with specialists and parents, ability for reflecting, studying and evaluating their own work (Soleša and Soleša-Grijak, 2011, p. 22).

In the context of an information society, the printed books and textbooks traditionally used at present are also subject to change in the increasing phenomenon of media convergence, which refers to the

devices themselves and the content (media release). It can be assumed that in the near future, e-books will become an example of mimicry convergence, and the latest readers – an example of mimetic convergence.

## Conclusions

The e-book market in Europe is still growing, nevertheless the process is slower than expected. Despite the fact that most respondents in the surveyed group note the advantages of electronic books, they rarely use them in practice.

This tool, though, has both entertainment and educational potential. Further surveys in this respect may and should refer to at least several aspects. The first suggested direction concerns the impact of using electronic books in the didactic process by active teachers relating to its effectiveness, users' motivation, teaching results, as well as increased readership among children, young people and adults. The research problem could be diagnostic: whether and how electronic books modify the didactic process? What is the motivation of users when using e-books? Explorations should be based on pedagogic experiments and could refer to both school education and higher education (at least of the surveyed group). The applied research method was limited only to showing the differences of the respondents' declarations regarding their relationship to e-books and their use, and declarations regarding the frequency of reading e-books. In the future, similar research could be supplemented with a part about ICT competences or reading attitudes and examine to what extent these elements affect the presented responses about using e-books.

Another aspect concerns the development of the book itself and tools for reading. Searching for new formats and using such elements in practice as: a multibook, a convergence book, or devices and technological solutions (e.g. tablets, QR-

-codes, FingerReader, etc.) are a potential subject of future analyses.

Search and broader theoretical analyses, which aim at placing electronic books at least in the media convergence theory – mimetic and mimicry ones, are required.

Comparative research, not only in the wider area of media and new technology in education (as the MaNTinEdu project focus), but also in the specific area of the popularity and use of e-books among students in Croatia and Poland (where, according to Statista (2017) the e-book penetration rate was 7.5% in 2017) would be interesting from a pedagogical point of view. Research results can also be the basis for comparisons in this topic from the perspective of eastern and central Europe and western countries. The research questions to ask are: what are the differences in the reading of electronic and printed books in individual countries? What are the differences between attitudes towards e-books in the context of another cultural, social and economic environment?

The choice of Croatian students to participate in the study turned out to be interesting for one more reason. In December 2016, Croatia became the world's first free reading country (FREZ) with an open virtual library accessible to all people free of charge regardless of their location in the country. Two institutions – No Shelf Required Portal and Total Boox – launched a free App called “Croatia Reads” and all citizens had free open access to more than 100 000 titles of electronic books in several languages for more than a year. The e-books could be read on mobile devices, such as tablets and smartphones. There was no need to buy an e-book reader. From an empirical point of view, the answer to the question of whether this action somehow changed the approach of the surveyed students to the electronic book becomes very interesting.

This fragment of a micro-type diagnostic survey presented in this article explores only

one aspect of the subject under discussion and could lead to broader research.

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