

The School Library as a Promoter of Multimedia Literacy in Primary Education in Croatia

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Abstract. In this paper, we present and critically view the current state of the multimedia literacy education in Croatia's elementary education. We also offer an approach to promote multimedia literacy in primary education in Croatia encouraging school librarians, elementary school students and teachers to use multimedia in regular classes. The project "Literacy for the 21st Century", launched by the school library of the elementary school Dubovac, is being presented as an example of best practice to encourage exploration and critical thinking about selection and combination of media and the multimedia content.

Keywords: School library, literacy, multimedia literacy, primary education, Croatia.

1 Introduction

The aim of this paper is to evaluate the current role of the school library in multimedia literacy education, describe the potential of such education and examine the possibility of introducing multimedia literacy education programs in the existing curriculum.

The existing curriculum for the primary and secondary education in the Republic of Croatia, *Nacionalni okvirni kurikulum za predškolski odgoj i obrazovanje te opće obvezno i srednjoškolsko obrazovanje* [1], mentions multimedia 10 times: as part of the Music art and culture, Film and media art and culture and Informatics subjects. It is also mentioned as a teaching tool that should serve the development of the student. It is not mentioned in the curriculum of elementary school subjects other than Informatics. The previous curriculum (dating from 2006) emphasized the teacher's obligation to apply audio-visual tools and computer science equipment along with the task of the librarian to purchase multimedia sources of knowledge [2].

At the same time, multimedia literacy education programs around the world are becoming essential in preparing elementary school students for the information requirements that will be more and more challenging to meet in the future.

Today's elementary school students are used to the fast pace of computer games, instantaneity of hypertext, immediate reception of information and its continuous availability, as well as the immediacy of hypertext and instant messaging, which makes them absolutely impatient for the traditional slow systematic transfer of the learning content. Their core competence is multitasking. They look for immediate feedback on their knowledge and prefer the content presented by graphics, sound and video more than text [3-5]. These students tend to learn surrounded by dynamic media with a high level of interactivity, using random access to content rather than the linear one. As soon as they are offered the static text and graphics, they lose interest and their attention drops significantly. Most of them are visual types. Therefore, the verbal or textual content supported by the visual content raises their motivation for learning and capability to memorize details [6]. Since they have grown up with video games, they perceive the learning method of trial and error as a metaphor for learning.

The above described learning habits of students require such design of education materials that allows students to experiment with the content, avoiding lessons with narration and lecturing style, and enabling them to learn concepts and new skills through play [7].

In multimedia literacy education programs, students act as researchers locating and selecting the information needed to understand the topic. They also act as authors who create multimedia for the intended audience and designers who need to select the appropriate media to share the concepts. Finally, they act as writers, finding ways to fit the information to the container linking it for others to retrieve [8].

Despite all known needs of contemporary school children and despite all benefits of multimedia literacy education, primary school children in Croatia are able to acquire it only as part of the Informatics class, which is still an elective school subject. This means that children may finish their elementary with few of the competencies needed for heavy multimedia use.

Teachers of different subjects in primary schools in Croatia list many obstacles when using multimedia [2], the most frequent being: lack of computer science equipment in school (although majority of classrooms are equipped with modern media), lack of time to use multimedia due to the scope of the curriculum and a large number of children in their classes.

Furthermore, more recent research [9] shows that even the majority of the Informatics teachers do not use multimedia regularly in the classroom, leaving it up to students to decide whether they will use multimedia resources independently at home, in an uncontrolled environment. Not surprisingly, the same research reveals that significantly small number of elementary school children in Croatia perceives the library as a place that offers the possibility of finding and using multimedia as well as the creation of multimedia materials in collaboration with the school librarian. The same research point out a statistically significant difference in the acquisition of knowledge between children who use multimedia regularly in school and children who use it only occasionally and / or independently at home.

The same research uncovers that school libraries in Croatia possess adequate multimedia sources and librarians willing to educate students and their fellow teachers

on how to use these sources. Still, when it comes to multimedia literacy education, school libraries in Croatia appear to be a forgotten place.

2 Multimedia Literacy Education

The constant development of media technologies plays a significant role in education, continually adapting to students' needs in the 21st century. Therefore, various terms for "literacy" as well as "literacy education" are being used.

In addition to written literacy, terms such as digital literacy, visual literacy, computer literacy, information literacy, media literacy and critical literacy are increasingly used in order to spread the concept of literacy to visual, electronic and digital forms of expression and communication [10].

Bawden [11] classifies multimedia literacy under the digital literacy that is actually a generic term for a group of literacies: network literacy, Internet literacy, and hyper-literacy. But, digital literacy generally refers to the understanding of information on the web. Computer literacy, which is nowadays taught in primary schools, represents the ability to use computers and understand the tools that allow the user to interact with the technology infrastructure [12]. Information literacy is defined as a set of skills that an individual should have to recognize a need for information, to identify, locate, evaluate, and effectively use that information for the issue or problem at hand [11], while multimedia literacy represents the ability to understand the content presented by a combination of different media [13].

Due to the large consumption of information obtained through the mass media (TV, internet), the notion of media literacy emerged. Media literacy refers to the popular mass media, but also has a major role in education, encouraging children to critically analyze mass media messages and pop culture.

It is important, though, to distinguish the "multimedia literacy" from the "media literacy" pointing out the difference between the "use of mass media" and the "content covered by multimedia". Whichever literacy is mentioned in the literature, the term "literacy" usually represents the ability to read and write, to understand information and express ideas in a concrete and abstract way, often assuming the text as a medium.

Multimedia, as equally as text, allows the development of concepts, abstraction and comparison, simultaneously employing more senses in these processes and offering interactivity as a key factor. Unlike text, which is written and read, multimedia is created, constructed, investigated and managed. Multimedia literate students experience the challenge of creating multimedia documents and become better consumers of multimedia documents produced by others.

The integration of text, images, sound and animation in the multimedia document creates a unique language, which can successfully be implemented in teaching and education. As a consequence, multimedia literacy aims to help users to develop a critical understanding of the nature of multimedia, multimedia techniques and their impact on the end user [14].

3 The Role of the School Library in Multimedia Literacy Education

The latest technologies allow almost ideal forms of learning and education. These forms and applications can be implemented in the school and the school library with the help of technology, making educational institutions and libraries the most appropriate place for teaching multimedia literacy.

Elementary school students should be offered library education programs that help them to develop their literacies. These programs would include autonomy in the use of sources of information and knowledge as well as interaction with library materials. Such education of library users is referred to as library literacy [15] relating to the competent use of libraries, and can be achieved through referencing and teaching about the use of a certain library, its services and resources. Programs for library education include learning in the library and integration of the library in the educational process through the use of computers – e.g. lessons are being held in the library, visiting professor answers questions through online chat, etc. Such programs may promote new approaches to education and offer new forms of learning.

Since today we have direct access to extensive sources of information and knowledge, the objective is that students acquire certain competencies for using information resources through the program. This would make students competent in library usage, they would understand its organization and work (materials, classification principles, catalogs, bibliographies and reference collection). Apart from having reading skills developed to a high degree, they would also possess information search and retrieval skills as well as skills needed to meet the constant changes in that area. That would make them information literates prepared to become future citizens - active, educated humanists, skilled in communication and critical thinking with the developed sense of social responsibility.

Besides providing education and access to knowledge, an important activity of the library is to allow the use of recorded knowledge in various types of media. This involves introducing students to the methods and techniques of research and teaching on the sources of information and knowledge. Through that process it is important to meet the important methodological requirement: create a positive atmosphere to work with information presented in a variety of media.

Teaching methods prevailing in the modern school systems aim to make students active participants in the learning process and contribute to the development of the above mentioned skills. This means that students perform their own multimedia research and their search for information begins in the school library.

The school library as a multimedia center of every school and school librarian as a promoter of multimedia literacy are becoming a vital part of the curriculum as well as extracurricular activities, regardless of the content or the subject [16]. With respect to the computer equipment of the school library and his/her technological knowledge, a school librarian can explore the modern tools that might simply and effectively be used in teaching / learning and present them to both teachers and students. The fact is that all multimedia applications available to teachers and students establish parallels with the traditional medium – the paper. As a consequence, it facilitates students' and

teacher's first encounter with a new tool. For example, when they engage in design of multimedia online posters, they make comparison with paper posters; when working on multimedia books they can draw parallels with the printed picture books, etc.

Students' existing skills facilitate the mastery of the new media and enable them to move quickly to exploring new possibilities offered by the new tool. They can combine text, images, audio and video (along with numerous effects), but they need to make their own decisions about which media are appropriate for their specific learning task, to learn how to integrate the information coming from multiple sources and in different formats (such as text, music, animation, digital resources and the Internet) and to learn to think critically and thereby acquire new knowledge [14].

In addition to basic computer skills (such as text processing or image editing), students in primary and secondary schools should also acquire skills to use multimedia tools in order to keep up with the growing trend of multimedia. However, it is also necessary to constantly motivate the older generation (teachers, professional staff and librarians) to acquire new skills in order to be able to use multimedia at school.

Not all teachers or librarians tend to be IT experts. Therefore, in schools it is necessary to take into account life-long learning and multidisciplinary approach to multimedia literacy education through new tools, teaching materials and content that enables innovative and interactive approaches to learning and teaching, and, ultimately, better knowledge acquisition.

From the methodical aspect, librarians should create conditions for the development of children's current and potential capabilities and be responsive to the needs of students.

However, today's librarians, as well as teachers were not born into the digital world and must learn to communicate in the language and style of their students. That does not mean the traditional curriculum needs to be changed.

The basic skills: reading, writing, knowledge of mathematics and logical thinking are still important, but the new content and the one that will follow are digitally and technologically dictated.

The new technology and multimedia environment put forward new requirements to librarians and teachers; they are expected to become lifelong learners, but also to be informational, multimedia and IT literate.

On the other hand, the educational system in Croatia is still based on the traditional approach that does not take into account the difference between today's students and their teachers and as such faces a lot of difficulties in reaching today's students [17].

4 Literacy for the 21st Century – A School Library Multimedia Project

The school library of elementary school Dubovac (in Karlovac) has been a multimedia center of the school for years. Apart from the presence of different media available to users as a source of information and knowledge, the recent activities organized by the library represent real multimedia projects, such as "Digital collection

of students' picture books" (2005–2008)¹ and "Fairy Tales - sources of multiculturalism" (2009-2010).²

In the school year 2011-2012 the school library launched the project "Literacy for the 21st Century", which includes work with the following multimedia applications: PowerPoint, Glogster, Animoto and Storybird. These applications were selected due to their well-known ease of use and popularity and because the end result tends to be attractive and effective. The project is intended primarily for students from 5th to 8th grade (11-14 years). Due to the limited number of available computers, participants are only students who actually prepare the multimedia material for the school classes. The subject teacher sends students to the library where they take part in the organized practical workshop, learning about a particular application. The school librarian presents students with basic concepts, information and features of the selected application. Afterwards, students work independently – they start in the school library and continue their work at home. The librarian, teacher and student are constantly in touch - either by e-mail, through the selected application or in person (daily at school), so that technical shortcomings do not present any obstacle to the quality work of all participants.

As a consequence, teachers also become involved in this process, directly or indirectly. They are the ones who are willing to give their lecturing space to modern techniques and technology in their class. Furthermore, it is necessary that each teacher, at least theoretically, gets introduced to an application that was recommended by a librarian in order to be able to design assignments for his students.

The significance of teachers (and librarians) in this process is visible through continuous communication with students in the design phase of the project. The teacher is usually responsible for the content, while the librarian provides sources of information and helps with the technical issues. It often happens that, after a teacher gets familiar with the application in such a way, he/she starts using it for teaching purposes in his class.

The final goal of each workshop is to prepare students for a public oral presentation of the content using any application they feel is the most suitable. Generally, they need to understand that how they present is as important as what they present. Only fully prepared students are able to give presentations to their fellow students in class.

Regarding the applications used in the preparation of each lesson, the first one covered by the workshop organized in the school library is PowerPoint. Participants are fifth graders who need to prepare a presentation for the English language class. Most of them interact with this application for the first time, and even if they did work with it before, it was usually just out of curiosity. Therefore, for most of them this workshop represents the first serious work with the application. Even students who attend elective Informatics classes start using this application only in the sixth grade. After the workshop, students work at home, and if necessary, communicate with the librarian or teacher (by e-mail or in person). Before students hold their presentations, they take part in another organized workshop during which they receive reviews and

¹ http://www.os-dubovac-ka.skole.hr/skola/knjiznica?ms_nav=aam

² http://www.os-dubovac-ka.skole.hr/skola/knjiznica/bajke_izvor_multikulturalnosti

comments about their presentation and have a chance to rehearse the presentation. Through the process of preparing their presentations, students apply their existing knowledge and build on it throughout the school year, mostly independently. The teacher does not have access to student work until they go through the material together. Also, students have to manage and save the presentation in the correct (newer / older) version and always check if the version of the program that will support the prepared presentation is installed and running.

Another application that is commonly used for presentations is *GlogsterEdu*³. Its primary function is to allow students to create online posters (glogs) with the use of multimedia (videos, music, sounds, pictures, text, special effects, animations, etc.).

Regarding the workshop on making *glogs*, the big advantage is that students already have experience with creating “paper posters” and therefore they can draw parallels with the classic poster (e.g., the relationship between the title font size and the body text font size, the ratio of text to images, etc.). Furthermore, “paper posters” serve to highlight the new features and benefits provided by the *glog*, such as the insertion of audio, video, animation, etc. Students start to use this application already in the 5th grade and they continue to use it until the eighth grade. The number of features presented to students in each school year depends on the topic / task, e.g. fifth graders in the English language class create a *glog* about their favorite food. For this kind of task they do not need knowledge about inserting video or sound, since the emphasis of the *glog* is to add to their work text, graphics and clip arts. On the other hand, sixth graders are expected to add video to their *glog* titled “People we admire”, and as are the seventh graders making presentations about endangered animal species. Finally, eighth graders are expected to add sound to their *glogs* (e.g. a song in mp3 format) because their presentation topic is “My favorite singer or band”.

The largest number of students participates in the *glogster* workshop. This is primarily because the 45-minute school hour allows short presentations of many students, but also because fifth graders are still not able to explore all advantages of this application.

*Storybird*⁴ is an application that offers design of digital books or picture books. At the elementary school Dubovac, *Storybird* is used by fifth graders to create a short story about themselves that they read / present in the English language class. During the workshop on this application, students draw parallels with the printed material and revise terms such as cover page, imprint, illustration, etc. The possibility of storing all the works in the so-called “*Storybird* library” is particularly interesting for teachers and librarians, since it presents a great opportunity to teach students about the virtual library and compare it with the traditional one.

Finally, both *Storybird* and *GlogsterEdu* allow the author to describe his/her work with keywords offered by the application (e.g. language, age) or by entering his/her own keywords. This action enables students to acquire skills of determining keywords related to the specific content, which is especially important and fundamental for the successful information retrieval.

³ <http://edu.glogster.com/>

⁴ <http://storybird.com/>

*Animoto*⁵ is an application that became part of the project in the school year 2013-2014. It is a cloud-based video creation application that produces videos from photos, video clips, and music. Students tend to be skillful in making videos, since most of them have already practiced it using a cell phone, tablet or camera. In the workshop on Animoto eight graders have prepared a video clip presentation about Australia and New Zealand for the English language class. Using photos downloaded from the internet, music background and a few short keywords or bullets, a student that created the video has to challenge his/her peers to guess which country is the topic of his/her video and to get them interested in the topic.

The use of these applications increases the possibilities for the correlation of school subjects, which has been the practice in our schools for a long time. An example of such correlation is sixth graders' glogs prepared for the Croatian language class using the Internet as a glog's topic. In the Croatian language class, the emphasis was placed on reading with comprehension, and the creation of notes that students wrote in these glogs instead of their notebooks. Later on, when the topic of Internet security was covered in the Informatics class, students presented their glogs to each other.

Such correlation was also obtained between the Biology and English language class. Seventh graders created glogs about endangered animal species for their English language class and used the same glogs later in the Biology class when they talked about protecting these species.

Finally, since all students' works are published on the website of the school library, they are accessible not only to their peers, but also to younger students, their teachers and parents. Also, students can place their own work on their websites, Facebook, Twitter, Edmodo, etc., increasing the visibility of their work and efforts.

However, there are applications and tools used only by librarian and teachers in the project. These are online tools: *Kubbu*⁶ and *ISSUU*⁷. Using *Kubbu*, students have the opportunity to solve quizzes and online exams prepared by their teachers, which proves to be an extremely interesting, useful and entertaining activity. Since *Kubbu* instantly provides the student with the success rate at the end of the quiz/exam, it saves teacher's time required for correcting online exams. Finally, using a simple catalog and the newspaper digital publishing tool *ISSUU*, teachers design their own digital materials, such as summaries of the content covered in school curriculum (e.g. <http://www.os-dubovac-ka.skole.hr/skola/knjiznica/materijeli>).

5 Conclusion

This paper intended to present and critically view the current state of the multimedia literacy education in Croatia's elementary education. The urgent need for this type of education in elementary schools is stated and discussed, including the consequences this may have for the elementary education in general. In addition to statistical material based on surveys conducted as part of two PhD studies, a field study on the

⁵ <http://animoto.com/>

⁶ <http://www.kubbu.com/>

⁷ <http://www.issuu.com/>

application of multimedia literacy education program which has been introduced at the elementary school Dubovac in included.

Table 1. The list of applications covered by the project “Literacy for the 21st Century” and skills acquired through the use of such applications

Applications Used by Students	Skills Acquired (Students)
GlogsterEdu	use of search engines
Animoto	information retrieval
Storybird	creation of folders
PowerPoint	copy – paste, save commands
Applications Used by Teachers	keyboarding
Kubbu	hyperlinking
ISSUU	reading / writing comments
	e-mail communication
	embedding digital data into own web pages, Edmodo, FB, Twitter, etc.
	design of notes
	public presentation

During the three school years, about fifty students from grades 5 through 8 participated in the project “Literacy for the 21st Century” at that school. The project is being implemented for the third school year in a row, which is the best indicator of student interest in multimedia education. Tools and applications used in this project can serve both students and teachers: they are easily accessible, simple to use, and make the multimedia materials effective and attractive. Despite all obstacles they face using multimedia in class, teachers of different subjects became involved in multimedia literacy education, educating students for the proper usage of multimedia, choosing suitable multimedia contents compatible with the curriculum and regulating the time of multimedia usage in class together with the school librarian.

At a time when students are constantly looking for something new, interesting and up-to-date, multimedia literacy education represent a tool that encourages exploration of different school subjects and critical thinking about selection and combination of media and the multimedia content. In this way, students become active participants in any class (not only Informatics), because they have a chance to shape the multimedia teaching content that will serve as a source of information and motivation for others to engage in similar activities. Multimedia literate students become creators of the new attractive and accessible content that can serve as educational material for much longer than one school day. Their multimedia creations enrich school classes, increase teacher’s productivity and enhance students’ motivation to learn.

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