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Boosting the research mindset of school librarians: a case study from Croatia

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Abstract:

This study explores the functionality of the Moodle-based professional development program, Research in School Libraries (RSL), created for school librarians in Croatia. The main goal of this study is to evaluate the quality and effectiveness of the RSL program as well as the suitability of the e-learning platform Loomen for running professional development programs for school librarians. In this case study, multiple sources of evidence are used: RSL program, statistics of RSL program participants' activities from the Loomen platform and responses from the online survey conducted with the program participants. The findings show that school librarians in Croatia actively participate in the RSL program, highly rate the quality of the program and find it useful. Furthermore, school librarians find the Loomen platform suitable for their professional development and value its many advantages. Based on this research, it can be concluded that the model for professional development used in the RSL program works well for school librarians in Croatia. Therefore, following the ideas and principles behind this model, the RSL program will be further developed and new modules will be introduced and added to the program.

Keywords: Professional development, MOOC, School librarians, Research methods, Croatia.

1. Introduction

School librarians make a wide range of contributions to teaching and learning in the school environment, but they also need some tangible evidence to substantiate these contributions and present them to stakeholders. According to the scholarly and professional literature, evidence-based library and information practice (EBLIP) is one way of building the credibility of school libraries (Todd, 2006). EBLIP is defined as a systematic process of questioning library practice effectiveness, generating evidence from various sources, using this evidence to improve library practice, and demonstrate the impact of the library to stakeholder groups (Brettle, 2017). One important component of EBLIP is the evaluation of practice in terms of outcomes derived from user-based data. Satisfaction surveys conducted with school library stakeholders play an important role in school library evaluation (IFLA, 2015). Thus, for practicing librarians it is crucial to have competence in conducting research in order to be able to participate in EBLIP in a productive way. For this reason, it would be important to help practicing librarians to enhance their knowledge of research methodology through professional development programs and also to encourage them to conduct empirical research on their own.

Since school librarians are busy during school hours and can hardly get a release for their professional development, an asynchronous online learning platform, such as Moodle, may accommodate their schedule. In Croatia, there is a Moodle-based online learning platform called *Loomen*. *Loomen* is operated by CARNET, the national research and education network of Croatia established in 1991 by the Ministry of Science and Technology of the Republic of Croatia. *Loomen* is widely used by Croatian academic and educational institutions, including primary and secondary schools.

This study explores the functionality of the *Loomen*-based professional development program *Research in School Libraries* (RSL), created for school librarians in Croatia. The main goal of this program is to refresh and further enhance school librarians' skills in conducting research and thereby boost their engagement in research about school librarianship. Another goal is to offer school librarians an opportunity for professional development available any time at any place and free of charge. The RSL program was initiated by the regional association of primary school librarians (the city of Zagreb), supported by the Education and Teacher Training Agency (AZOO) of Croatia and it is offered free of charge. Although this program is developed primarily for primary school librarians from the regional section (the city of Zagreb), other school librarians from Croatia are free to join. The RSL program was mounted on the *Loomen* platform at the beginning of January 2019.

The main goal of this research is to evaluate the quality and effectiveness of the RSL program as well as the suitability of the e-learning platform *Loomen* for running professional development programs for school librarians. The finding of this research might help guide the further development of the RSL program and adjust it to the needs of the school librarians interested in that program.

2. Related literature

The concept of evidence-based practice is widely discussed in librarianship (Koufogiannakis, & Brettle, 2016). Todd (2009) introduces the evidence-based practice into school librarianship and develops a model of evidence-based practice comprising three dimensions:

evidence for practice, evidence in practice and evidence of practice. Evidence for practice relates to the use of empirical research in school library practice and decision-making. Evidence in practice combines research evidence with various kinds of local evidence and school librarians' professional knowledge and experience. Evidence of practice implicates the measurement and evaluation of school library practice by collecting and analyzing user-based data. According to Todd (2009), research has an important role in building the credibility of school libraries in the educational environment and proposes the model of participatory research involving collaboration among school library researchers, educators, and school library practitioners. Although LIS schools include research methods in their curriculum many practicing librarians do not engage in research because they feel that they do not have competences in research methodology (Wilson, 2016). Based on the analysis of articles published in *School Library Research (SLR)* and *School Libraries Worldwide (SLW)*, Morris & Cahill (2017) conclude that only a few papers involve school librarians as researchers. By applying participatory research model LIS academics and researchers can get opportunities to involve pre-K-12 students in their research and practicing school librarians can get a chance to participate in research actively, build their research skills and collect "evidence of practice". Cooke (2012) discusses the importance of continuing professional development (CPD) for librarians and points to many advantages of online professional development through Web 2.0 technologies, such as customization of training programs to school librarians' work and time constraints and avoiding costs for travel and the fees of instructional staff. Similarly, Kleiman, Wolf & Frye (2013) state that traditional professional developments workshops in a form of "sit and listen" presentations are costly, often ineffective, and unable to reach all interested education staff. They propose new approaches that would provide effective, affordable and accessible professional development and conclude that applying a Massive Open Online Courses for Educators (MOOC) meets these requirements. Stephens & Jones (2014) explored the suitability of MOOCs for the professional development of LIS professionals and concluded that LIS professionals found MOOCs convenient in terms of time requirements, online accessibility, and portability (e.g. via mobile devices).

In the literature on MOOCs, a low course completion rate is widely discussed. Stewart (2013) claims that the voluntary nature of the online learning program and a fee-less enrolment enables students to set their own terms for participation, somewhat different from the traditional definitions of course completion, and engage in learning processes according to their own needs and follow their own learning pace. Stephens & Jones (2014) explain that learning in MOOCs often takes the shape of buffet-style learning, where students mix and match course materials according to their needs and time availability. So even when they do not officially complete the course, students may benefit from it. Besides, some authors even suggest conducting more research on the benefits that "non-completers" gain from MOOCs to structure educational contents on MOOCs to satisfy their specific learning needs (Koller, Ng, Do, & Chen, 2013; Henderikx, Kreijns, & Kalz, 2017).

3. Problem statement and research questions

This study aims to explore how school librarians in Croatia use the RSL professional development program provided on the online learning platform Loomen and how useful they find this program. Further, the study explores how school librarians perceive the suitability of the Loomen platform for their professional development and what are advantages and disadvantages of the Loomen platform concerning their professional learning.

The following research questions are introduced to guide this research:

- How do school librarians use the RSL program and through which activities?
- How do school librarians participating in the RSL program estimate the quality and the usefulness of the program?
- How suitable is the Loomen learning platform for the professional development of school librarians?
- How do school librarians perceive the advantages and disadvantages of the Loomen learning platform for their professional development?

4. Methodology

In this case study, multiple sources of evidence are used: RSL program structure and contents, statistics of RSL program participants' activities extracted from the *Loomen* platform, and responses from the online survey conducted with the program participants. The survey addressed the RSL program effectiveness and the suitability of the *Loomen* online learning platform for school librarians' continuing professional development. The survey questionnaire contained 7 questions (4 closed questions and 3 open-ended questions). Among closed questions, there were two opinion questions measured with a Likert scale. The questionnaire was created with *SurveyMonkey* and delivered to school librarians participating in the RSL program by posting the link to the questionnaire on *Loomen* inside the RSL course. Thirty-eight valid responses were received. Data were collected from January to June 2019. Participation in this research was voluntary and the questionnaire guaranteed anonymity to all participants. Quantitative data were analyzed by applying descriptive statistics and qualitative data were analyzed by using thematic analysis (Braun & Clarke, 2006). Collected qualitative data from each of the three open questions from the survey were coded and major themes were defined. Subsequently, all data were arranged under broader themes so that data related to a particular theme were brought together.

5. Findings and discussion

5.1. RSL program structure and contents

The RSL program started with the module Research methods in librarianship: Survey. The Survey research module includes a PowerPoint presentation containing lecture notes about the survey, a *HotPotato* quiz based on lecture notes and applied to the sample questionnaire, a sample questionnaire and a folder with readings. Forum is created for discussions about program coverage and to identify the needs and interests of program participants.

The PowerPoint presentation about survey comprises the following subtopics: survey characteristics and components, designing a questionnaire, major mistakes in designing a questionnaire and a layout and testing of the questionnaire.

The *HotPotato* quiz is created to test program participants' knowledge about conducting a survey and designing a questionnaire. The quiz contains 20 multiple-choice questions. The sample questionnaire contains 21 questions of various kinds, some formulated correctly and some incorrectly. A folder with readings contains some useful reading materials about research in school librarianship.

5.2. RSL program participants' activities on *Loomen*

From January to June 2019, 75 users registered to *Loomen*-based RSL program. Registered users are school librarians employed in primary or secondary schools from all over Croatia. Statistical data showing the dynamics of program participants' activities in the program are extracted from *Loomen* statistics. Data presented in Table 1 show a number of visits to the RSL program by registered students (school librarians) and other guest visitors in the above-mentioned time period.

Table 1. Activities in RSL program on *Loomen* from January to June 2019.

	January	February	March	April	May	June	Total
Registered students	352	854	1696	515	279	113	3809
Guest visitors	61	22	86	29	6	5	209

Although at the very beginning the program primarily targeted elementary school librarians from regional association, it turned out that quite soon school librarians from other regions showed interest and joined. While members of the regional association received a formal invitation to join the course others learned about the course in other ways, e.g. through a word of mouth, Facebook group, or by retrieving *Loomen*. The high number of visits to the RSL course in March coincides with the school librarians' attendance of an obligatory professional development program organized by AZOO. High interest of practicing school librarians in RSL program is particularly interesting for program organizers because the findings from the research about CPD conducted with librarians in Croatia show that a very low percentage of research participants (1.5%) expressed an interest in learning about research methods (Machala, 2009).

According to data in Table 1, school librarians in Croatia showed a big interest in this program and intensively explored program resources. A review of *Loomen* statistics about individual students' activities in the RSL course revealed that many students visited the course site many times, examined course materials and were active in the course for several months. Kleiman, Wolf & Frye (2013) identified a very similar behavior pattern among participants of the MOOC-Ed designed for K-12 educator professional development in North Carolina, USA. Analyzing the course web analytics they found that course participants often visited the course site for short periods of time, and during these site visits they performed various activities. Based on these findings authors conclude that busy professionals favor professional development opportunities allowing them many short visits to the training site, at times between other obligations, to multi-hour sessions typical for traditional professional development programs.

Many among registered course participants wanted to test their knowledge of creating a questionnaire and conducting a survey, so they performed a quiz created in the *HotPotato* program. Altogether 51 program participants accessed the quiz page but only 34 completed the quiz.

Table 2. Course participants who completed the quiz, and their scores*

Scores achieved	100%	90-99%	80-89%	70-79%	60-69%	50-59%
Course participants	50% (17)	23% (8)	6% (2)	3% (1)	9% (3)	9% (3)

*Max score = 100%

Data from Table 2 show that over 70% of registered program users who completed the quiz obtained a score from 90 to 100%. From *Loomen* statistics it can also be seen that many students with a high quiz score had one to seven tries to complete the quiz and this indicates that course participants were quite serious about learning how to conduct survey research. It is interesting that some program users who accessed the quiz but did not complete it still obtained high scores in the quiz. After all, like Kleiman, Wolf & Frye (2013) claim, different participants may have different goals for taking a MOOC training course and their success can be defined more in terms of the fulfilment of their goals than their completion of course requirements determined by the course developers. Therefore, there is a need to redefine the concepts of success and completion in a more personalized context.

5.3. RSL program effectiveness and the suitability of *Loomen* for professional development

To get a deeper insight into the course participants' perception of the quality of the RSL course and its usefulness for practicing school librarians, an online survey was linked to the course. Since the course was initiated by a regional association of primary school librarians it is not a surprise that a majority of survey respondents (78.38%) are primary school librarians while only 21.62% are school librarians from secondary schools.

Table 3. Place of research participants' employments

Type of school library	Responses N=38
Primary school library	78.4% (30)
Secondary school library	21.6% (8)

Table 4 shows that the majority of study participants highly assess the quality and the usefulness of the RSL program. Respondents agree that the PPT presentation is clear and easy to understand and that the presentation helped them to enhance their knowledge in conducting a survey. Most of the respondents also agree that the quiz for testing the newly acquired knowledge was useful and this result indicates that the PPT slides, a sample questionnaire, and the quiz worked well together and that the whole course was well adjusted to the learning and professional needs of school librarians in Croatia. These findings together with data about students' activities in the RSL program confirm that the main goal of the RSL program, which is to enhance the knowledge of school librarians in survey research and to encourage them to research by themselves, has been achieved.

Table 4. Evaluation of the *Survey* module

	Responses N=38 Weighted average*
The PPT presentation about survey is clear and easy to understand	4.76
The PPT presentation about survey method helped me to enhance my knowledge in conducting a survey	4.74
The quiz about constructing a questionnaire was useful	4.53
Reading materials are useful	4.71

*A 5-point Likert scale is applied: 1=completely disagree, 2=partly disagree, 3=undecided, 4=partly agree, 5=completely agree.

In an open-ended question, RSL program participants were asked to provide comments on lecture notes or give suggestions on how to improve them. 21 out of 27 respondents were satisfied with lecture notes and did not have any comments or suggestions for improvements. Two respondents suggested more examples of correctly and incorrectly formulated questions, with one participant thinking that question samples are too general, and three respondents had some minor comments related to editing of slides.

Table 5. Planning to conduct a survey in the near future

	Yes	Maybe	I don't know	No
Do you plan to conduct a survey in the near future?	70.0% (21)	13.3% (4)	6.7% (2)	10.0% (3)

N=30

In another open-ended question, respondents were asked whether they plan to conduct a survey in the near future and if they do, what would be the research goal of the survey (Table 5). 30 answers to this question were received and as many as 21 respondents (70%) stated that they planned to conduct a survey in their school library in the near future. Four respondents answered this question with “maybe”, two with “don’t know”, and three respondents answered “no”.

Research participants who plan to conduct a survey described the topics they would like to explore in their research. All research topics mentioned by respondents are arranged in four major thematic categories, ranked in order of frequency (Table 6).

Table 6. Research topics proposed by RSL program participants planning to conduct a survey

	Responses N=23
Library users’ needs and satisfaction with library services, improvement of library services	52.2% (12)
Reading interests and reading habits of library users	17.4% (4)
Library collection development	17.4% (4)
Other topics (not related to the school library)	13.0% (3)

Most respondents would like to apply a survey to explore library users’ needs and their satisfaction with library services to get ideas on how to improve library programs and services. Further, they would like to research reading interests and reading habits of library users and gather information about students’ and teachers’ interests and needs for library collection development. Other topics of interest mentioned by respondents, not related to the library, are students’ satisfaction with the renewal of school facilities or students’ interest in various school events.

Since the RSL program was offered on the online learning platform *Loomen*, a few questions about the effectiveness and the suitability of this learning platform were included in the questionnaire. Data from Table 7 indicate that over 70% of respondents agree that *Loomen* is effective in the professional development of school librarians and that not a single respondent

disagrees with it. A possible explanation for this result may be that respondents to this survey are school librarians having a positive attitude to e-learning and accept *Loomen* as a professional development platform. School librarians who do not like e-learning would not explore courses offered on *Loomen* and would not voluntarily join the RSL program.

Table 7. Effectiveness of *Loomen* for school librarians’ professional development

	Yes	Maybe	I don’t know	No	N=36 Weighted average
Do you think that <i>Loomen</i> is effective in school librarians’ professional development?	72.2% (26)	22.2% (8)	2.8% (1)	0.0% (0)	3.72

To find out what the major advantages are of using *Loomen* for professional development, research participants were offered a list of possible advantages and asked to select those that were important to them. Research findings in Table 8 show that almost all survey research participants agree that the opportunity to choose the time of when to get involved with professional development programs is an advantage of using *Loomen*. Further advantages for over 70% of respondents are possibilities to plan their learning strategy, study pace and ability to access learning materials several times if they need to. Other advantages include access to learning materials through mobile devices, freedom to choose the place of professional development and the option to use course forums for asking questions related to the course.

Table 8. Advantages of using *Loomen* for school librarians’ professional development

	Responses N=38
I can choose the time of professional development that suits me best	97.4% (37)
I can choose to study at my own pace and plan my learning strategy	76.3% (29)
I can access learning materials several times if I need it	73.7% (28)
I can access learning materials with mobile devices (smartphone, tablet)	60.5% (23)
I can choose the place of my professional development	57.9% (22)
I can ask questions related to the course in the course forum	57.9% (22)

These findings about the advantages of using MOOC for professional development of LIS professionals partly align with the findings from the study by Stephens and Jones (2014), who also found that LIS professionals perceived MOOC as a convenient learning opportunity for various reasons including accessibility online, course time flexibility, and the portability of course materials (e.g., access via mobile devices).

Table 9. Major disadvantages of *Loomen* from the perspective of school librarians

	Responses N=22
Lack of face-to-face contact with teachers and other students	31.8% (7)
The time limit for performing learning tasks	13.6% (3)
Structure and organization of the online platform	9.1% (2)
Technology risks (e.g. network problems, equipment failure)	9.1% (2)
Other (long-time sitting at a computer, not inspirational)	9.1% (2)
No disadvantages	27.3% (6)

In an open-ended question, study participants were asked to describe their views on the disadvantages of using *Loomen* for the professional development of school librarians. 22 research participants provided answers to this question. The coding of received responses revealed six thematic categories (Table 9). Most of the respondents mentioned that they prefer face-to-face professional development sessions so that they can have direct contact with teachers and other students. Three respondents mentioned the time limit for performing the learning task as a disadvantage. These comments are not necessarily related to *Loomen* as an e-learning platform. The time allowed to perform learning tasks is set by the course developer and it seems that many RSL participants had experience with other courses that included time limits for learning tasks set in these courses. In RSL there is no time limit for performing any operation in the course. Regarding the structure and organization of the online platform, respondents mention the problem that various platforms differ and it is not always easy to understand how to use the platform. Six respondents do not see any problem with using *Loomen* for professional development purposes.

6. Conclusions and recommendations

Based on the findings from this research, it can be concluded that the model for professional development applied in the RSL program works well for school librarians in Croatia. The findings related to program use show that school librarians in Croatia are interested in this program. They thoroughly explored all resources included in this program and many completed the knowledge testing quiz. Further, program participants highly rate the quality of various learning materials included in the program and find the whole program useful. Comments regarding the program improvements indicate that school librarians want to learn more about conducting research. Program developers will respond to these requirements by providing additional resources, thematically related to the research interests expressed by the program users. On the subject of the suitability of *Loomen* for school librarians' professional development, the findings show that research participants find it effective and are aware of its many advantages. It has been confirmed that school librarians in Croatia appreciate the self-directed learning supported by capabilities of *Loomen* which enables them to choose when and where to learn, how to learn, and how to access learning resources. A major disadvantage of *Loomen* from the perspective of research participants is a lack of face-to-face contact with teachers and other students. To alleviate this drawback of e-learning, course forums will be activated and RSL program participants will be encouraged to actively participate in forum discussions.

Since the findings from this research show that the RSL program drew a strong interest among school librarians in Croatia and that the program will be further developed. New

course modules will be created on the subject of various research methods used in school librarianship, including research processes related to data analysis and writing a research report.

This research may help other CPD organizers to learn more about the needs, interests and learning habits of school librarians and to plan professional development events given these findings. Moreover, further research on the professional learning needs of school librarians and the potentials of e-learning platforms in operating professional development programs is recommended. This could help develop an effective, accessible, and cost-effective CPD model that would be suitable for school library practitioners.

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