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Evaluation of Homework in Science and Social Studies

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Abstract

Systematic monitoring of students' achievements as well as encouraging and improving the development of their knowledge, skills and abilities is one of the basic tasks of school. Apart from monitoring the progress of students during the teaching process, monitoring and evaluation of their independent work at home is also considered. A new approach to curriculum planning emphasizes the importance of formative evaluation, which implies monitoring and feedback about the learning process. A well-designed homework task can be an excellent indicator of progress in a student's independent work outside of school. Creating and evaluating constructivist homework enables monitoring the development of students' research skills as one of the two key evaluation elements in Science and Social Studies.

The aim of the paper was to determine the frequency of homework evaluated by teachers and the ways teachers evaluate homework in Science and Social Studies classes. In addition, the aim was to identify the sources of homework which are mostly evaluated. A sample study included 83 primary school teachers, whose assignment, assessment and evaluation of student homework was observed by the students of the Faculty of Education in Osijek and Slavonski Brod during their professional-pedagogical practice. The study analysed 343 Science and Social Studies lessons in which homework was assigned. The results show that teachers did not evaluate a large amount of homework, or they only marked it as reviewed without any feedback about students' progress and achievement. Therefore, the study reflects the importance of planning, creating and evaluating homework assignments in Science and Social Studies classes.

Key words: curriculum; formative evaluation; homework assignments; learning outcomes; sources of homework.

Introduction

As a pedagogical phenomenon, evaluation encompasses all activities that provide information about the realization of educational activities so it is necessary to supplement, upgrade and adapt to changes with scientifically and expertly tested procedures in order to keep up to date (Mužić & Vrgoč, 2005). Evaluation is defined as a systematic process of collecting, analysing and interpreting information within the learning process about the degree of achievement and reaching the set goals, i.e. learning outcomes, competencies, knowledge, skills, abilities, as well as independence and responsibility towards the set tasks (Matijević, 2004; Ministry of Science and Education [MSE], 2019a). The ways of evaluating students as variables of the curriculum requires constant critical review and the continuous search for solutions that are aligned with the nature of the goals and methods of particular subjects (Matijević, 2005). In Science and Social Studies classes, evaluating outcomes of a student's work is an integral part of education, which should be based on an elaborate system of monitoring, checking, assessing, measuring and evaluating the learning progress and results of the teachers and students' work (De Zan, 2005). Continuous monitoring of students' work encourages them and will contribute to the development of positive work habits; therefore, evaluation (in Science and Social Studies) should be frequent, diverse and regular throughout the school year (MSE, 2011; 2019b). Curriculum planning and programming should also take into account students' work at home, since the student-oriented teaching involves, amongst other things, encouraging independent learning at home and systematic monitoring of homework (MSE, 2006; 2011). According to Letina (2015), supporters of alternative evaluation concepts emphasize the multifacetedness of the curriculum and emphasize that the process of learning, the application of what is learned, and the circumstances in which it has been learned are as important as the content itself. Taking into account that homework is an integral part of the educational process and is a "common and widespread educational activity" (Xu, 2013, p. 98), it is necessary to consider its role in an alternative form of evaluating students' achievement and the development of their competencies.

The role of homework in the context of formative evaluation

A recent approach to curriculum planning emphasizes the importance of formative evaluation through which continuity is fully achieved and through which difficulties for further student progress can be detected (Mužić & Vrgoč, 2005). Formative evaluation is focused on the learning process and students' individual progress; it is carried throughout lessons (from period to period), wherein teachers use the collected information, materials and evidence in order to provide students with continuous qualitative feedback with the goal of improving learning and teaching (Anderson, 1998; Moss & Bookhart, 2009; Cindrić et al., 2010; Letina, 2015). The MSE (2019a; 2019b) prescribes three approaches to evaluation, among which evaluation for learning involves formative monitoring of students' progress as well as emphasis

on regular and qualitative feedback of the progress, the learning process and student achievement. According to Bursać et al. (2016), evaluation for learning helps teachers understand the students' knowledge and skills, which helps to identify and correct any misconceptions or difficulties that may arise during learning. Buhagiar (2007) states that it is a step towards an alternative paradigm if teaching, learning and evaluation become integrated; therefore, for this purpose, teachers use different strategies such as targeted questions during teaching, learning diaries, presenting students' work, observing their individual work or teamwork, and *homework tasks*. Given that evaluation requires continuous supervision of all students' educational activities, based on which their overall progress is reviewed (Kadum-Bošnjak & Brajković, 2007), homework, as a *very frequent* educational activity, is an essential factor in forming the overall picture of student achievement. *Very frequent* is stated because, according to the research of Lošonc (2019), homework in Science and Social Studies in Croatian schools is assigned in approximately 80 % of lessons.

Therefore, it is important to implement everyday practice of homework evaluation for the purpose of monitoring and verifying the acquired knowledge and the development of abilities and skills. According to the MSE (2019a), monitoring students' progress involves the systematic observation and recording information about the level of achieved learning outcomes with two main goals: to encourage learning and to check achievement according to the subject expectations. As components of evaluation, monitoring and verification are intended to establish student knowledge and progress regardless of the starting criteria, and to identify difficulties and disadvantages for optimizing successful learning and teaching (Mužić & Vrgoč, 2005). These forms of evaluation are focused on the process and the result of students' work and learning during which they mature; therefore, it is necessary to include as many elements as possible that will influence the final grade formed by different methods and types of assessment (Kadum-Bošnjak & Brajković, 2007). In this respect, De Zan (2005) cites written homework assignments as one of the forms of assessing students' achievements in Science and Social Studies although homework should be considered more as something that needs to be *done* and less as something that needs to be *written*, since the goals of the subject are directed towards research, practice and gaining experience. Matijević (2005) states that there is no unique assessment model for all teaching subjects, therefore many countries, unlike Croatia, practice setting up evaluation models according to the nature of the content, activities and goals of each subject.

With regards to the goals of Science and Social Studies, the main task of teaching the subject is to provide students with the knowledge and experience of the interconnections in the material world that they will gain through constructivist learning, especially through direct experience and research-oriented and problem-solving activities (De Zan, 2005; Borić, 2008; MSE, 2019b). According to Alleman et al. (2014), if we want to make homework meaningful to students, it should be rooted in the ideas of authentic learning such as *construction of knowledge*, *disciplined inquiry* and *value beyond school*

(see Newmann, 1996). On this topic, Borić and Zečević (2020) state that homework can be an alternative tool for realizing constructivist didactic strategies such as research-oriented learning and experiential learning, which may not always be achievable in the classroom settings (see Topolovčan et al., 2017). Because of the time limit of a class period, the out-of-classroom teaching is not always possible. That is why research-oriented homework assignments can be used as an alternative tool that enables students to explore their immediate natural and social environment. In that case, the authors point out the following places where research-oriented homework can be held: the students' own homes, their yard, nearby park, playground, river, road, bookstore, etc. The role of the teacher is important in creating homework for independent student research work, as it is important in conducting out-of-classroom teaching (Topolovčan et al., 2017). Learning outside the classroom enables the observation of natural phenomena and cause-and-effect relationships, and provides unlimited possibilities as sources of direct student experiences (Kiš-Novak & Breslauer, 2006; Borić, 2008). Moreover, learning does not stop with the school bell but happens all the time, which is why homework assignments can be used as a link between the content learned in school and the application of knowledge and (research) skills in everyday practice. Depending on the content that students learn about, as opposed to teaching in the classroom or outside of it, homework allows students to explore in their immediate environment, for example, about the air quality in their street, park or similar, the type of soil in their yards, the native games played by their parents and grandparents, etc.

Given that research skills are one of the two basic elements of evaluation encompassed by the new Curriculum of Science and Social Studies (MSE, 2019b), homework can play a significant role in monitoring the development of students' research skills, critical thinking and creativity in applying knowledge in everyday situations. It is necessary to include a wide range of students' reactions and activities in order to make evaluation comprehensive and economical (Kadum-Bošnjak & Brajković, 2007). This scope could also include students' homework which integrates different knowledge, skills, abilities and circumstances with the aim of discovering and understanding the phenomena in the world around them. Alleman et al. (2014) stated that homework should not be considered separate from authentic learning: it should be regarded precisely as an authentic learning experience. In this regard, Borić and Zečević (2020) consider that homework should not be completely avoided but given only within the content that requires integration, such as research-oriented and problem-solving learning, practical work and critical and creative thinking. Kohn (2007) also states that the fundamental expectation about homework should be changed, and homework should be given only when there is a reasonable probability that students will benefit from a particular assignment. Besides that, the author suggests that teachers create several homework assignments fitted to different interests and capabilities. Kyriacou (2001) also states that it is necessary to assign homework graded according to difficulty, and that evaluation should be focused on the expected learning outcomes, taking into

account students' previous knowledge, and contain feedback about students' work. Homework represents feedback about students' individual work and provides insight into difficulties and problems in developing knowledge and skills. The most common purpose of homework is to provide qualitative feedback, raise motivation for learning and record student progress (Kyriacou, 2001).

Evaluation of homework

Homework is useful for teachers and students only if the tasks are purposefully designed, clearly defined and accompanied by constructive teacher feedback and regular notes (Paulu, 1995; Lehr & Walne, 2005). Therefore, the Curriculum of Science and Social Studies (MSE, 2019b) equals the importance of regular notes with numerical grades because notes serve as feedback for students, parents and teachers themselves about all student activities, including their work at home. Kadum-Bošnjak and Brajković (2007) state that teachers must record all their observations in order to define a final grade. Jurčić (2012) points out that notes should be taken as the basis and support for assigning a numerical grade, and their purpose is to analyse students' ability to make the effort and describe how they use their potential in fulfilling obligations at school and at home. According to Jelavić (1995), the way teachers review homework conditions the way students approach it, which is why the evaluation must be done systematically. In this view, Sallee and Rigler state in their study that "students 'borrow' and copy worksheets to receive completion credit or just show a random page to a teacher who walks around the room stamping notebook pages" (Sallee & Rigler, 2008, p.46). The results of the research by Sokol (2005) show that about 52 % of students do not do their homework on their own, and almost half of the surveyed teachers think the same.

The evaluation of students' work shows their achievement and serves as proof of their progress and the teacher's efficiency (Kolak, 2014). That is why Power et al. (2015) emphasize the importance of examining the validity of homework performance. The implementation of the Homework Performance Questionnaire (HPQ) in practice showed that it differentiates the assessment of student self-regulation abilities from student competence. It provides information about the source of individual differences, specifically related to difficulties in self-regulation versus gaps in knowledge or skills. Saam and Jeong observed the synergy between teachers' homework philosophies and skilful applications of homework practices. They have concluded that "the more a teacher was involved, invested, and reflective in homework practices, the teacher was more likely to provide meticulous feedback, individualized explanation as to how to improve students' homework performance, and even meaningful alternatives to the routine homework assignments" (Sam & Jeong, 2013, p.121). One of the alternatives to routine homework assignments in the form of the application of ICT is presented in the research of Bulić and Kostović-Vranješ (2019). Results of their research show that e-learning has a greater impact on student self-responsibility in doing their

homework after the assignments were well designed, regularly and carefully reviewed, and students received feedback in a short period of time. Based on these results, the authors indicate how e-learning can serve as a stimulus for teachers to apply e-learning systems in the teaching process, particularly for independent student activities such as homework assignments. They state that during the learning process, it is extremely important to monitor all student activities regularly (including homework) in order to give feedback, suggest activities for further progress and assess the achievement of the learning outcomes.

According to Moss and Brookhart (2009), although formative evaluation can significantly improve the quality of learning and teaching when used effectively, it is not present in schools because teachers are either unfamiliar with the methods of its implementation or are not sufficiently trained for it. In this regard, Kadum-Bošnjak and Brajković (2007) found in their research that the issue of evaluation should be approached in an effort to gradually improve the monitoring of students' work and the existing assessment. They also emphasise the necessity of motivating teachers for a more comprehensive evaluation of their students. In addition, it is the teacher's duty to regularly evaluate students and take certain measures to achieve optimal results. This is achieved by frequent qualitative feedback, i.e. written notes in professional terms, comprehensible both to students and parents, recording the most important assessments (Matijević, 2005; Jurčić, 2012; Kolak, 2014). On the other hand, Kohn (2007) suggests a model in which it is not necessary to check or grade homework. Instead, students can explain and explore with one another what they've done, what they liked or disliked about the task, what they're struggling with, what new questions they came up with, etc. Although, considering previous thoughts about positive aspects of written notes about students' work, that model may be applied occasionally (depending on the nature of the homework task), but in most cases teacher constructive feedback should be present in the context of formative evaluation of student progress. Therefore, the Curriculum of Science and Social Studies stipulates that students and parents should receive clear and detailed feedback about what students have learned, how much (quantity) and how well (quality), to know the next step in the learning process. The qualitative note should indicate the level of students' knowledge and skills and the particular elements in which they are successful or need support (MSE, 2019b). Students should receive constructive and useful feedback as support and encouragement for further progress. Feedback is not only useful when it is necessary to point out certain problems or successes but is also a signal to students that their work is carefully monitored and that the teacher cares about their progress (Kyriacou, 2001).

However, in almost all school directories within our schools, one can find notes such as pluses and minuses, which only indicate that the teacher reviewed the student work and expressed his (dis)satisfaction. It is not encouraging (and often not pleasant) to give a final grade from a series of numbers or marks without qualitative notes that

express exactly what they mean (Matijević, 2005). The practice of walking around the classroom and giving marks such as pluses and minuses in our schools is predominantly applied to homework. That is why, considering the aforementioned, marks without qualitative notes cannot be classified in the context of homework evaluation because the mark itself does not specify a problem or a particular student achievement and progress. Results of the research by Sokol and Vrbošić (2013) show teachers, students and parents all find that homework is checked regularly, but the research does not give an insight into how homework is checked or evaluated.

Methodology

The aim and research questions

The aim of the paper was to explore the frequency of homework evaluation and the ways in which it is reviewed and evaluated in Science and Social Studies classes. In addition, the goal was to identify which sources of homework are mostly evaluated. According to these objectives, the following research questions were set: What is the frequency of evaluated homework in Science and Social Studies; How do teachers mostly review and evaluate homework in Science and Social Studies; Which sources of homework are mostly evaluated?

Participants, method and procedure

The research was conducted in March 2019 via observation method. Observation was carried out in real situations during Science and Social Studies classes. In order to carry out the research, an appropriate sample was selected. The observers were students of the fourth year of the Faculty of Education in Osijek and Slavonski Brod during their professional pedagogical practice. Therefore, observers are considered to be professionally qualified, which, according to Tkalac Verčić et al. (2010), provides reliability, objectivity and validity of the study. The role of the observer was hidden, and the structured observations were performed according to the default structure and after the observed phenomenon. Each observer has independently chosen a primary teacher with whom he/she would collect the data about assigning and evaluating homework in Science and Social Studies. The research variables were: the type of the lesson, the source of homework, the way in which homework was reviewed, and the way in which homework was evaluated. After each observed lesson of Science and Social Studies, the observers recorded the type of lesson and the source from which the homework was assigned. In the following Science and Social Studies lessons, the observers recorded whether the same homework was reviewed and evaluated and in what way. The study included primary school teachers (N=83), mostly from Osijek-Baranja, Vukovar-Srijem and Brod-Posavina counties, and a smaller number from Požega-Slavonia, Virovitica-Podravina, Krapina-Zagorje and Sisak-Moslavina counties. The teachers who participated in the research teach the first (N=14), second (N=25), third (N=15) and fourth (N=29) grade of primary school.

Instrument

In order to carry out the research, an observation form was created for the purpose of the study. Throughout Science and Social Studies classes, the observers noted the type of lesson (a. development, b. revision, c. evaluation) and the sources from which the homework is given (a. workbook, b. textbook, c. worksheet, d. (verbally assigned) research-oriented assignment, e. other). The study included only the data on the frequency of assigning certain sources for homework, not the quality of homework tasks within those sources. Therefore, the results will show only the frequencies of the mentioned homework sources and of the way in which they were reviewed and evaluated. The observers also noted the way in which homework was reviewed (a. reviewed only quantitatively without verification of the answers or work; b. reviewed quantitatively and qualitatively, with verification of student answers or work; c. not reviewed) and evaluated (a. marks without notes; b. marks with notes; c. numerical grade for only one homework; d. not evaluated).

Data processing

The collected data were processed with the use of SPSS Statistic v21 program, and the quantitative descriptive analysis included the frequencies of the observed phenomena. The analysis included development and revision lessons, while evaluation lessons and lessons for which complete information was not obtained during the observation were excluded from the analysis. In total, the results present the data from 343 teaching periods of Science and Social Studies in which homework was assigned. Regarding the data about the ways in which homework was evaluated, *marks without notes* refer to check marks, pluses, minuses or other forms of marks by which teachers indicate they have reviewed a student's homework, but do not make written notes about it, neither quantitative nor qualitative. *Marks with notes* also include check marks, pluses, minuses, etc. as tags that homework has been reviewed, but include qualitative or quantitative teacher's note as well. Evaluation by a *numerical grade* was considered for only one observed homework. Cases where homework was *not evaluated* refer to instances where neither written nor oral evaluation was performed. The terms *quantitative* and *qualitative review*, which will be used in further analysis, will also be explained: *quantitative review* entails the review of whether a student has solved the homework tasks or not, without checking the accuracy of the solution or the quality of the completed task; *qualitative review*, on the other hand, implies that the teacher, in addition to the number of solved tasks or questions, also checked the accuracy of the answers, i.e. the quality of students' work.

Results and discussion

The following results focus on the ways in which teachers evaluate homework assignments in Science and Social Studies in terms of their review form and the sources from which they are assigned.

Table 1
Frequencies and relative frequencies (f/f%) of the ways in which homework was evaluated

The ways in which homework was evaluated	f	f%
Marks without notes	82	23.9
Marks with notes	139	40.5
Numerical grade (for only one homework)	33	9.6
Not evaluated	89	26.0
Total	343	100.0

Table 1 shows the ways in which teachers evaluate homework in Science and Social Studies. The results show that the teachers write qualitative or quantitative notes for one half (50.1 %) of the homework assignments, or they evaluate them by numerical grades. The other half of the homework assignments were marked only as reviewed, without qualitative or quantitative notes (23.9 %), or they were not evaluated at all (26.0 %). Because of the clearer interpretation of the results, only homework which was evaluated by constructive notes or numerical grades will be marked as *properly evaluated*. The notes refer to qualitative feedback on student work and progress. *Marked homework without notes* and *homework that is not evaluated in any way* are different because in the first case there is a possibility of oral evaluation. However, given the previous considerations which conclude that a written note about students' work, result and progress is necessary for quality and continuous monitoring of their achievements, giving stereotypical marks such as pluses and minuses without noting the meaning of these marks is not considered as *evaluation* in the real sense of the word.

The results show a high frequency of unevaluated homework, which raises the question about the reasons behind assigning it. One of the reasons why teachers do not evaluate homework could be the lack of time or the excessive frequency of homework assignments. According to Letina (2015), the time limitation in standardized tests contributes to prevalence of simpler questions that mostly require the reproduction of factual knowledge and application of lower levels of knowledge. At the same time, those kinds of questions do not provide teachers with all the necessary information about students' needs and progress. The results of the research by Lošonc (2019) indicate a high frequency of homework within Science and Social Studies classes. According to the results of that research, homework is not given only in every fifth period, and it is mostly assigned from ready-made sources such as workbooks, textbooks and worksheets.

Therefore, the mentioned issue of time limitation and ready-made educational materials can be classified in the context of homework because it is clear that frequent assignment will impose a time limitation, which will consequently result with simpler tasks and mechanical repetition of the learned content. Such homework tasks will not encourage teachers to evaluate students' work, progress or their achievement in a continuous and qualitative way. Besides that, Miller and Keller (2017) point out that first minutes of class are significant and should be used for providing an engaging

learning hook or asking a thought-provoking question, not for reviewing homework (at almost every lesson). Although the evaluation of reproductive knowledge is easier, simpler and faster, it is not in line with the objectives of Science and Social Studies. It does not give the desired results or focus on students' progress and development of their research skills or the ability to apply knowledge in a creative way. In the Curriculum of Science and Social Studies (MSE, 2019b), it has been repeatedly emphasized that it is not necessary to reproduce definitions and facts in learning the content of the subject.

Table 2

Frequencies and relative frequencies (f/f%) of homework according to the ways in which they were reviewed and evaluated

		The ways in which homework was evaluated							
		Marks without notes		Marks with notes		Numerical grade (only for one homework)		Not evaluated	
		f	f%	f	f%	f	f%	f	f%
Review of homework	Reviewed only quantitatively*	22	26.8	28	20.1	2	6.1	12	13.5
	Reviewed quantitatively and qualitatively **	60	73.2	111	79.9	31	93.9	34	38.2
	Not reviewed	0	0.0	0	0.0	0	0.0	43	48.3
Total		82	100.0	139	100.0	33	100.0	89	100.0

Note. *Homework reviewed by completion of tasks, quality of the answers or work was not checked; **The quantity and the quality of students' answers or work was checked

Table 2 shows the ways in which homework assignments were evaluated according to the ways in which they were reviewed. Most of the homework for which notes were not written was qualitatively reviewed (73.2 %), while approximately a quarter of the homework (26.8 %) was reviewed only quantitatively. The homework for which the notes were written was also reviewed mostly qualitatively (79.9 %), while some of it (20.1 %) was reviewed merely quantitatively, considering only whether the student completed the task or not.

Regarding the nature of the research (with the hidden role of the observer), for *marks with notes* it cannot be precisely determined whether these notes were quantitative, like pluses or minuses, or qualitative, with clear information on the student work and progress. However, given that one fifth of the homework for which notes were written was reviewed only quantitatively (20.1 %), it can be concluded that these notes do not relate to qualitative information because teachers could not even obtain it by a shallow (quantitative) review. This part of the notes refers only to recording the frequencies of (un)completed homework, which, as previously mentioned, cannot be considered proper evaluation. The homework assignments that were evaluated with a numerical grade were predominantly reviewed quantitatively and qualitatively (93.9 %), while a very small part was reviewed only quantitatively (6.1 %). Furthermore, approximately one half of the homework assignments that were not evaluated were not reviewed either

(48.3 %), while the other half was reviewed quantitatively (13.5%) or qualitatively (38.2%), but not evaluated. Clearly, there can be no evaluation of homework that has not been reviewed by the teacher; it is however unclear why the reviewed homework tasks are not evaluated.

Table 3

Frequencies and relative frequencies (f/f%) of homework according to the ways in which they were evaluated and the sources from which they were assigned

		The source of homework assignments									
		Ready-made educational materials						Newly-designed educational materials			
		Workbook		Textbook		Worksheet		(Verbally assigned) research-oriented assignment		Other	
		<i>f</i>	<i>f%</i>	<i>f</i>	<i>f%</i>	<i>f</i>	<i>f%</i>	<i>f</i>	<i>f%</i>	<i>f</i>	<i>f%</i>
The ways in which homework was evaluated	Marks without notes	51	24.2	8	50.0	20	32.3	1	3.2	2	8.7
	Marks with notes	88	41.7	3	18.7	27	43.5	10	32.3	11	47.8
	Numerical grade (for only one homework)	7	3.3	0	0.0	3	4.8	20	64.5	3	13.1
	Not evaluated	65	30.8	5	31.3	12	19.4	0	0.0	7	30.4
Total		211	100.0	16	100.0	62	100.0	31	100.0	23	100.0

It can be seen from Table 3 that less than half of the homework assignments from workbooks were evaluated by giving marks with accompanying notes (41.7%) or numerical grades (3.3%). On the other hand, more than one half of the homework assignments from workbooks were only marked as reviewed without any feedback (24.2%) or they were not evaluated in any way (30.8%). Most of the homework assignments from textbooks were also marked only as reviewed or they were not evaluated at all (81.3% in total). Similarly to the workbook, more than one half of the homework assignments given from worksheets were not evaluated with qualitative notes about student achievement, or they were not evaluated in any other way (51.7% in total). On the other hand, almost all research-oriented homework assignments were evaluated with a numerical grade or with qualitative notes (96.8% in total), as it was the case for most of the other homework assignments that were not assigned from ready-made educational materials (60.9% in total).

The results indicate differences in the evaluation of ready-made and newly-designed sources of homework assignments. Ready-made sources include workbooks, textbooks and worksheets, while newly-created sources include all other sources such as, in this

case, specific research-oriented assignments or other forms (more creative than the ready-made ones). Some previous studies (Koludrović, 2009; Borić & Škugor, 2011, 2013; Borić et al., 2015) show that tasks in Croatian Science and Social Studies workbooks and textbooks do not encourage the development of students' competencies, research skills or creative thinking. The tasks in them are of the lower levels of Bloom's taxonomy (Bloom, 1956; Anderson et al., 2001) and mostly focus on the reproduction of facts. However, it should be emphasized here that results from those studies relate to the past; in the meantime, new textbooks, based on the new curriculum (MSE, 2019b) that supports the application of the research approach, were published in 2019. As previously mentioned, this study did not examine the quality of tasks within any of these sources the teachers used to assign homework, which is why it is not possible to draw conclusions about the quality of ready-made or any other source materials the teachers used. However, the results of this study show that a significant amount of homework assigned from ready-made educational materials has not been evaluated.

Regardless of the quality of textbooks, workbooks, etc., the paper seeks to emphasize the need for using a variety of materials and sources in creating homework tasks in Science and Social Studies. According to Miller and Keller, today's textbooks are symbols of the past because now we have access to so many resources, and the most important is not an app or a digital tool, but "the brain of a well-trained educator who can design educational tasks that stimulate, inspire and equip students" (Miller & Keller, 2017, p.34). On this matter, Kohn suggests that teachers should "assign only what they design and students should be asked to do only what teachers are willing to create themselves, as opposed to prefabricated worksheets or generic exercises photocopied from textbooks" (Kohn, 2007, p.36). It is important to emphasize the role of the teacher in selecting and designing homework assignments whether from a textbook, workbook, immediate reality, or any other source or media. In designing and assigning homework, teachers should think critically and creatively about the quality of homework tasks and their goals, effects and learning outcomes.

In teaching Science and Social Studies, students need to be gradually introduced to research activities and develop basic research skills from the first grade of primary school (Borić, 2008). Thus, in the first grade, students perceive and describe the world around them by using their senses, recognize causes and effects of relationships in the immediate environment, explain what has been observed and experienced, discuss and present results, and ask questions about the observed changes in natural and social phenomena (MSE, 2019b). In addition, at the end of the fourth grade, students should be trained to carry out simpler research of natural and social phenomena or different sources of information, use accessories and materials and describe simple examples of the impact of science on the development of society they live in (MSE, 2019b). Therefore, homework should not be used as a test of the learned content, but for learning a new content or how to apply knowledge in creative ways, such as interviewing their parents about their earliest memories of their first day at school, etc. (Kyriacou, 2001). Homework tasks should be useful as a means of accomplishing curricular goals,

and each activity should have a primary goal. Tasks should be built around powerful ideas or central questions, not isolated facts or other content that cannot be applied in everyday life (Alleman et al., 2014). Homework can also open up the possibility of carrying out activities oriented towards sustainable development, such as collecting old paper, fruits, medicinal plants, information and materials about folk customs and other cultural heritage (acc. to Uzelac et al., 2014). The special feature of homework is students' independent learning without the teacher's supervision, wherein students can show more initiative, independence and creativity, which is an important factor in their success (Jelavić, 1995). Characteristics of alternative evaluation require students to perform, create, produce and act. That is why tasks should require higher cognitive processes and development of problem-solving skills in real situations that will lead students to observe, reflect, question and test their ideas (Herman et al., 1992). In this regard, teachers should reflect on whether any homework task will help students think deeply about the questions that matter (Kohn, 2007). Considering previously mentioned integration of learning, teaching and evaluation, homework should also be designed in accordance with the objectives of the subject Science and Social Studies and used to monitor and formatively evaluate the development of students' research skills and ability to solve problems and take action. Therefore, the tasks for students' homework should be created to activate higher cognitive level skills, require critical thinking and questioning relationships and phenomena, and open the possibility for creative application of knowledge in everyday situations.

Conclusion

The results show a high frequency of unevaluated homework, which raises the question about its purpose. A written note of the students' work and progress is necessary in order to keep track of their achievements and to detect possible difficulties or where a student excels in his/her independent application of knowledge and skills in everyday situations. It should be noted here that the study covers a small sample, which makes it impossible to generalize the conclusions. However, the results of this sample show that part of the homework for which teachers took notes was only examined quantitatively as to whether or not the student completed the assignment. Hence, it can be concluded that these notes do not refer to qualitative feedback, but contain stereotypical marks such as pluses and minuses that do not specify where exactly the student was more or less successful. Furthermore, the results show that most of the homework assignments that had not been evaluated are assigned from ready-made educational materials such as workbooks, textbooks and worksheets. It is however important to mention that this study was conducted before the start of the implementation of the curricular reform wherein new ready-made educational materials were printed. Therefore, we suggest future research in this area should focus on the quality of homework tasks and generally the use of a variety of sources in designing homework in Science and Social Studies, as well as on the purpose of assigning homework and evaluation of homework tasks.

Homework in Science and Social Studies should be planned and designed in accordance with the objectives of the subject. It should be assigned only in those parts of the content that require the development of research skills, critical thinking, creativity, and the ability to implement a responsible and active role in natural and social environment. The paper seeks to emphasize the role of the teacher in selecting and designing homework assignments (when there is a reasonable reason for it), whether from a textbook, workbook, immediate reality or any other source. Homework tasks should not be generically or incidentally assigned, regardless of their source. On the contrary, they should be thoughtfully planned at the very beginning of the school year within certain contents and with a clear purpose, goals and learning outcomes. The emphasis should be on the quality of homework tasks, not their quantity.

References

- Alleman, J., Brophy, J., Botwinski, B., Middlestead, S., Knighton, B., & Lay, R. (2014). *Homework done right: Powerful learning in real-life situations*. Skyhorse Publishing.
- Anderson, R. S. (1998). Why talk about different ways to grade? The shift from traditional assessment to alternative assessment. *New Directions for Teaching and Learning*, 74, 5-16, <https://doi.org/10.1002/tl.7401>
- Anderson, L. W., Krathwohl, D. R., Airasian, P. W., Cruikshank, K. A., Mayer, R. E., Pintrich, P. R., Raths, J., & Wittrock, M. C. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives*. Longman.
- Bloom, B. S. (1956). *Taxonomy of educational objectives, Handbook I: The cognitive domain*. David McKay Co., Inc.
- Borić, E. (2008). *Priručnik za nastavu: Istraživačka nastava Prirode i društva [Teaching manual: Research-oriented teaching in Science and Social Studies]*. Faculty of Education, University of J. J. Strossmayer in Osijek.
- Borić, E., & Škugor, A. (2011). The role of science and society textbooks in stimulating pupils' competencies. *Život i škola*, LVII(26), 50-59.
- Borić, E., & Škugor, A. (2013). Analiza pitanja u udžbenicima i radnim bilježnicama prirode i društva prema obrazovnim postignućima [Analysis of questions in textbooks and workbooks of the subject Science and Social Studies according to educational achievements]. *Napredak*, 154(1-2), 201-218.
- Borić, E., Škugor, A., & Borić, I. (2015). Analiza dimenzija kognitivnih procesa i dimenzija znanja u udžbenicima i radnim bilježnicama Prirode i društva [Analysis of dimensions of cognitive processes and dimensions of knowledge in textbooks and workbooks of Science and Social Studies]. *Napredak*, 156(3), 283-296.
- Borić, E., & Zečević, M. (2020). Kvaliteta domaće zadaće u nastavi Prirode i društva [The quality of homework in Science and Social Studies]. In A. Peko, M. Ivanuš Grmek, & J. Delcheva Dizdarević(Eds.), *Conference Proceedings: Didactic Challenges III: Didactic*

- Retrospective and Perspective Where/How do we go from here?* (pp. 255-266). Faculty of Education, University of J. J. Strossmayer in Osijek.
- Buhagiar, M. (2007). Classroom assessment within the alternative assessment paradigm: Revisiting the territory. *The Curriculum Journal*, 18(1), 39–56, <https://doi.org/10.1080/09585170701292174>
- Bulić, M., & Kostović Vranješ, V. (2019). The impact of e-learning on student self-responsibility in doing their homework. *Školski vjesnik*, 68(1), 127-140.
- Bursać, L., Dadić, J., & Kisovar-Ivanda, T. (2016). Učeničkim samovrednovanjem do kvalitetnih učeničkih postignuća [Through students' self-evaluation to quality students' achievements]. *Magistra Iadertina*, 11(1), 73-88. <https://doi.org/10.15291/magistra.1328>
- Croatia. Ministry of Science and Education. (2006). *Nastavni plan i program za osnovnu školu [Elementary school Curriculum]*, (Eds.) D. Vican, & I. Milanović Litre. Ministry of Science and Education.
- Croatia. Ministry of Science and Education. (2011). *Nacionalni okvirni kurikulum za predškolski odgoj i obrazovanje te opće obvezno i srednjoškolsko obrazovanje [National Framework Curriculum for Preschool Education and General Compulsory and Secondary Education]*, (Eds.) R. Fuchs, D. Vican, & I. Milanović Litre. Ministry of Science and Education.
- Croatia. Ministry of Science and Education. (2019a). *Pravilnik o izmjenama i dopuni Pravilnika o načinima, postupcima i elementima vrednovanja učenika u osnovnim i srednjim školama [Ordinance on amendments to the Ordinance on methods, procedures and elements of student evaluation in primary and secondary schools]* <https://www.azoo.hr/index.php?view=article&id=5853>
- Croatia. Ministry of Science and Education. (2019b). *Odluka o donošenju kurikuluma za nastavni predmet Prirode i društva za osnovne škole u Republici Hrvatskoj [Decision of the Adoption of the Curriculum for the Subject of Science and Social Studies for Primary Schools in the Republic of Croatia]* https://narodne-novine.nn.hr/clanci/sluzbeni/2019_01_7_147.html
- Cindrić, M., Miljković, D., & Strugar, V. (2010). *Didaktika i kurikulum [Didactics and curriculum]*. IEP-D2, Faculty of Education.
- De Zan, I. (2005). *Metodika nastave prirode i društva [Methodology of teaching science and Social Studies]*. Školska knjiga.
- Herman, J. L., Aschbacher, P. R., & Winters, L. A. (1992). *Practical guide to alternative assessment*. Association for Supervision and Curriculum Development.
- Jelavić, F. (1995). *Didaktičke osnove nastave: drugo dopunjeno izdanje [Basics of didactics: second supplemented edition]*. Naklada Slap.
- Jurčić, M. (2012). *Pedagoške kompetencije suvremenog učitelja [Pedagogical competencies of a modern teacher]*. RECEDO d.o.o.
- Kadum-Bošnjak, S., & Brajković, D. (2007). Praćenje, provjeravanje i ocjenjivanje učenika u nastavi [Monitoring, assessing and grading students in class]. *Metodički obzori*, 2(2007)2 (4), 35-51.
- Kiš-Novak, D., & Breslauer, N. (2006). Igra u prirodi kao zavičajni identitet [The play in natural environment as a native identity] . In S. Vrcić-Mataia & V. Grahovac-Pražić (Eds.), *Zavičajnost, globalizacija i škola* (pp. 141-148). Visoka učiteljska škola u Gospiću.
- Kohn, A. (2007). Rethinking homework. *Principal*, 86(3), 35-38. <https://doi.org/10.12968/sece.2007.2.256>

- Kolak, A. (2014). Teachers' attitudes towards evaluation process. *Život i škola*, LX (31), 109-123.
- Kyriacou, C. (2001.) *Temeljna nastavna umijeća* [Basic teaching skills]. Educa.
- Koludrović, M. (2009). Textbook questions and tasks as stimulating elements to divergent thinking. *Pedagojska istraživanja*, 6(1-2), 179-189.
- Lehr, F., & Walne, M. B. (2005). *Helping your child with homework*. Department of Education: Office of Communications and Outreach.
- Letina, A. (2015). Application of traditional and alternative assessment in Science and Social Studies teaching. *Croatian Journal of Education*, 17(Sp.Ed.1), 137-152. <https://doi.org/10.15516/cje.v17i0.1496>
- Lošonc, B. (2019). *Uloga domaće zadaće u nastavi Prirode i društva* [The role of homework in Science and Social Studies]. (Master's thesis). Faculty of Education, University of J. J. Strossmayer in Osijek.
- Miller, M., & Keller, A. (2017). *Ditch that homework: Practical strategies to help make homework obsolete*. Dave Burgess Consulting, Inc.
- Matijević, M. (2004). *Ocjenjivanje u osnovnoj školi* [Grading in primary school]. Tipex d.o.o.
- Matijević, M. (2005). Evaluation in education. *Pedagojska istraživanja*, 2(2), 279-297.
- Moss, C., & Brookhart, S. (2009). *Advancing formative assessment on every classroom: A guide for instructional leaders*. ASCD publications.
- Mužić, V., & Vrgoč, H. (2005). *Vrjednovanje u odgoju i obrazovanju* [Evaluation in education]. Hrvatski pedagoško-književni zbor.
- Newmann, F. (1996). *Authentic achievement: Restructuring schools for intellectual quality*. Jossey-Bass.
- Paulu, N. (1995). *Helping your child with homework: For parents of elementary and junior high school-aged children*. Office of Educational Research and Improvement.
- Power, T. J., Watkins, M. W., Mautone, J. A., Walcott, C. M., Coutts, M. J., & Sheridan, S. M. (2015). Examining the validity of the homework performance questionnaire: Multi-informant assessment in elementary and middle school. *School Psychology Quarterly*, 30:2(2015), 260-275. <https://doi.org/10.1037/spq0000081>
- Saam, J., & Jeong, T. (2013). In search of the epiphany of homework assignments: A model of evaluating local schools' homework practices. *Universal Journal of Educational Research*, 1(2), 119-127. <http://www.hrpub.org>.
- Sallee, B., & Rigler, N. (2008). Doing our homework on homework: How does homework help? *The English Journal*, 98(2), 46-51 <http://www.jstor.org/stable/40503382>
- Sokol, S. (2005). Purpose of homework in primary school. *Život i škola*, LI(13), 106-117.
- Sokol, S., & Vrbošić, V. (2013). Homework – The exception and not the rule. *Život i škola*, LIX(29), 79-93.
- Tkalac Verčić, A., Sinčić Ćorić, D., & Pološki Vokić, N. (2010). *Priručnik za metodologiju istraživačkog rada* [Manual for the methodology of the research]. M.E.P. d.o.o.
- Topolovčan, T., Rajić, V., & Matijević, M. (2017). *Konstruktivistička nastava: teorija i empirijska istraživanja* [Constructivist teaching: Theory and empirical research]. Učiteljski fakultet Sveučilišta u Zagrebu.

Uzelac, V., Lepičnik-Vodopivec, J., & Anđić, D. (2014). *Djeca - odgoj i obrazovanje - održivi razvoj: u potrazi za novim perspektivama razvoja odgoja i obrazovanja djece za održivi razvoj* [Children - education - sustainable development: In search of new perspectives for the development of education of children for sustainable development]. Golden marketing - Tehnička knjiga.

Xu, J. (2013). Why do students have difficulties completing homework? The need for homework management. *Journal of Education and Training Studies*, 1(1), 98-105, <https://doi.org/10.11114/jets.v1i1.78>

Appendix

An observation form for monitoring homework assignments in Science and Social Studies

Lesson name	Type of lesson	Homework source	How was homework reviewed?	How was homework evaluated?
1.	a) Development b) Revision c) Evaluation	a) Not assigned b) Workbook c) Textbook d) Worksheet e) (Verbally assigned) research-oriented assignment f) Other	a) Reviewed only quantitatively (whether students solved all the tasks or not) without verification of the answers or work b) Reviewed quantitatively and qualitatively, with verification of student answers or work c) Not reviewed d) Don't know	a) Marks (check marks, pluses, minuses, etc.), teacher does not make a written notes about it (neither quantitative nor qualitative notes) b) Marks (check marks, pluses, minuses, etc.), teacher make qualitative or quantitative note (and after some time evaluate students with numerical grade based on those notes) c) Numerical grade 1 - 5 (for only one observed homework) d) Not evaluated
2	d) Development e) Revision f) Evaluation	g) Not assigned h) Workbook i) Textbook j) Worksheet k) (Verbally assigned) research-oriented assignment l) Other	e) Reviewed only quantitatively (whether students solved all the tasks or not) without verification of the answers or work	e) Marks (check marks, pluses, minuses, etc.), teacher does not make a written notes about it (neither quantitative nor qualitative notes)

Lesson name	Type of lesson	Homework source	How was homework reviewed?	How was homework evaluated?
2.			f) Reviewed quantitatively and qualitatively, with verification of student answers or work g) Not reviewed h) Don't know	f) Marks (check marks, pluses, minuses, etc.), teacher make qualitative or quantitative note (and after couple of marks evaluate students with numerical grade) g) Numerical grade 1 - 5 (for only one observed homework) h) Not evaluated
3.	g) Development h) Revision i) Evaluation	m) Not assigned n) Workbook o) Textbook p) Worksheet q) (Verbally assigned) research-oriented assignment r) Other	i) Reviewed only quantitatively (whether students solved all the tasks or not) without verification of the answers or work j) Reviewed quantitatively and qualitatively, with verification of student answers or work k) Not reviewed l) Don't know	i) Marks (check marks, pluses, minuses, etc.), teacher does not make a written notes about it (neither quantitative nor qualitative notes) j) Marks (check marks, pluses, minuses, etc.), teacher make qualitative or quantitative note (and after couple of marks evaluate students with numerical grade) k) Numerical grade 1 - 5 (for only one observed homework) l) Not evaluated

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Evaluacija domaće zadaće u Prirodi i društvu

Sažetak

Sustavno praćenje učeničkih postignuća, kao i poticanje i poboljšanje razvoja njihovih znanja, vještina i sposobnosti, jedna je od osnovnih zadaća škole. Osim praćenja napretka učenika tijekom procesa poučavanja, također smo razmotrili praćenje i evaluaciju samostalnoga rada učenika kod kuće. Novi pristup planiranju kurikula naglašava važnost formativne evaluacije što obuhvaća praćenje i davanje povratnih informacija o procesu učenja. Dobro osmišljena zadaća može biti odličan pokazatelj napretka u samostalnom radu učenika izvan škole. Kreiranje i evaluacija konstruktivističke domaće zadaće omogućuje praćenje razvoja učeničkih istraživačkih vještina kao jednog od ključnih elemenata evaluacije u predmetu Priroda i društvo.

Cilj ovoga rada bio je utvrditi koliko često učitelji evaluiraju domaće zadaće i načine na koje to čine u nastavi Prirode i društva. Osim toga, cilj je bio utvrditi koje izvore zadaće učitelji najviše evaluiraju. Uzorak studije obuhvatio je 83 osnovnoškolska učitelja čije su zadavanje domaće zadaće, procjenu i evaluaciju zadaća učenika promatrali studenti Fakulteta za odgoj i obrazovne znanosti u Osijeku i Slavonskom Brodu tijekom profesionaln o-pedagoške prakse. U istraživanju su analizirana 343 sata Prirode i društva na kojima je zadana domaća zadaća. Rezultati pokazuju da učitelji nisu evaluirali veliki broj domaćih zadaća ili su ih samo označili kao pregledane bez povratnih informacija o učeničkom napretku i postignuću. Stoga, istraživanje ukazuje na važnost planiranja, osmišljavanja i evaluacije zadataka domaćega rada u nastavi Prirode i društva.

Ključne riječi: *formativna evaluacija; ishodi učenja; izvori domaće zadaće; kurikulum; zadatci za domaći rad.*