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APPLICABILITY OF WEB TOOLS: *NEARPOD* AND *FORMATIVE* IN TEACHING OF MORPHOLOGY[2]

Modern teaching of grammar is very complex and difficult for teachers because it takes dull material make it interesting for students as well as to the ultimate outcome of the lessons students developed grammar and speech skills. One of the most difficult grammar themes is the morphology. The aim of this study was to examine the extent to which new technologies can help the teachers in this complex task. We organized a survey in a primary school in Nis and compare organizations of classes in the traditional and modern way in teaching of morphology. As an example of modern technology we used Web tools Nearpod and Formativ. By comparative method we consider both possibilities methodical modeling classes. We surveyed the students in order to hear their opinions about this. Finally, we compared the results of tests of knowledge in this field between the experimental control department. The results convinced us of the great possibility of new teaching methodologies.

Formativ and Nearpod are the educational platform by which the teacher created and shared with his students a lesson in class (via the Internet). Using these tools allowed him to activate and monitor the work of all students; to check understanding of the lessons and the acquisition of knowledge in real time.

Key words: teaching methods, Nearpod an Formative web tools, classes of morphology.

1. Introduction

To the majority of students and pupils, grammar classes represent a boring and difficult material. An additional problem is also the inability to adopt abstract content at the primary school level. The lowest achievements are from this particular area, which has for years been confirmed by the final exam

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(entrance exam) at the end of primary school. Therefore, it is a real challenge for the teacher to adapt serious grammar material to younger children.

In Serbian schools, grammar classes are still being approached in a traditional way, that is, by 'grammatizing', which can be a cause of low pupil achievements. Individual characteristics of pupils are neglected with such an approach. Pupils are forced to acquire knowledge at a pace that often does not match their abilities or desires, so they fail to fully master certain grammar units. A part of numerous characteristics of modern teaching, which significantly increase grammar and communicative competences of pupils, modern teaching equipment also has a significant contribution in achieving outcomes of modern teaching – primarily the application of personal computers, that is, online programs and various web tools. Their main advantage is that they increase the power of perception and concentration, stimulate the motivation of pupils and students to work and, more importantly, influence pupils' interactivity in individual work adjusted to the sensibility of each pupil. Socially-marginalized pupils, discouraged children, children that are insufficiently included in the teaching process (who often do not have elementary conditions and means for work – textbooks) have special benefits with their use.

2. Methodology

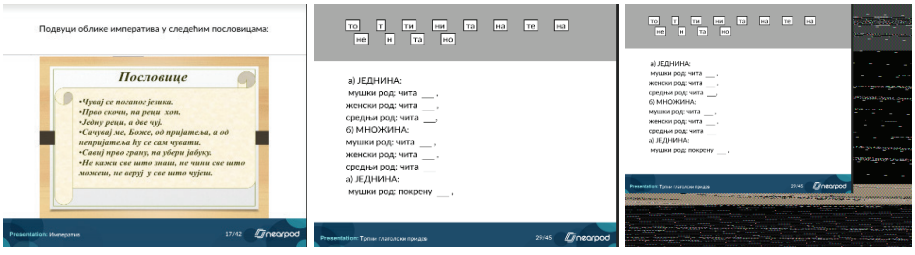
In order to analyze the educational effect of web tools, that is, to what extent the online programs can stimulate the pupils to work and this increase the level of achievement, we conducted a research in April 2016 in morphology classes at a primary school. We started from the assumption that the use of web tools will increase student engagement, and therefore their motivation, which should result in a better understanding of lessons as well as in a better and more permanently acquired knowledge. Morphology is seemingly a simple area of grammar; however, pupils have big problems with the teaching units in this field. The research was conducted on lessons on verb forms and verb tenses.

The research sample consists of 100 sixth-grade[3] pupils of the Ivan Goran Kovačić Primary School in Niška Banja (the Spa of Niš) divided by classes into two groups: experimental group and control group. Lessons for the experimental group, which consisted of two classes: VI-2 and VI-3, were created by using

[3] Six-grade classes were not balanced regarding the composition of pupils, so the best results in all subjects are achieved by VI-4, whereas the worst results are achieved by VI-3. The teacher chose the class of VI-3 to be the experimental group because, apart from having the lowest achievements, it has a lot of pupils from sensitive groups, socially deprived, with family issues, etc. The second experimental class had lower results in tests and knowledge assessments, it was losing motivation, so that is why it was chosen.

Nearpod and *Formative* (with the occasional use of assisting web tools for making linguistic games), whereas the control group, which also included two classes: VI-1 and VI-4, acquired new lessons by using the traditional approach. In addition, it is very important to emphasize that, according to pupil success, the experimental group is much weaker in relation to the control group and it has never shown a significant progress in education (it usually includes Roma children). It means that the traditional method in this group had not given results. The classes who had had solid results in accomplishments are in the control group. We started from the idea that only the application of ICT in teaching can increase the level of grammatical knowledge in these classes (in a good class, it is also easy to achieve good results with the traditional approach, whereas in bad classes, the traditional approach does not help). In this way (with an innovative approach to grammar), we tried to help the selected pupils from the social margins achieve better results in relation to their previous achievements in the area of grammar and to show how effective the implementation of applicative software in morphology classes really is.

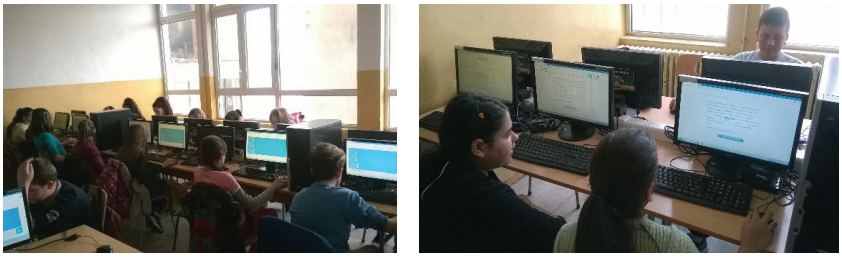
Methods of quantitative and qualitative data processing, the analytic-synthetic method and the method of pupil observation in the classroom, together with the surveying and testing techniques, were used in this experimental research. Two different questionnaires, consisting of eight questions each, were used in this research. All questions were the same for both groups – experimental and control. Apart from the questionnaire, we also used knowledge tests which were the same for all respondents. Two tests were conducted in the following manner: one at the end of the sixth grade, and the second at the beginning of the seventh grade (re-test) in order to determine what approach allowed pupils to achieve better and more permanent knowledge in the area of morphology (innovative or traditional). The course of research includes the realization of six classes of new material processing and one class of revision in a digital classroom in which every pupil has a computer. The teacher[4] prepared four lectures in *Nearpod* (imperative, past participle and present participle, future II, passive participle) and two in *Formative* (imperfect and past perfect).



Picture 1 – 3: Slides made in the *Nearpod*

[4] The teacher who realized these classes is Nataša Stojanović, the coauthor of this paper.

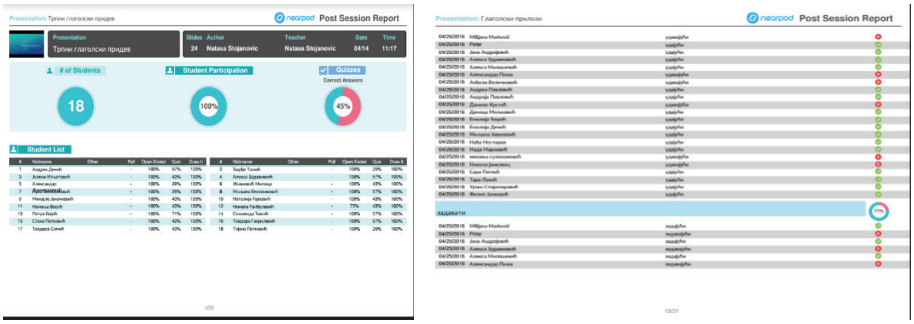
Nearpod works in the sense that the teacher starts a previously-designed presentation (Pictures number 1-3), whereas the students follow the slides on their own computers. In a previously-created presentation, the slides include activities designed for pupils, collaborative imperatives and tasks that allow the methodological guidance of pupils through the teaching unit and independent understanding and acquisition of knowledge. Thus, the slides are interactive so that the pupils can give answers to questions in their on words on the slide, they can underline, circle, write correct forms, read, think,… While the pupils individually work on the lesson by using the computer and an online program (pictures No 4-5, the teacher monitors pupils' work on his/her monitor all the time, and at the same time, the teacher communicates with pupils in person, further clarifies the examples and demands by suggesting and encouraging the pupils to think. Even though they independently work on their computer and they also explained their answers, the pupils think aloud and ask the teacher some questions. They all work on all given tasks at the same time, individually – everyone on his/her computer.



Picture 4 – 5: Students work individually on a computer

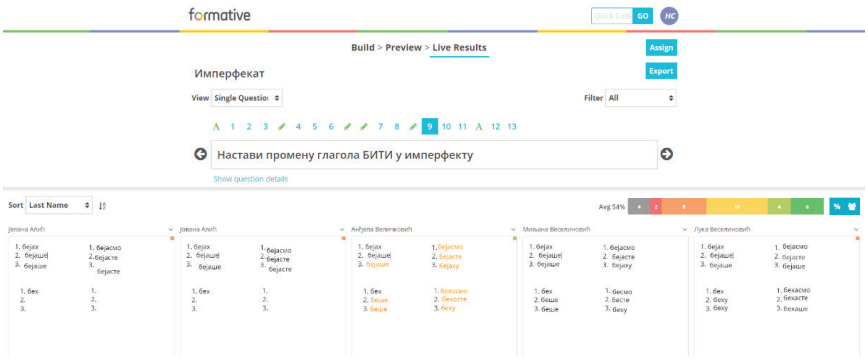
The teacher coordinates and monitors the work of all pupils and only when all pupils finish the work on one task does the teacher go to the next slide. In his/her own screen, the teacher monitors the answers for each pupil individually (pictures No 6-7), so that s/he can immediately react if s/he notices that a student misunderstood something or that s/he did not understand enough. Then the teacher stops at that part, starts a discussion, and s/he can also show the work of other pupils to everyone as well as demand from pupils to explain their answers, etc. until s/he is sure that all pupils understood the lesson. In that way, on the one hand, there is a participation of all pupils in class, and the understanding of the lesson of all pupils, on the other (the teachers does not move on to new activities until all pupils provide an example to show that they understood a particular part of the lesson). After one part of the class, the teacher can check the understanding of the lesson with a survey and the acquisition of knowledge with a test (in the class phase: knowledge insurance or in the final part of the class). The lessons were enriched with language games

made in the program *Learning. apps* (https://learningapps.org/) in order to additionally stimulate the students to better memorize and practice the learned lesson through games. The atmosphere is more than stimulating and creative – the children enjoy grammar classes. A part from these quick interventions and feedback to every pupil, even after the classes, the teacher has a possibility to analyze pupils' answers in great detail because both tools keep and process data. This, indeed, is useful to the teacher for planning of further classes.



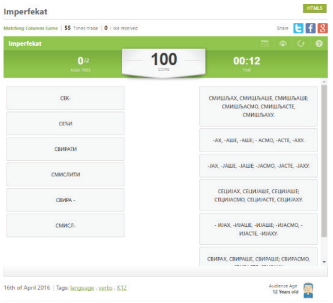
Pictures 6 – 7: The teacher coordinates and monitors the work of all pupils

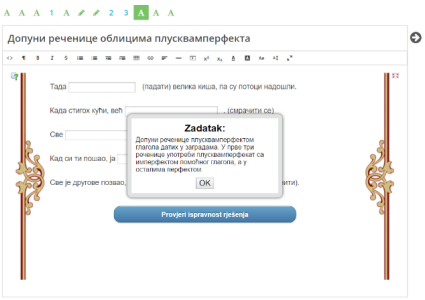
While *Nearpod* is controlled by the teacher, the lesson in *Formative* is controlled by the pupil. The pupil chooses the tempo at which s/he will read the lesson and complete the tasks. This tool also offers tasks of the following type – true/false, multiple choice questions, free answer questions, short answer question, and the lessons are additionally enriched with interesting language games. On his/her own screen, the teacher here also follows all students (picture No 8) and s/he can immediately reply to the pupil and dive him/her feedback on the completed task in the form of a personal message. Moreover, it can also project pupil work based on which a discussion will start.



Picture 8: The teacher follows all students

Since imperfect is the most difficult lesson, we chose this program so the pupil can determine for how long s/he will work on some task and study the lesson. To make the materials a little easier, we created a lot of useful and meaningful language games (Pictures 9-10).





Pictures 9 – 10: Language games

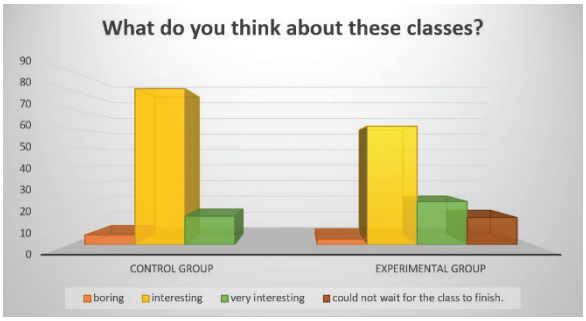
After all classes had been given, the success of the research was assessed and the effects of the project were summarized.

3. Research results

3.1. Surveying

After the implementation of the same classes in the experimental and control group, the pupils were first surveyed so that we could investigate their views on the application of ICT in classes.

Chart 1. The results of the first question

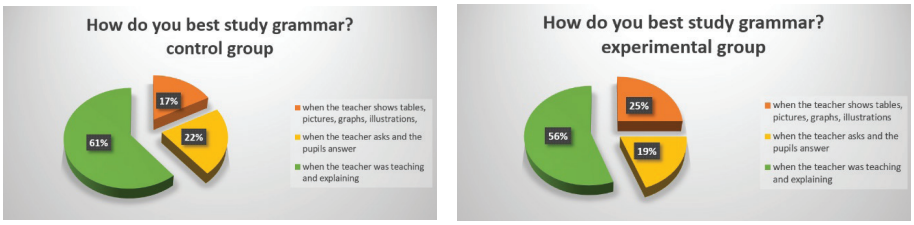


1. The first question was concerned with the impressions of the pupils and their feelings about these classes, so they were offered answers that in the classes of programmed classes they felt: bored, interested, very interested and could not wait for the class to finish. As it can be seen in

the diagram (Chart 1), the majority of pupils answered that the classes were interesting to them (90%), 10% said that they were very interested. Based on the overall results of the survey, we conclude that the majority of both groups was satisfied with the classes held.

2. On the second question: How do you best study grammar? The highest percentage of pupils in both groups declared that they learned best when the teacher was teaching and explaining, and that percentage was 61% of the pupils in the control and 56% of the pupils in the experimental group; 25% of the pupils in the experimental group circled the answer: when the teacher shows tables, pictures, graphs, illustrations, while on the same question in the control group this answer was chosen by 17% of the children; 22% of the pupils in the control and 19% in the experimental group chose the option when the teacher asks and the pupils answer (Chart 2). We assume that this is the outcome of the way the majority of the teachers work with pupils from the first grade, where the pupils are used to learning by carefully listening to the teacher and then repeating the material.

Chart 2. The results of the second question



3. The third question was: Would you like to study grammar with the help of computer programs and why? The answers are unique: so, the affirmative answer was given by 92% of the pupils from the experimental group and 73.2 % from the control group; while the negative answer was given by 19.5% from the control and 8% from the experimental group. This difference can be considered almost insignificant, given that the control group did not use computers in classes during the time of the research.

4. On the following question: Is it easier for you to learn grammar through games? The affirmative answer was given by 77.8% percent from the experimental and 44% from the control group (which was working in a traditional way, meaning without the application of the game method). Interestingly enough, the answer that it was irrelevant to them

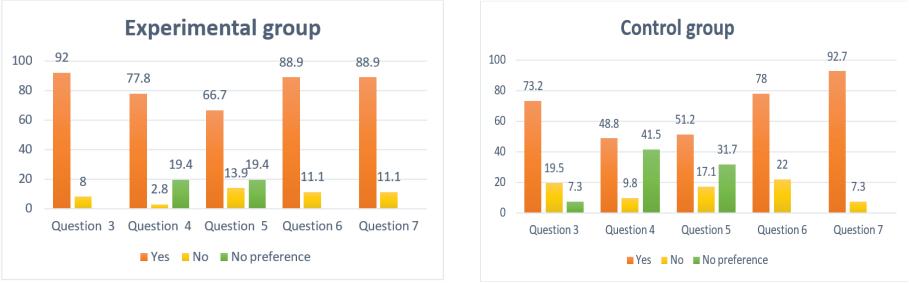
gave as much as 19.4% of the pupils from the experimental and as much as 41.5% of the pupils from the control group.

5. Now to the fifth question: Do you remember the materials more easily and longer with the help of a computer? Which resulted in the following answers: the positive answer was given by 66.7% of the pupils from the experimental and 51.2% of the pupils from the control group; the answer of no preference was given 19.4% of the pupils from the experimental and 31.7% of the pupils from the control group, while the negative answers were given by 13.9% of the students from the experimental and 17% of the pupils from the control group.

6. On the question: Do pictures, colors, shapes facilitate grammar classes? The pupils answered affirmatively in the score: with an affirmative answer as much as 88.9% of the pupils from the experimental and 78% of the pupils from the control group, and with the negative answer 11% of the pupils from the experimental and 22% of the pupils from the control group.

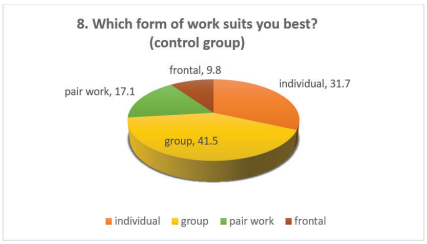
7. The question: Do you like it when you use computers in language classes? has been met with affirmative answers in as much as 88.9% of the pupils from the experimental and 92.3% of the pupils from the control group (Chart 3) .

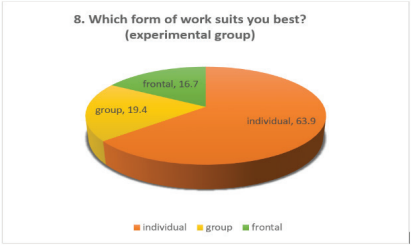
Chart 3. The results of the 3-7 questions



8. The last question in the survey was: Which form of work suits you best – frontal, individual, group or pair work? The obtained results show that the experimental group preferred individual group by 63% (19.4% liked group work and 16.7% frontal work), and the control group favored group from of work by 41.5%, followed by individual 31.7%, and then pair work 17.1% (Chart 4).

Chart 4. The results of the eighth question





Therefore, generally speaking, both groups agreed that they would like for grammar to be taught with the help of computers and application software, because it is more understandable, more interesting, they remember it more easily, it is cleaner and more fun. On the other hand, both groups declared that they liked it the most when their teacher was teaching and explaining grammar, what was, expectedly, the outcome of the dominant experience in the classes of all or most teachers. Of course, it is not surprising that almost two times more pupils from the experimental group declared themselves in favor of learning through games in relation to the control group that did not have the application of game-like classes. When it comes to the duration of knowledge, the majority of the pupils from both groups declared that the knowledge was more permanent when acquired with the help of a computer. In addition to that, the opinion was identical in relation to creative teaching and the application of the diversity of colors, shapes and teaching materials in grammar classes which almost all pupils chose. Also, an important fact is that in none of the groups the pupils have opted for the frontal form of work as their favorite, but they favored the group (control) and individual (experimental) form of work, which shows the need to modernize teaching in which the frontal form of work is the dominant one.

3.2. Testing

The effects of the application of online programs were checked by testing at the end of the sixth grade and re-testing at the beginning of the seventh. By comparing the results of the tests (Chart 5), we can conclude that the experimental classes did not show much worse results in comparison to the control group, which is a big improvement for them given that their earlier results were much lower. The results are even almost equal: while in the control group the positive results were achieved by 72% of the pupils in one and 63% of the pupils in the other class, in the experimental group, the positive result was shown in as much as 67% in one and 50% in the other class. It is important to point out that the pupils in the experimental group achieved the best results in comparison to previous testing in that school year. In this way, the remarkable

effectiveness of the application of ICT (programs: *Nearpod* and *Formative*) in grammar classes has been confirmed. The repeated test in the seventh grade proved the durability of the acquired knowledge and the retention of the level of achievement of the pupils even after several months (both groups showed positive results in about 50 – 60 % of the pupils).

	Control group			***Experimental group***	
	Sixth grade	Seventh grade		Sixth grade	Seventh grade
VI1	72,4%	58,75 %	*VI2*	67%	55,5%
VI4	63%	63,5 %	*VI3*	50,2%	48,25%

Chart 5. The results of the testing

4. Conclusion

Morphology classes that give headaches to primary school students can be a lot more interesting and efficient if the application of contemporary online programs, such as *Nearpod* and *Formative*, is implemented in them. Not only are the classes organized in an interesting and interactive way, but the accomplishments of pupils and the sustainability of their knowledge are on a much higher level than usual. With these resources, motivation for work is encouraged, pupils' knowledge is deepened and various competencies are developed. A special contribution of these tools is in the strengthening of those pupils who are slow and shy, and they give them the opportunity to express themselves. By giving the pupils the responsibility to manage the learning process, we raise their self-esteem and develop their interest in grammar. The experimental group is, based on the survey, more satisfied with the application of selected resources and methods from the control group, and they outdid themselves in terms of knowledge.

The survey has shown that the pupils of both groups declared themselves in favor of the modern teaching, that is, using computers, group and individual forms of work, game-like and creative teaching. Testing has confirmed the durability of knowledge and achievement of the pupils in innovative teaching.

From the teachers' standpoint, computerized classes have proven themselves purposeful in multiple ways, because they are able to timely reveal what it is that pupils know and what is unclear to them, so that they can react immediately in order to help them learn and understand even more. Their control over the whole class and the insight into their achievements is a special contribution to their individual work in individualized teaching aided by contemporary application software.

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Наташа М. Стојановић

АПЛИКАТИВНОСТ ВЕБ АЛАТА (*NEARPOD И FORMATIVE*) У НАСТАВИ МОРФОЛОГИЈЕ

Наставницима српског језика велики изазов представља савремена настава граматике на начин чији је циљ подстаћи свесну активност ученика на часу. Једна од најзахтевнијих граматичких тема у настави јесте морфологија. Стога је циљ ове студије био да се испита у којој мери нове технологије могу помоћи наставницима у овом сложеном задатку. Организовали смо истраживање у једној основној школи у Нишу и упоредили наставне

интерпретације на традиционалан и савремен начин у настави морфологије. Као пример модерне технологије користили смо веб алате NEARPOD и FORMATIVE. Компаративним методом разматрали смо обе могућности методичких класа моделирања; испитали смо ученике како бисмо чули њихова мишљења о томе; на крају смо упоредили резултате тестова знања из ове области између експерименталних и контролних одељења. Резултати су нас уверили у велику могућност нових наставних методологија.

Кључне речи: наставне методе, NEARPOD, FORMATIVE, веб алати, морфологија.