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UDK: 159.953:37.013
Prethodno priopćenje
Primljeno: 31.7.2018.

Flipped learning as a way of designing innovative learning environment: the importance of a thorough introduction, gradual implementation and in-depth evaluation of innovation

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The contribution deals with the definition and the meaning of didactical innovation of instruction in the context of contemporary innovative learning environment. The focus is on innovations that facilitate student-centred instruction and among those innovations, flipped learning is highlighted. The terminology and the concept of flipped learning is presented, as well as its advantages and its limitations.
The paper also presents a qualitative study which illustrates the views of a teacher and a student who both have experience with flipped learning. We posed three research questions regarding introduction, implementation and evaluation of this innovation. The participants of the research have recognized the three main advantages of flipped learning: student cognitive activity, student creativity and an opportunity to differentiate and individualize instruction. Three factors that influence the effectiveness of flipped learning were identified: 1) teacher's qualification for innovation, 2) students' active participation – a thorough introduction, gradual implementation and collective evaluation of the innovation, and 3) collegial support.
We believe that if the teacher presents flipped learning to the students thoroughly, implements it thoughtfully and gradually and evaluates it in-depth, it can have an important effect on designing a supportive and innovative learning environment.

Key words: *didactical innovation; flipped learning; innovative learning environment; introduction, implementation and evaluation of innovation*

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1. Introduction

Change is the only constant in today's fast changing world, which presents several challenges to schools. »The current pressure on schooling arises from twin drivers. The first is to ensure and demonstrate better attainment across all students and schools, and narrow the gap between the highest- and lowest-achieving students. The second pressure is to respond to the ever-growing range of need and demand, expressed as social and cultural diversity; greater student mobility; changing student, family and employer expectations; growing economic inequality; and geographical polarisation« (Bentley, 2010, 32).

The above said puts teachers in ever new challenging positions and demands to change their teaching. Jorgenson (2006) wonders why pedagogical and didactical innovations are necessary in the contemporary school and gives three reasons when answering this question: a) numerous research findings about instruction and learning (differentiation and individualization of learning, multiple intelligences theory, etc.); b) different, diverse and more and more »demanding« students and their needs as well as more demanding educational aims; and c) the speed of changing information and information growing out-of-date. The teacher's ability to react to changes and changing their own teaching as well as preparing students for life-long learning and altered circumstances are some of the teacher's basic professional competences.

The German Education Council stressed the ability and readiness of teachers to innovate among five important teacher tasks as early as 1971. Scandinavian countries and Great Britain followed the example, but the question of how much they were able to prepare teachers for innovation, remains unanswered (Buchberger et al., 2001). The questions which are continuously raised in educational debates are how to find more powerful ways to select and run with the right innovations and how to spread them effectively across whole systems of organisation (Dede, Honan, and Peters, 2005).

In the prevailing model of school innovation the creative process of designing the innovation is most commonly led by a team of innovators – researchers, while teachers are given the role of users

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of scientifically tested novelties. Innovations have been perceived as norms or standards leading to improvement, and the teacher carries them out at a third person's – the researcher's - suggestion and initiative. They have been perceived as something distinctly positive and failure to comply with them or carry them out was seen as negative (conservative). When this kind of innovation failed, the teachers were usually the ones held responsible for not competently implementing innovative ideas. There was an opinion that teachers are "resistant to change" (Valenčič Zuljan, 1996a; Valenčič Zuljan, 1996b). Stenhouse (in Altrichter and Posch, 1991) started solving the problem with a different understanding of the teacher's role: the distortion of the innovation by teachers – practitioners that happened in the innovation process is an expression of their „pragmatic scepticism", their doubt or their tendency for deeper understanding of the problem. In order to surpass the disadvantages of the first model, in which the key element of innovation, i.e. the teacher, was neglected, they designed an innovation model that tries to include teachers equally into the process of researching and innovating school practice. Action research is of extreme importance for the participation of practitioners in the innovation of their instructional practice. The main difference from traditional research lies in the fact that teachers – practitioners become co-researchers in action, that there is a partner relationship between them and researchers, and that the research findings are included in practice immediately so innovation of practice and research become a unified process (Sagadin, 1989; Somekh, 1989).

Most researchers (Fullan, 1982, 1992, 2016; Miles, Ekholm and Vandenberghe, 1989; Vandenberghe, 1991a, 1991b) see pedagogical innovation as a process which from an individual teacher's view happens in three broader phases: 1) decision to design and accept innovation (initiation), 2) implementation of innovation, and 3) institutionalisation of innovation. From the point of view of the nature of innovation itself, Rogers and Shoemaker (1974) describe the innovation process in the following phases: 1) development and design of innovation, 2) dissemination of innovation, and 3) results in practice.

Mandič (1983, 192) defines innovation of instruction as a consistent system of »pedagogical, social, organizational and

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economical measures, deliberately based on pedagogical and other sciences, that aim to improve the quality of educational work while rationally using staff, time and means; to democratize school relations, develop inventiveness, originality and creativity of teachers and students to a maximum, realize the conditions for appropriate pedagogical assessment, programming, norming and grading of pedagogical work: to find the most appropriate material factors to motivate students and teachers for their work…«

We define the didactical innovation process as a process of designing theoretically deliberate and practically justifiable changes in instruction which are the result of conscious, planned and creative work of teachers and/or researchers and for which it is expected that during the process of their conduction they will contribute to the improvement of current educational practice (Valenčič Zuljan and Kalin, 2007; Vogrinc, Valenčič Zuljan and Krek, 2007). We define didactical innovation as a novelty which in the process of innovation brings to changes and improvements in educational practice on different levels: a) the level of the teacher's didactical skills and his/her conceptions and attitudes; b) the school atmosphere; and c) a broader teacher's understanding of his/her own profession and professional development (Valenčič Zuljan, 1996, 1996b).

The starting point for teacher innovation can either be realizing a problem situation, feeling the need to change the existing condition, feeling discontented with the existing circumstances, or presenting certain research novelties and practical experiments. Based on numerous research findings on learning and meta-research on effective instruction, the meaning of designing an innovative learning environment is nowadays particularly emphasized. An innovative learning environment stresse sthe importance of getting to know an individual student and individualization of learning; is oriented towards facilitating optimal cognitive and affective activity of each student; focuses on the importance of cooperative atmosphere, cooperative learning and mutual respect; facilitates innovativeness and openness of learning; and is oriented to the learning of learning and the learner's independence (Dumont and Istance, 2013; Valenčič Zuljan, 2015; Vujičić, Pejić Papak and Valenčič Zuljan, 2018). The teacher's innovation can either be oriented towards designing an

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innovative learning environment (introducing cooperative learning) or towards a combination of the mentioned aspects.

Flipped learning is a didactical innovation that can contribute greatly to designing an innovative learning environment (e.g. facilitating student cognitive activity and learning individualization, facilitating cooperative learning, innovativeness and openness, metacognition and learning of learning, and student independence). It is necessary to stress that it is a didactical innovation that has been designed "bottom-up", which means it originated from "the teachers and instructional practice". Further on, we will define this innovation and give a short overview of its development.

Lage, Platt and Treglia (2000) define flipped learning as a process in which the events that traditionally take place in the classroom are replaced by events that traditionally happen outside the classroom, and vice versa. According to Bishop and Verleger (2013), this definition lacks the aspect of changing the quality of the activities happening in the classroom.

Hamdan et. al (2013) define flipped learning as a pedagogical approach in which direct teaching is removed from the group learning setting (classroom) and transferred to the individual learning setting (home). Instead of listening to the teacher's explanation in the classroom, students watch a video with the teacher's explanation at home. The teacher can use the saved time with students for cooperative activities, problem-based learning, individualized exercises, project work etc. Thus, the classroom becomes a dynamic, interactive and innovative learning environment in which the teacher leads students in trying out new concepts and having an active and creative dialogue with the learning content.

In such a learning setting we assume that students will perform certain learning activities before and/or after the lesson in the classroom so that learning in the classroom to really be effective (Abeysekera and Dawson, 2015). Bishop and Verleger (2013) add a technological component to this definition and exclude all the variations of flipped learning that do not include watching a video as the learning activity that the student performs outside the classroom. They claim that by doing this, we avoid a definition of flipped learning that would be too wide to even accept reading texts outside the classroom and

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discussing them in class as flipped learning (Berrett, 2012; Bishop and Verleger, 2013).

Abeysekera and Dawson (2015) define flipped learning as a combination of learning approaches that remove informative transmissive teaching from the classroom (teachers use classroom time for learning activities that demand cognitive activity and social interaction) and expect students to perform activities before and/or after class in order for classroom learning to be effective. The authors say that their definition does not include: a) the assumption that flipped learning is effective; b) criticism of current teaching and learning models; c) assumptions about student motivation in the process of flipped learning; and d) specification of which technology (if any at all) is supposed to be used for flipped learning.

Bishop and Verleger (2013) see flipped learning as a unique combination of approaches that once seemed incompatible: problem-based learning tasks that demand cognitive activity based on constructivist theories and direct teaching based on behaviourist principles.

Regarding the occurrence of the concept and term flipped learning, researchers do not share a common opinion. There seem to be different terms with different definitions that somewhat overlap. Baker (2000) writes about the »classroom flip«, while Lage et al. (2000) use the term »inverted classroom«. The first academic definition of the inverted classroom was Strayer's doctoral dissertation in 2007. The focal point of all terminological and conceptual discussions were the temporal and spatial components – the events that used to take place in school, started to happen at home and what used to be carried out at home, started to happen in school. At the time, student cognitive activity and autonomy and student-centred instruction were not in the forefront of these discussions.

The concept most widely known today emerged in 2006 as »flipped classroom« and was mainly based on the use of a video as a medium of more quality content transmission. The teacher, however, was still in the centre of this instruction. The founders of this idea are supposed to be Bergmann and Sams (2012), high school chemistry teachers, who recorded videos for their students to watch at home. They soon started wondering about the teacher's role in this kind of instruction.

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The authors (2012) draw attention to the fact that the »flipped learning« model or »flipped classroom« as it was first called, has changed in quality. Originally, it was predominantly focused on the teacher›s quality content transmission through a video, while instruction was teacher-centred. In the next phase of development, the model was still focused on the teacher's teaching, but the student's learning pace was taken into account (e.g. through the option of pausing the video, inserting tasks to check understanding, etc.). Gradually, the concept put the student in the centre of instruction by pointing out that higher levels of learning goals, according to Bloom's taxonomy, should be achieved. Consequently, a new term was coined – »flipped learning«. Thus, in the last phase the flipped classroom became a space of flipped learning: student is in the centre of instruction while the used teaching and learning strategies contribute to deep and lasting student understanding (Bergmann and Sams, 2012; Bormann, 2014). Taking into account that teaching and learning are two complementary didactical sub-systems of instruction (Blažič et. al, 2003), we propose that an even more appropriate term would be »flipped learning and teaching« or »flipped instruction«. In this way, we would include students' as well as teacher's activity within instruction.

Overmyer (2014) and Abeysekera and Dawson (2015) state that highest learning achievements can be gained in the last developmental phase of the model, when real flipped learning takes place. Based on the findings, Overmyer (2014) suggests some guidelines for teachers who would like to implement flipped learning. When preparing a video, teachers should also plan an accompanying task (e.g. a web homework, taking notes, a quiz). Nowadays, technology enables the teacher to check whether students have watched the video or not, how long it has taken them to watch the video and how many times they have watched it. The teachers can integrate interactive learning tasks into the video and check students' responses (e.g. the program EdPuzzle (https://edpuzzle.com/)). It is highly important that teachers use the time they have with their students to the maximum effect, so instruction should be dynamic and offer many opportunities for students to cooperate in problem-based tasks.

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Flipped learning can be found in different forms, which goes back to the definition of this concept. However, all the definitions have some common points: a) the change in the use of learning time in the classroom; b) the change in the use of learning time outside the classroom; c) carrying out activities traditionally called homework in school; d) carrying out traditional school activities at home; e) school activities that promote active learning, peer learning and teaching and problem-based learning; f) activities that take place before the lesson; f) activities that take place after the lesson; and h) the use of ICT, especially videos (Abeysekera and Dawson, 2015).

2. Methodology

Openness to changes, innovative approach to teaching and digital competency are qualities expected from teachers in a contemporary school. The ever changing social and economical circumstances bring diversity to schools and classrooms and it is up to teachers to design the learning environment that can cater to all students' needs. Flipped learning is discussed as one of such innovative learning environments that offers and combines different effective pedagogical approaches: the use of ICT, cooperative learning, problem-based learning, project work, individualization and differentiation of learning, and so on. We were interested in first-hand experience with this innovation, more specifically how the phases of introduction, implementation and evaluation of this innovation are carried out in practice.

We carried out a qualitative study. The aim of the study was to research the phenomenon of flipped learning as a didactic innovation thoroughly and from different points of view. We designed two main research questions:

1. Which factors have an influence on the effectiveness of flipped learning from the teacher's and which from the student's point of view?

2. Why did the teacher decide to implement the didactical innovation, i.e. flipped learning and teaching? Which advantages and disadvantages did the teacher and the student identify?

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In order to answer our research questions we carried out two semi-structured interviews. There were two participants who were included in this research. The first participant was a teacher with over 20 years of service. She is an English teacher in one of Italian high schools. She was chosen as a participant because she had experience with carrying out flipped learning in her classrooms. The second participant was a university student. She was chosen because she had experienced flipped learning as a high school student herself during Mathematics classes in one of Slovenian high schools.

The interview with the teacher was carried out in December 2016. The interviewer was writing down the teacher's answers to the questions. The interview with the student was carried out in December 2017 and it was recorded.

The questions for the teacher were about the process of introducing and implementing flipped learning, the materials, methods and student grouping she usually uses, and the factors she believes influence the effectiveness of flipped learning (evaluation of innovation).

The questions for the student were about her personal experience with the introduction and implementation of flipped learning while she was a high school student and about her views on the factors that contribute to the effectiveness of the innovation i.e. how she evaluates flipped learning.

3. Results and discussion

3.1. The factors that influence the effectiveness of flipped learning from the teacher's and from the student's point of view

From the teacher's and student's contemplation about this matter we can recognize three broader factors that influence the effectiveness of the didactical innovation flipped learning:

- Teacher's qualification for innovation implementation;
- Introduction of innovation to the students, gradual implementation of innovation and evaluation of effectiveness;
- Colleagial support.

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For a quality implementation of innovation, it is very important for the teacher to be **properly qualified**. The teacher can become qualified in different ways: by individual studying of literature; by attending seminars and/or collegial lesson observations, or by the combination of all the above stated ways. The interviewed teacher reported that she first took an online course and then an additional three - day interactive seminar. She also read some literature about flipped learning before she started implementing it. Researchers stress the meaning of innovation clarity and some predispositions to carry it out (Resnick et. al, 2013). Profound knowledge of the innovation, particularly of the needed didactical skills needed for the innovation to be implemented effectively (e.g. students' conceptions of learning, knowledge, etc.) as well as the knowledge of its advantages and disadvantages, are crucial in all phases the innovative process (Fullan, 2016).

3.2. Introducing the students to the innovation or to the new way of instruction, gradual implementation and evaluation of effectiveness

Based on her own experience, the teacher claims that most students like this kind of instruction. However, she warns that students can take flipped learning as mere fun if the teacher does not evaluate together with students what they have learned. It is very important that the teacher explains the new way of teaching and learning in advance and in an appropriate way, based on the students' conceptions of knowledge and learning.

The interviewed student was a high school student in the third year of high school at the time of the flipped learning experience. Before implementing the innovation, the teacher shortly presented the characteristics of flipped learning and explained what the instruction will look like. He did not present this innovation to their parents.

Several lessons of flipped learning including four videos for students to watch at home were carried out in Mathematics classes. Students watched a video at home, then there were two live lessons consisting predominantly of exercise, followed by a video with the teacher's explanations of the following content, and so on. Some of the

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high school students disliked the new learning and teaching approach. The interviewed student said she was one of the students who have fulfilled the assigned tasks (e.g. watching the video) regularly and on time. These were the students with a positive attitude towards the innovation. The students who did not usually do their homework in traditional instruction didn´t watch the videos with the teacher's explanations either, so they were even more »lost« in the flipped lessons. The high school students' obligation was to watch the video and take notes. Exercises based on the content were done individually (into their notebooks and on the blackboard) during the live lessons. If necessary, the teacher added some points to the explanations or repeated all of it. The video was made by the teacher himself and showed the teacher writing parts of the explanation on the computer while orally explaining the content. The videos lasted up to 10 minutes. The student reported that traditional homework for Mathematics was more time-consuming for her than the tasks she had to perform for flipped learning. The problem with traditional homework, she says, is that there is often not enough time at school for doing exercises, so only some simple examples are presented by the teacher and the more difficult exercises are left for homework. The students are then frustrated because they do not understand the content and cannot do homework independently. When the students failed to do (traditional) homework, the teacher never punished them. His philosophy was that homework was each student's responsibility and that it was their decision if they wanted to do it or not. Similarly, when flipped learning took place and the teacher realized not all the students had watched the video with his explanations, there were no repercussions for these students. The teacher knew that the students had not watched the video because they did not know how to do the exercises connected to the explained content in the classroom. He also asked the students who watched it and who did not. He stopped carrying out flipped learning after he realized that the students' response was not meeting his expectations. The interviewed student estimates that the teacher was very excited about the innovation at the beginning and made an extra effort for his teaching to improve (he made his own videos). However, at the end, she says, he was very disappointed that the students did not take the innovation seriously. He stopped implementing it because of

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the students who failed to fulfil their responsibilities (in the traditional as well as in the flipped instructional setting). The teacher decided that insisting to carry out flipped learning longer would have been too risky and that the struggling as well as the unmotivated students' knowledge would keep declining.

When flipped learning finished, the teacher and his students did not do a very deep reflection, but the teacher did ask the students about their opinion. The interviewed student guesses that most of the students had a really positive attitude towards flipped learning. The students who liked flipped learning even used videos for individual learning at home later on, especially when they studied for the final exam (Matura). They used a free website called Astra (https://astra.si/), recommended by their teacher.

We believe that in this innovation process it would have been very important to follow the didactical principle of graduality, take extra time to give a thorough presentation of the innovation to students, evaluate it constantly and gradually implement the innovation in a certain number of lessons.

For decades, research has indicated at the meaning of the terms **co-workers and collegial interactions** in the process of teacher innovation (Fullan, 1992, 2016; Hargreaves and Fullan, 2012; Rosenholtz, 1989; Valenčič Zuljan, 1996, 1996b; Valenčič Zuljan and Kalin, 2007) and of the importance of professional opportunities for cooperation called the **professional capital agenda**. Collegial interactions (and cooperation) can be a very important incentive. On the other hand, school staff that is not in favour of changes, can be an obstacle to teacher innovation. The interviewed teacher said that her colleagues were the greatest obstacle in the process of implementing the innovation. In contrast, the students and their parents, as well as the school's headmaster, accepted the innovation with strongly positive attitudes. The respondent said that her parents were her allies in the process - they were quite appreciative because they did not have to assist their children with homework anymore. Resnick et. al (2013) also opines that for an effective innovation, a lot more attention needs to be given to sociological understanding of organizations, organizational routines and the role of professional learning communities.

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3.3. Reasons for the teacher's decision to implement the didactical innovation flipped learning and teaching. The advantages and disadvantages of flipped learning that the teacher and the student identified.

Sparkes (1989) and Fullan (1992, 2016) cite some of their own researches and some overviews of other researches about the innovation process and say that when thinking about an innovation, teachers wonder how the students (and their parents) are going to accept it. They are unsure whether the students will be motivated, what their learning path will be like and how this change will affect themselves (the teachers) personally. Valenčič Zuljan (1996a, 1996b) came to similar findings. If the innovation in question is one that has been offered to teachers, then the teachers also wonder if the innovation is actually necessary in practice; if it has been tested; what results will it bring; how clearly the teacher's role is defined within the innovation process; what needs to be changed and in what way; what the chances of promotion are, etc. The main source of teachers' effort to change their own teaching practice is finding ways of teaching that would present an "advantage" for their students' learning (motivation, better understanding, use of knowledge, the ability to cooperate, etc.) (Valenčič Zuljan, 1997). This was also proven in the case of the interviewed teacher. She said that she first heard about flipped learning in 2012 when she was trying to find a teaching approach that would help her with the integration of students with special needs into instruction. This way she came across flipped learning. The key factor of her innovational efforts was **providing effective instruction for all students**. The teacher saw flipped learning as an innovation that facilitates differentiated teaching and learning.

The teacher thinks that the advantages of the didactical innovation flipped learning include **the possibility to enhance student cognitive activity and creativity** as well as student cooperation, all of which Dumont and Istance (2013) also identify as important aspects of an innovative learning environment.

The teacher said that all of her instruction is flipped, but she uses many different ways to flip it. Sometimes she makes her own videos and sometimes she uses pre-prepared videos from the internet.

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Not all the students watch the assigned videos, but they all have the opportunity, since the school provides them with an access to computers and internet in the afternoon. When watching the video, the students also do worksheets and web quizzes. The teacher explained that this kind of instruction allows deeper interaction with the students during classroom time. Moreover, there is more cooperative learning and student creativity present. She estimates that about 25 % of all her instruction is direct and during the rest of it, she uses individual work, pair work and group work.

An important advantage of flipped learning stated by the student is **the possibility of differentiation and individualization** of instruction. Before her teacher implemented flipped learning, her grades in Mathematics class were very diverse. However, she remembers that after the experience with this innovation and especially after she started using the webpage Astra (https://astra.si/) regularly, her grades improved significantly. She gives an example of getting a negative grade in a Mathematics test and then she learned for the re-test with Astra (https://astra.si/) and got a 100 % on the test. In her opinion, the key advantage of the video is the fact that you can follow the explanation at your own pace, stop the video and watch the explanation again. The main disadvantage of flipped learning, according to the student, is the fact that not all students watch the video and that in some cases students do not have computer and internet access. She says, however, that in her class all the students had the chance to watch the videos either at home or at the school library.

Implementation of flipped learning has affected the interviewed student's learning success and also had an effect on her **attitude towards the subject**, which is a very important contribution of the innovation. In the interview, she explained that before she experienced flipped learning, Mathematics was "necessary evil" for her. She did not enjoy learning it, but she was not afraid of it either. After she experienced flipped learning and continued with independent learning with the webpage Astra (https://astra.si/), her attitude towards Mathematics improved. As she says, she started seeing connections and cause-consequence relations, since the explanation was systematic and step-by-step. A teacher who was to evaluate this innovation thoroughly could find this kind of student feedback very helpful.

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An important aspect of the teacher's deciding whether or not to implement a novelty is the **teacher's innovativeness**, his general openness for changes. The interviewed student is of the opinion that her Mathematics teacher was inclined to innovate, since he often tried new things to make instruction more interesting and effective. The interviewed teacher reported the same about herself. She enjoys introducing authentic, challenging and creative activities to her students and is very consistent when it comes to formative assessment and constant individualised feedback to students. This too contributes to an effective innovative learning environment, as it frames the important content and leads the students to reaching the set learning aims.

4. Conclusion

We have found out that the participants in the research see the advantage of the innovation flipped learning in the fact that it enhances students' cognitive activity and creativity and offers a better chance to differentiate and individualize instruction. The teacher also added that there is more opportunity for cooperative learning, while the student described her own experience of successful learning with the help of flipped learning. She also improved her grades and changed her attitude towards the subject and towards learning Mathematics in general. We believe that when a teacher presents an innovation to the students thoroughly, implements it thoughtfully in a certain number of lessons, and evaluates it carefully, the innovation can have an important effect on designing a supportive and innovative learning environment. The ways in which the innovation affects learning should be researched in further studies (e.g. the opportunities for cooperative learning, differentiation and individualization of learning, stronger students preparing a video for weaker students, etc.).

In the present research we gained two personal insights about flipped learning from two different angles. However, it is evident that the teacher and the students perceive the innovation quite similarly – as a useful approach with an added value for students with different backgrounds and pre-knowledge. Many of the disadvantages that they identified could be surpassed with careful planning of the innovational

process. In further research we would like to study flipped learning on a larger scale, by including a larger number of participants, and possibly by carrying out a pedagogical experiment to test its effectiveness when it comes to student achievements and attitudes.

Teachers' innovation of their own pedagogical practice is a complex and multi-layered phenomenon. Apart from the content aspect of the innovation itself, the teachers' personal attitude towards a certain innovation is important as well as their attitude towards innovation itself, their qualification for appropriate introduction of implementation, the support from their colleagues and the school atmosphere. In our research we identified three factors that affect the effectiveness of the didactical innovation flipped learning according to our interviewees: qualification of the teacher to implement the innovation; active participation of students in the process of innovation i.e. the teacher's thorough explanation of the innovation, gradual implementation, collective evaluation of the effects of innovation; and collegial support. The meaning of social support in the process of innovation and formation of a learning community is also highlighted by several researchers.

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Odgojno-obrazovne teme 1(2018), 1-2: 79-98

Obrnuto učenje kao način oblikovanja inovativnog okruženja za učenje: važnost temeljitog uvođenja, postupne implementacije i dubinske procjene inovacija

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U članku se raspravlja o definiciji i značenju didaktičke inovacije u kontekstu suvremenoga inovativnog okruženja za učenje. Fokus je na inovacijama koje potiču poučavanje usmjereno na učenika, a među njima naglasak je na obrnutom učenju. Prikazana je terminologija i koncept obrnutoga učenja, njegove prednosti i ograničenja. U radu je prikazana i kvalitativna studija koja ilustrira stavove učitelja i učenika koji imaju iskustva s obrnutim učenjem. Postavili smo tri istraživačka pitanja koja su povezana s uvođenjem, provedbom i procjenom ove inovacije. Sudionici istraživanja prepoznali su tri glavne prednosti obrnutoga učenja: učeničku kognitivnu aktivnost, kreativnost učenika i priliku da se diferencira i individualizira nastava. Identificirana su tri faktora koji utječu na učinkovitost obrnutoga učenja: 1) učiteljeve kvalifikacije za inovacije, 2) učeničko aktivno sudjelovanje pomoću uvoda, postupne provedbe i kolektivne evaluacije inovacije i 3) kolegijalna podrška. Vjerujemo da ako učitelj učenicima temeljito predstavi obrnuto učenje, pažljivo i postupno ga provodi te ga ocjenjuje dubinski, ono može imati važan utjecaj na projektiranje poticajnoga i inovativnoga okruženja za učenje.

Ključne riječi: *didaktičke inovacije; obrnuto učenje; inovativno učeče okruženje; uvođenje, provedba i procjena inovacije*