UDK: 159.953.5:371.3
371.3:159.953.5
Izvorni znanstveni rad
Primljeno: 15. siječnja 2013.

ACTIVE LEARNING IN CLASSROOMS

dr. sc. **Anđelka Peko**, professor
Rahaela Varga, teaching assistant

Abstract: The competence-based approach to teaching emphasizes the importance of active learning, which creates a high level of autonomy, self-monitoring, and the application of various cognitive strategies to differentiate between important and unimportant information, analyse and compare, construct new knowledge on the previous experiences and think critically.

The aim of the research presented in this paper was to find out whether contemporary classrooms serve as a context for active learning intended to develop students' competences. A study was conducted with the students in grade 4 and 8. The intention was to explore the presence of active learning strategies and their frequency in the subject Croatian language. The differences in active learning strategies based on school type and students' age were also looked into. The results suggest that the Croatian language lessons are characterised by pleasant emotions, cooperative learning, students' initiative, along with firm teacher's authority, but also critical thinking and diverse teaching and learning activities.

There is a statistically significant difference between younger and older students suggesting that active learning strategies are more present among the fourth-graders than the eight-graders, especially in the schools where pre-service teachers go to practice their teaching skills with their teacher-mentors (partner schools).

Keywords: student competences, classroom, teaching methods, active learning strategies, constructivism.

Introduction

Classroom activities should be valuable to children. Everyday classroom experience enables them to expand their knowledge through cooperation with peers while working on various tasks. Lessons represent a process that is goal-oriented. Contemporary teaching can be analysed from the point of its organisational forms and its functionality. When it comes to organisation, instruction is seen as a dichotomy, since it comprises two simultaneous processes – teaching and learning. While teaching refers to guiding the individual towards the peak of his/her ability to comprehend and create new

meaning, learning is commonly defined as a relatively permanent change in behaviour caused by previous experience. Therefore teaching presents a planned usage of teaching methods in order to make something "external" internalised and is based on students' own activity of learning (Terhart, 2001). It stems from interaction which aims at helping students to acquire knowledge, develop their abilities and form attitudes.

The necessary prerequisite for all this is student activity. According to the constructivist view on cognition, knowledge cannot be transmitted, but must be constructed. As Bruner (1984) points out, learning is based on individual's personal construction and reconstruction of knowledge which takes place in, and is influenced by, socio-cultural context.

Instruction is perceived as functional if it equips students with competences that can be applied in their everyday life outside the school. It is demanded from students not only to possess knowledge but also to be competent. Being competent in a certain field means that one has understanding, ability and skills necessary for performing well in that field. Contemporary demands call for a new kind of knowledge, skills, abilities, values and attitudes, i.e. new competences that promote innovation, creativity, problem-solving ability, critical thinking, entrepreneurship, information literacy, etc.

The demands of contemporary education are no longer possible to meet in a system that emphasises teaching and neglects the learning that goes on in the classroom. The shift must be made towards active learning (Stoll & Fink, 2000; Peko et al., 2008). If the existing classroom strategies are divided into teaching strategies and learning strategies, one must not forget that both groups of strategies should stimulate student activity.

Any kind of learning implies student activity, but active learning in a narrow sense of the term, Ledić (2006) defines as such learning that enables students to have a high level of autonomy and self-monitoring, and to apply various mental strategies and specific cognitive skills to differentiate between important and unimportant information, analyse and compare, construct new knowledge on the previous experiences and think critically. Due to all these processes, active learning enables long lasting retention of information.

Therefore, active learning sets the following goals: a high level of self-regulation and independence, diverse (meta)cognitive strategies, selective information processing, building on previous knowledge, critical approach to lessons and enhanced creativity (Turk, 2009). In order to reach these goals, Simons (1997) points out that students should plan and prepare the learning process themselves, engage in learning, regulate their learning, control it and persist in the learning activities.

Kyriacou (2001) states that active learning should constantly be present in classrooms since students benefit from it in numerous ways. It enables

students to act autonomously and have control over the classroom activities. It plays a significant role in student motivation, since it links problem-based teaching to innate curiosity and the need for exploration of every child. It gives a new kind of quality to the school experience. It has greater influence on students' everyday lives. The experience of active learning has a strong impact on personality and it makes school more similar to real life.

It is necessary to introduce new learning strategies that would support active learning (Kovačević, 2005). It adds a new dimension to instruction, and causes students' values to change. When interacting with various contents, a student is cognitively active and starts to perceive learning as a challenge. Only then can it be expected from students to think of knowledge as something valuable and to think that the opportunity to learn is a privilege.

The effectiveness of active learning strategies depends mostly on the teacher and the way in which he/she understands his/her role in the classroom. Their main role starts to be planning and designing classroom situations that would provide active learning. They should make students aware of the teaching goals, methods applied and expected learning outcomes. Teaching contents should be presented in an interesting way so that the students could see that they correspond to human needs and improve our understanding of the world (Temple & Brophy, 2002).

Desforges (2001) claims that a lot can be done to make stronger associative bonds in the process of learning. There are various active learning strategies and one can distinguish between questioning techniques, small groups, whole class involvement, and reading and writing exercises (Meredith & Steele, 2010). The questioning techniques are applied when both teachers and students ask questions. The type of their question is the indicator of which cognitive level is being stimulated, whether it is pure memorising or evaluation based on solid arguments, on the other end of continuum. Cooperative learning changes the relationship between students and the teacher, but also the relationship between students. Instead of classroom competition, cooperative learning promotes mutual support, emphasising that the procedure is equally important as the goal accomplished in the end. Whole class involvement is most evident when a discussion or debate are employed, while reading and writing strategies focus on individual progress in comprehension. Basically, all these strategies enable students to construct their knowledge. By implementing them in teaching methods, students are given the opportunity to be active learners/constructers of new schemata. New knowledge represents the result of cognitive activity and therefore it cannot be “transmitted” to the passive learners, since students must take an active part in the process of building their own knowledge.

Classroom communication combined with teaching strategies determines the atmosphere in a certain class. Constructivist classroom differs

from a traditional one when it comes to student-centred teaching (Mušanović, 2000). Active student participation (students asking questions, exploring, dealing with different materials, solving problems, conducting various projects, etc.) leads to their own personal construction of knowledge. This is why the time spent to achieve a goal is as valuable as the knowledge gained in the end.

Therefore, Mušanović (2000) claims that the constructivist model of education is characterised by transformation of student-teacher relationship, the use of numerous sources of information (apart from textbooks) and activity-based curriculum. This chapter focuses on these three dimensions of active learning in lower primary and higher primary classrooms. Active learning strategies are mostly used with older students and college students, which excludes young learners, although such strategies could be applied and should be implemented at all levels of education.

The research aim was to determine whether contemporary instruction is a context used for active learning. More specifically, the intention was:

1) to explore what active learning strategies are used in contemporary classrooms,
2) to explore the potential difference in the use of active learning strategies based on student age (grade 4 versus 8) and type of school (partner schools versus ordinary schools)

Method

In order to find out if active learning strategies are used, how often they are used and if there are differences regarding student's age or type of school, the research was conducted in 2012 in primary schools in the area of the city of Osijek (Croatia).

Participants

The study included 306 students from two types of school. The first type of school refers to the schools where students of the Faculty of Teacher Education (Josip Juraj Strossmayer University of Osijek, Croatia) go to practice their teaching skills and where they have assigned mentors among teachers of a particular school, and the second type of school were ordinary schools. The participants were the students in the fourth grade (lower primary school) and eight grade (higher primary school) so that the age differences could be detected (Table 1). The table shows that the groups of participants were similar in size.

	school		grade		gender		total
	Type 1	Type 2	4th	8th	M	F	
N	146	160	151	155	158	148	306
%	47. 7	52.3	49.3	50.7	51.6	48.4	100

Table 1. Description of the sample (N=306)

Instrument

For the purposes of this research, a questionnaire based on the elements of constructivist teaching/learning strategies introduced by Yager (as cited in Mušanović, 2000) was developed. The questionnaire consisted of 47 items. The students were asked to assess the frequency of certain teacher/student activities that refer to the following categories: teaching facilitates the development of student autonomy and initiative; previous knowledge and student interests serve as a starting point; critical thinking is being encouraged; understanding is more important than memorizing the facts (rote learning); teacher creativity is evident from the use of various teaching methods that support different learning styles; student creativity is being stimulated; students are organised to work in groups where each member contributes; project-based teaching; outdoor instruction; students take over the role of teacher – peer tutoring.

The questionnaire was administered in class. The participants were given the choice of whether or not to participate and were assured of confidentiality and anonymity. Students were offered a list of statements about instruction. They were supposed to mark on a Likert scale (1 – never, 2 – sometimes, 3 – often, 4 – always) how often each statement describes the teaching situations in their classroom during Croatian language lessons. The subject Croatian language was chosen because it is predominant in the curriculum, but also because of the PISA results (2009) that were relatively poor. Croatian students were in the 36th place out of 65 countries in the literacy tests (Braš Roth et al, 2010). The obtained data could provide the platform necessary for the interpretation of these results and for the discussion about possible improvements of the learning outcomes.

Results and discussion

After the data analysis, the results were divided into two groups that correspond to the research questions. The first group of results is about the frequency of the active learning strategies in the lessons of Croatian language. More precisely, these results provide an answer to the question *What active*

learning strategies are used and how often? The results are presented in the three dimensions of constructivist teaching – changed teacher/student relations, alternative sources of information, student active engagement. In the second part, the results provide the answers to the question whether there are some differences between younger and older students. The differences in the use of active learning strategies in different type of schools are also looked into.

1) Frequency of active learning strategies

In order to check the factor structure of the questionnaire, a principal component analysis was conducted by applying Varimax rotation. There were 16 factors extracted with square roots greater than 1. However, these factors could not be interpreted, and the Cattell scree test suggested the single factor solution. Factor analysis was performed again, this time limited to one factor. Certain items loaded on that factor, and they refer to active learning. The coefficient of internal consistency was acceptable (Cronbach's $\alpha = 0.865$).

Table 2 shows the items that refer to active learning and were extracted by factor analysis. The table suggests that the Croatian language lessons are characterised by pleasant emotions, cooperative learning, students' initiative, along with strong teacher's authority, but also critical thinking and diverse teaching and learning activities.

The changed relationship between students and teacher can be observed from the items 1, 8, 9, 14, 31, 32 and 42. These suggest that communication in the classroom is not one-way, but that the students take the initiative by asking questions and expressing their ideas, which are sometimes accepted by the teacher. Unfortunately, students do not show increased interest in certain topics, which might be connected with the fact that they are rarely given the opportunity to suggest what they would like to study. The teacher is still the one who tells them what they are going to learn, and students only sometimes see the purpose of the learning activity they are engaged in. Such results are not complementary with the constructivist paradigm. As opposed to the detected practice, the constructivist theories emphasize that the learning process is based on individual construction and reconstruction of knowledge structures conducted by students themselves. Student knowledge is built as a result of their interaction with the environment and in the socio-cultural context, relying on their previous experiences. Yager (as cited in Mušanović, 2000) sees the teacher as the one who should identify students' current interests and structure the instruction accordingly. The results suggest that this dimension of active learning still needs to be worked on in the classroom. On a positive note, students state that they feel pleasant emotions in class, but they perceive their teachers feel this way less frequently.

The items 10, 15, 16, 17, 18, 20, 27 and 35 provide information about the sources of information. It is evident that textbooks are used as the dominant source of information. The fact that students deeply rely on textbooks is characteristic of a traditional classroom, whereas in a constructivist classroom activities are based on the use of primary sources and realia (Brooks & Brooks, 1993). Some improvement is evident based on the fact that the teacher no longer serves as an omniscient encyclopedia (he/she does not always have the answers to students questions), but takes over a more acceptable role of a partner in the learning process (Previšić, 2007), by assisting students while searching for the answers independently in order to develop their autonomy and critical thinking. Apart from expecting answers from the teacher, students also look for them on the Internet at home. Sometimes visitors come to their classes that are usually experts in a certain area, which contributes to better understanding of some issues they learn about, since they offer information from their own perspective. In that way, school also opens up to the local community. It is rather alarming that the students do not perceive the school library to be a place where they can gain knowledge and they do not use its services.

The results that refer to classroom activities are found in the items 23, 24, 25, 26, 27, 28, 36, 39, 40, 41, 43, 44, 45 and 47. More often students are organised to learn individually than in groups. When in groups, not all group members take active part in the group work. Despite that, there is cooperative learning evident in the group work (with the second highest score on the scale), with frequent peer tutoring (reciprocal teaching) and discussions. One must question whether group cooperation is a true help that leads to better understanding, or it is limited only to sharing the solutions to the task. It can be also seen that student are insufficiently involved in projects, and that teaching never takes place outdoors.

Students think that they are often creative in class, and that the teacher is always creative. The teacher takes into account various learning styles by using all kinds of teaching methods that support those learning styles. The positive thing is that he/she often encourages students to form their opinion on solid arguments in the process of the development of critical thinking, i.e. teacher finds it important that students have an opinion that is based on their knowledge but on the other hand they still emphasise the importance of factual knowledge. Students claim that facts are always the most important level of knowledge required in the subject Croatian language. Since this subject encompasses not only grammar but literature as well, such result is rather discouraging. What international testing, such as PISA (2009), has shown is that Croatian students' lack functional knowledge. Regardless of that, participants of this study feel that they can often apply the knowledge and

	frequency (%)

skills acquired in school in situations outside the school, i.e. they perceive themselves as rather competent.

In short, it can be said that students describe the Croatian language lessons in the following manner. It is **always** the teacher who defines what students will learn, he/she sets the aim and controls the classroom processes. That implies that knowledge is perceives as something that can be transmitted to students, and not as something constructed by students. On the other hand, teacher is always creative, students feel comfortable in class, they are encouraged to ask teacher questions and they help each other when working in groups. Less positive is the fact that not all group members contribute equally, and that textbooks are the dominant source of information while teacher demands factual knowledge. Students can **often** apply this knowledge but is not always useful. They are often creative in classes, they do their tasks independently, and they also often learn by explaining it to other students. They often search for answers by themselves and they practice the use of various sources of information. Teacher wants them to think critically; he/she uses different teaching methods, often can answer students' questions, but still encourages them to use the Internet at home to find out more information. Students think that teachers often feel comfortable in class.

	Extracted items	**never**	**some-times**	**often**	**always**
1	*Students ask teacher questions when they do not understand something.*	6.5	18.3	32.7	**42.5**
8	*Teacher defines what students are going to learn.*	4.9	18.6	26.8	**49.7**
9	*Students understand the purpose of learning.*	7.8	**32.4**	31.4	28.4
10	*Students want to find out more than is offered in a textbook.*	**33.3**	28.1	23.2	15.4
14	*Teacher accepts students' ideas.*	5.6	**44.1**	36.3	14.1
15	*Students learn from textbooks.*	6.6	14.4	32.8	**46.2**
16	*Students use the Internet at home to find more information.*	9.5	35.1	**38.7**	16.7
17	*There are visitors in class (e.g. parents, police officers,etc)*	37.7	**51.8**	7.5	3.0
18	*Students look up information in the library.*	**38.7**	35.1	22.6	3.6
20	*Teacher knows the answers to all students' questions.*	3.0	18.7	**47.5**	30.8
23	*Students work in groups.*	1.6	**49.3**	45.1	3.9
24	*Each student does tasks on his/her own.*	4.3	26.3	**45.1**	24.3
25	*When in groups, only some students work actively.*	19.7	27.0	24.7	**28.6**
26	*Group members help each other to succeed.*	2.0	16.4	33.4	**48.2**
27	*Teacher presents/explains in multiple ways.*	3.9	24.9	**47.2**	23.9
28	*Students talk to each other about the topics they learn about.*	11.1	**36.1**	30.5	22.3
31	*Students feel comfortable in class.*	8.9	17.0	33.8	**40.3**
32	*Teacher feels comfortable in class.*	5.2	28.2	**33.8**	32.8
35	*Students independently search for answers that they did not know.*	14.5	32.9	**36.5**	16.1
36	*Students explain to each other the things they are learning about.*	12.5	28.3	**42.8**	16.4
39	*Teacher encourages students to explain their opinion.*	3.9	20.7	**42.4**	32.9
40	*Teacher finds it necessary that students know the facts.*	3.9	16.0	33.3	**46.7**
41	*Students are creative in class.*	12.1	28.1	**32.7**	27.1
42	*Students suggest to teacher what they want to learn about.*	35.0	**37.9**	19.3	7.8
43	*Students work together on a project.*	5.9	**36.6**	29.4	28.1
44	*Teaching is organised outdoors.*	**37.6**	26.8	15.4	20.3
45	*Teacher is creative in class.*	6.9	29.4	23.5	**40.2**
47	*Students can apply at home the knowledge they gained at school.*	5.2	20.9	**48.0**	25.8

Table 2. Frequency of the items extracted by factor analysis

Teachers **sometimes** accept student initiative, and sometimes other experts are invited to come and share their perspective on the topics students

have been dealing with. Students are sometimes involved in a group or project work and in class discussions. Perhaps these characteristics of the instruction are to blame for the fact that students only sometimes see the point in the activities they do in class and the things they learn about. The active learning strategies that are **never** used are: encouraging the interest expressed by students in order to motivate them to explore and learn more than is required (and written in a textbook); developing the habit of visiting the school library as a facility for learning; organising outdoor teaching which might facilitate students' comprehension.

It can be concluded that almost all active learning strategies are a part of contemporary instruction when it comes to Croatian language, more or less frequently used. There is still room for significant improvements in order to make classroom a more appropriate context for active learning.

2) Differences in the use of active learning strategies based on students' age and type of school

In order to check whether there are some differences in the use of active learning strategies that are linked to students' age (fourth versus eight grade) and the type of school (type 1 – pre-service teachers' training schools (partner schools); type 2 – ordinary public schools), two-way ANOVA (analysis of variance) was applied. The analysis has shown that there are differences in the use of active learning startegies when it comes to fourth and eight graders (Table 3). More precisely, active learning is significantly ($F=364.49$, $p<0,001$) more present in the fourth grade (lower primary school) than the eight grade (higher primary school).

Additionally, there is a significant difference ($F=6.497$, $p<0.05$) between active learning in schools type 1 and schools type 2, showing that active learning is more integrated in partner schools that have an assigned tutoring teacher. Also, there is a significant effect of the grade-school interaction, as shown in figure 1.

	grade		ANOVA		
school	fourth	eight	grade **F1,302**	Type 2/Type 1 **F1,302**	**Grade x Type 2/Type 1 F1,302**
Type 2	M=80.69 SD=6.32	M=69.31 SD=8.85	364.489***	6.497*	44.690***
Type 1	M=89.17 SD=7.15	M=65.51 SD=8.69			

Table 3. Results of the two-way ANOVA

The results suggest that active learning is more promoted in education of younger children. The learning environment is more adjusted to their needs, as well as the teacher-student relationship. They use numerous information sources / didactic materials, and teachers set up an activity-based curriculum. So why does not the same apply to older students (14/15 years of age) who are intellectually more mature and can achieve greater results by learning actively? It is possible that the detected differences can be explained by the fact that teachers in lower primary school receive different initial education than the higher primary school teachers. Lower primary school teachers have more courses dealing with pedagogy, teaching skills and developmental psychology compared to the higher primary school teachers who focus on teaching methodology of a certain subject (Munjiza & Lukaš, 2006). Secondly, lower primary school teachers are more engaged in their professional development, generally speaking. The seminars organised by the Education and Teacher Training Agency, as well as universities, help them to keep up with education reform proposed by the National Curriculum Framework (2011) and to feel competent enough to implement those changes in their classrooms. The obtained data can provide an explanation for the PISA (2009) testing results, but they also point to the necessity of greater promotion of functional knowledge by applying active learning strategies.

Figure 1 illustrates the fact that the differences between the fourth and the eight grade is greater in ordinary public schools. In partner schools, where pre-service teachers practice their teaching skills, active learning stategies are significantly more incorporated in classrooms, whereas the age differences are not that evident in ordinary schools. The explaination of such situation might be found in teachers, since they are the key factor of teaching quality (Palekčić, 2008).

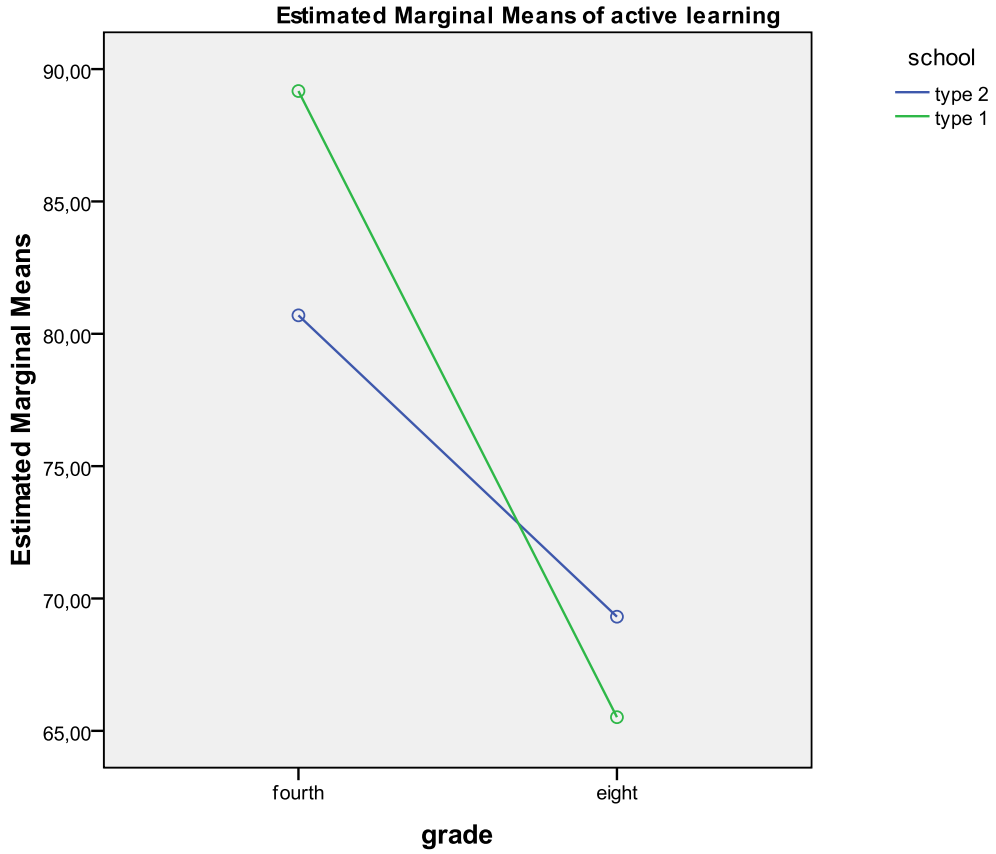

Figure 1. The differences between the 4th and 8th grade are greater in the type 1 schools

The teachers that teach in the fourth grade (lower primary school) have graduated from Faculties of Teacher Education, where the emphasis is put on teaching competence, which includes learning how to set up a learning environment that would stimulate student activity, expression of their ideas and opinions, inquiry-based learning, search for alternative approaches, changing perspectives when dealing with certain issues etc. These components are a part of university syllabi, which is afterwards reflected in the work of pre-service teachers when they come to practice in schools.

The reason for the established differences can also lie in the fact that mentors (more experienced teachers that work in those schools) are required to participate in continuous professional development activities in order to gain/maintain their licence for mentoring and to cooperate with university teachers whom Faculties of Teacher Education. Not only do they present experts in the teaching area, they are also able to form clear expectations regarding teaching and learning outcomes, organise classroom activities and know how to use contemporary teaching strategies. Teaching competences are the crucial competences in the educational institutions, since there is the need

for implementing more up-to-date curricula, which can be accomplished only by skilful practitioners. Their importance is clearly illustrated by the fact that the improved technological conditions of teaching do not necessarily improve the quality of teaching itself. It is the teacher competence in the fields of pedagogy, didactics, methodology and psychology that makes the difference.

Conclusion

The aim of this research was to explore how frequent is the use of certain active learning strategies in contemporary classrooms. The research focused on Croatian language in lower primary and higher primary schools. The obtained data suggest that instruction is mostly characterised by cooperative culture with pleasant emotions, and student initiative but at the same time also by firm teacher authority.

The most variables that describe active learning are perceived by students to be frequent in their classrooms. Despite that, the transition from traditional towards the constructivist notion of learning is still not completely implemented. It is evident that contemporary teaching encourages transmission of information, slightly inclined toward functional knowledge based on the individual constructions. This implies that the National Curricular Framework (2011), which promotes constructivist and competence–based approach, is still not fully implemented. Instruction should integrate scientific contributions and students' everyday experience, use interactive media, promote partnership and cooperation among students and foster active learning and individual accountability for the learning outcomes.

The detected differences in active learning practices based on age and school type, provide insight into this interesting area that needs to be futher investigated. It is established that there is more active learning among younger students compared to the older ones, especially if they attend partner schools. This might be due to more extensive professional development of their teachers/mentors in the field of pedagogy, didactics, methodology and psychology, but these assumptions need to be scientifically verified.

Although the sample was not random and it consisted of participants from one city area, so the results could not be generalised, this research still shed some light upon the importance of students' status in the teacher-student relationship. The need for students to become more active learners is specially emphasised. Students are being educated to take over the social roles which cannot be anticipated from today's standing point. In that respect, they can only be educated to think autonomously, question and select information, conduct their own research, be highly motivated for further exploration, form their opinions after finding solid arguments, take the initiative – to be active.

Teaching and learning are simoultaneous proceses that help develop individual competences, but only if students assume active roles with teachers guiding them towards mutual goals. There is still room for improvement in the area of active learning when it comes to Croatian classrooms.

References:

1. Braš Roth, M., Markočić Dekanić, A., Markuš, M. & Gregurović, M. (2010). *PISA 2009 : Čitalačke kompetencije za život*. Zagreb: Nacionalni centar za vanjsko vrednovanje obrazovanja.
2. Brooks, J. & Brooks, M. (1993). *In search of understanding: The case for constructivist classrooms*. Alexandria, VA: Association for Supervision and Curriculum Development.
3. Bruner, J. (1984). Vygotsky's zone of proximal development: The hidden agenda. In B. Rogoff & J. V. Rogoff, B., & Wertsch, J. V. (2001). Wertsch *Children's learning in the "zone of proximal development",* San Francisco: Jossey-Bass.
4. Desforges, C. (2001). *Uspješno učenje i poučavanje: psihologijski pristupi*. Zagreb: Educa.
5. Kovačević, M. (2005). Aktivno učenje u interaktivnom odnosu sa sadržajima iz prirodoslovno-matematičkog područja. *Život i škola*, *13*(1), 7 – 15.
6. Kyriacou, C. (1997). *Temeljna nastavna umijeća*. Zagreb: Educa.
7. Ledić, J. (2006). *Zašto ulagati vrijeme u aktivno učenje*? Rijeka: Udruga za razvoj visokoga školstva „Universitas".
8. Meredith, K., & Steele, J. (2010). *Classrooms of Wonder and Wisdom: Reading, Writing, and Critical Thinking for the 21st Century*. Thousand Oaks: Corwin.
9. Munjiza, E., & Lukaš, M. (2006). Pedagoško-psihološko osposobljavanje učitelja u visokoškolskim ustanovama. *Odgojne znanosti*, *8*(2), 361-383.
10. Mušanović, M. (2000). Konstruktivistička teorija i obrazovni proces. In M. Kramar (Ed.), *Didaktični in metodični vidiki nadaljnega razvoja izobraževanja* (pp. 28-35). Maribor: Univerza v Mariboru, Pedagoška fakulteta v Mariboru.
11. Fuchs, R. et al. (Eds). (2011). *Nacionalni okvirni kurikulum.* Ministarstvo znanosti, obrazovanja i športa. Zagreb.
12. Palekčić, M. (2008). Uspješnost i/ili učinkovitost obrazovanja nastavnika. *Odgojne znanosti*, *10*(2), 403 – 423.
13. Peko, A., Mlinarević, V. & Buljubašić-Kuzmanović, V. (2008). Potreba unaprjeđivanja sveučilišne nastave. *Odgojne znanosti*, 10(1), 195-208.
14. Previšić, V. (2007). Pedagogija i metodologija kurikuluma. In V. Previšić (Ed.), *Kurikulum: teorije – metodologija – sadržaj – sadržaj*. Zagreb: Zavod za pedagogiju i Školska knjiga, 15 – 37.
15. Programme for International Student Assessment – PISA (2009). Organization for Economic Cooperation and Development. Available et URL http://www.pisa.oecd.org

16. Simons, P. (1997). Definitions and therories of active learning. In D. Stern & G. Huber (Eds.), *Active Learning for Students and Teachers: Reports from Eight Countries* (pp. 19–39). Frankfurt & New York: Peter Lang.
17. Stoll, L., & Fink, D. (2000). *Mijenjajmo naše škole*. Zagreb: Educa.
18. Temple, C., & Brophy, S. (2002). Critical thinking in higher education, workshop materials for RWCT course Critical thinking across curiculum, Prague.
19. Terhart, E. (2001). *Metode poučavanja i učenja*. Zagreb: Educa.
20. Turk, M. (2009). Utjecaj aktivnog učenja u visokoškolskoj nastavi na razvoj stvaralaštva budućih nastavnika. In L. Bognar (Ed.), *Poticanje stvaralaštva u odgoju i obrazovanju (pp.* 107-115). Zagreb: Profil International.

Aktivo učenje u razredu

Sažetak: Zahtjeve suvremenog obrazovanja nije moguće ostvariti u odgojno-obrazovnom sustavu koji prenaglašava proces poučavanja, a ne uvažava učenje u nastavi. U nastavi se pomiče težište s paradigme poučavanje - učenje prema koncepciji usmjerenoj aktivnom učenju. Aktivnim učenjem nazivamo ono učenje u kojem se postiže visok stupanj samostalnosti i samoregulacije, primjenjuju se raznovrsne misaone strategije i specifične kognitivne vještine koje omogućuju uočavanje bitnog, raščlanjivanje i usporedbu informacija, njihovo povezivanje s postojećim znanjima i kritičku prosudbu njihova značenja, to je ujedno i ono učenje koje omogućuje dugoročno pamćenje.

Strategije aktivnog učenja podupiru stvaranje nastavnih situacija koje omogućavaju učenicima konstruiranje znanja. Konstruktivistički model obrazovanja karakterizira promjena odnosa učitelja i učenika, pribavljanje bogatih izvora znanja te kurikulum učenja temeljen na aktivnosti. Rad je usmjeren upravo tim dimenzijama osnovnoškolske nastave. Najčešće se istražuje aktivno učenje koje se ostvaruje sa starijim učenicima i posebice studentskom populacijom, dok niži razredi osnovne škole ostaju zanemareni, iako je aktivno učenje moguće, i nužno, na svim obrazovnim razinama.

Cilj je stoga bio istražiti je li suvremena nastava kontekst unutar kojeg se odvija aktivno učenje koje se temelji na kompetencijskome pristupu nastavi. U tu je svrhu provedeno istraživanje s 306 učenika četvrtih i osmih razreda. Namjera je bila anketnim upitnikom ispitati zastupljenost pojedinih strategija aktivnog učenja te utvrditi moguće razlike u procjenama sudionika istraživanja temeljene na dobi i školi koju polaze. Upitnik se odnosio na nastavu Hrvatskog jezika.

Analizom podataka utvrđen je jedan faktor koji opisuje aktivno učenje, a uključuje 28 čestica upitnika. Pokazalo se da nastavu Hrvatskog jezika najčešće karakteriziraju ugodne emocije u razredu, suradnička kultura, učenička inicijativa uz zamjetan učiteljski autoritet, ali i razvijanje kritičkog promišljanja uz raznovrsne nastavne aktivnosti.

Utvrđene su razlike u nastavi Hrvatskog jezika između mlađih i starijih učenika pri čemu je u četvrtim razredima više zastupljeno aktivno učenje nego u osmima. To je u suprotnosti s pretpostavkom da je sa starijim učenicima lakše ostvararivati kognitivno zahtjevnije zadatke uz samostalnost i kritičku prosudbu

(zbog čega je bilo očekivano da se u toj populaciji aktivno učenje više provodi). Statistički je značajna i razlika dobivana u rezultatima koji se odnose na nastavu u školama koje su vježbaonice Učiteljskog fakulteta i školama koje nisu vježbaonice. Ta se razlika objašnjava naglašenijim profesionalnim usavršavanjem učitelja koji su mentori. Dobiveni rezultati pružaju kontekst za raspravu o rezultatima PISA istraživanja, prema kojem postoji značajan prostor za poboljšanje razine pismenosti hrvatskih učenika.

Ključne riječi: nastava, aktivno učenje, strategije učenja, konstruktivizam, učeničke kompetencije.

Aktives Lernen im Unterricht

Zusammenfassung: Es ist nicht möglich, die Anforderungen der modernen Bildung im Bildungssystem zu realisieren, das den Lehrprozess überbewertet und das Lernen im Unterricht nicht beachtet. Im Unterricht verschiebt sich der Schwerpunkt vom Lehrparadigma zum Lernkonzept des aktiven Lernens. Als aktives Lernen bezeichnet man das Lernen, bei dem ein hohes Maß an Autonomie und Selbstkontrolle erreicht wird, bei dem eine Vielzahl von Denkstrategien und spezifischen kognitiven Fähigkeiten angewendet werden, die die Identifizierung des Wesentlichen, die Analyse und den Informationsvergleich ermöglichen. Weiter wird deren Verknüpfung mit vorhandenen Kenntnissen und kritischer Beurteilung ihrer Bedeutung ermöglicht. Es ist auch gleichzeitig dasjenige Lernen, das das Langzeitgedächtnis ermöglicht.

Die Strategien des aktiven Lernens unterstützen die Schaffung von Lernsituationen, die den Schülern die Wissenskonstruktion ermöglichen. Das konstruktivistische Modell der Bildung wird durch Veränderungen in der Beziehung von Lehrern und Schülern, durch Sicherung von ergiebigen Wissensquellen und durch aktivitätsbasiertes Lerncurriculum charakterisiert. In dieser Studie liegt der Fokus genau auf diesen Dimensionen des Grundschulunterrichts. Am häufigsten wird das aktive Lernen untersucht, das mit älteren Schülern und vor allem Studenten realisiert wird, während niedrigere Grundschulklassen vernachlässigt bleiben, obwohl das aktive Lernen möglich und notwendig auf allen Bildungsstufen ist.

Das Ziel war daher festzustellen, ob der moderne Unterricht den Kontext darstellt, in dem auf fachlichen Unterrichtsansatz basierendes aktives Lernen stattfindet. Zu diesem Zweck wurde eine Studie mit 306 Viert- und Achtklässlern durchgeführt. Damit sollte mit Hilfe des Fragebogens die Prävalenz der einzelnen Strategien des aktiven Lernens geprüft und die möglichen Unterschiede bei den Einschätzungen der Umfrageteilnehmer festgestellt werden, die auf Alter und der besuchten Schule basieren. Die Umfrage bezog sich auf den Kroatisch-Unterricht.

Mit Hilfe der Datenanalyse wurde ein Faktor festgestellt, der aktives Lernen beschreibt und 28 Fragen beinhaltet. Es stellte sich heraus, dass der Kroatisch-Unterricht meist durch angenehme Emotionen in der Klasse, kooperative Kultur, Schülerinitiative mit signifikanter Lehrerautorität, aber auch durch Entwicklung von kritischem Denken mit einer Vielzahl von Lernaktivitäten charakterisiert wird.

Es wurden auch Unterschiede im Kroatisch-Unterricht zwischen jüngeren und älteren Schülern festgestellt, wobei in den vierten Klassen das aktive Lernen häufiger als in den achten Klassen vorkommt. Dies steht im Gegensatz zu der Annahme, dass mit älteren Schülern leichter kognitiv anspruchsvollere Aufgaben zu realisieren sind, selbstständig und mit kritischer Beurteilung (deshalb war zu erwarten, dass bei dieser Population das aktive Lernen häufiger vorkommt). Statistisch signifikant ist auch der Unterschied, der bei den Ergebnissen festzustellen ist, die sich auf den Unterricht an Schulen beziehen, wo die Studenten der Fakultät für Lehrerbildung hospitieren und an Schulen, wo keine Hospitationen stattfinden. Dieser Unterschied wird durch die ausführliche professionelle Weiterbildung der Lehrkräfte erklärt, die als Mentoren fungieren. Die erhaltenen Ergebnisse bieten uns einen Rahmen für die Diskussion über die Ergebnisse der PISA-Studie, wonach ein beträchtlicher Spielraum zur Verbesserung der Schreibfertigkeit der kroatischen Schüler existiert.

Schlüsselbegriffe: Unterricht, aktives Lernen, Lernstrategien, Konstruktivismus, Schülerkompetenzen.