

Application active learning and teaching strategies in nature and society teaching

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ABSTRACT

Active learning and the use of the strategies, methods and procedures that inspire it are the foundation of contemporary teaching. According to the proposal of the National Curriculum of the subject Nature and Society (2016), the knowledge, skills and attitudes acquired in this case should enable students to understand and manage the world around them. This can be achieved through active learning and teaching, in the classroom, or outside it. In our school system, despite many facts pointing to the benefits of active learning and teaching, traditional teaching still prevails. The objectives of this paper and research were to assess to what extent classroom teachers apply strategies of active learning and teaching in Nature and Society teaching, and whether student perceptions and teachers' opinion are consistent with the actual extent of the application of active forms of learning and teaching. 116 classroom teachers from 12 schools in the Varaždin, Krapinsko-zagorska and Koprivničko-Križevačka county and 106 future teachers participated in this study. The results show that the most commonly used strategy is direct teaching, and the least widely used active learning strategy is the use of modern information and communication technology. Contrary to the teachers, students estimated that the usage of active learning strategies is actually sparser. The obtained results point to the need for a change in the educational system, which should aim to include active forms of learning and teaching in a greater extent.

Keywords: *active learning and teaching strategies; Nature and Society; student-centred teaching; classroom teaching*

INTRODUCTION

Numerous studies have been conducted on the effects of active learning and teaching on students' achievement and progress (Kovačević, 2005; Seifert et al., 2009; Schallies and Lembens, 2002; Balažinec, 2012; Harle, 2001; Calkin et al., 2003). The results of these studies have shown that by involving students in the teaching process as active participants responsible for their own learning, higher levels of knowledge, a deeper understanding of teaching content, greater students' contentment, and therefore higher quality of the teaching process, are achieved. The aim of this research was to examine the extent to which classroom teachers apply active learning and teaching strategies in Nature and Society teaching, and to examine the relationship between teachers' claims about their own implementation of active learning strategies and students' perceptions of it.

METHODS

The study was conducted in the period from February 20th to April 22nd 2018, in twelve schools in the Varaždinska, Krapinsko-Zagorska and Koprivničko-Križevačka county and at the Faculty of Teacher Education, University of Zagreb (Čakovec and Zagreb). The study involved 116 primary education teachers and 106 students of the Faculty of Teacher Education, University of Zagreb (Čakovec and Zagreb).

For the purposes of this research, two questionnaires were used: one for the primary education teachers and the other one for students, future teachers. The questionnaires were formulated in

accordance with a similar questionnaire (Letina, 2016), which was taken from Hass (2002). The questionnaires were used with the permission of the owner of the questionnaire. The data were processed using the SPSS statistical software.

RESULTS

According to the self – assessment in the questionnaires, teachers most frequently apply direct teaching method ($M = 3.93$; $SD = 0.414$) and do so once a week (often). Thereby, associate learning method is largely used ($M = 3.70$; $SD = 0.488$) and learning with the use of ICT (information and communication technology) is scarcely utilized ($M = 2.90$; $SD = 0.631$). Problem – based learning ($M = 3.50$; $SD = 0.45$) and activities aimed at developing students' communication and learning competencies ($M = 3.50$; $SD = 0.456$) are applied once a week with a significant tendency toward intermittent (1x monthly) frequency of application. Teachers indicate that they occasionally carry out research – based learning in their classes ($M = 3.14$; $SD = 0.551$). A self – assessment of the frequency of application of various teaching and learning methods is shown in Table 1. The most used strategy is direct teaching, and the least used one is the active learning strategy with the use of information and communication technology.

The T-test for dependent samples showed that there was a statistically significant difference between the use of direct teaching and active learning and teaching strategies ($t = 69,689$; $p < 0.01$). Teachers are more likely to use direct teaching ($M = 3.93$; $SD = 0.414$) than active forms of learning and teaching ($M = 3.36$; $SD = 0.374$). The analysis of the results also shows that teachers find that they use active forms occasionally (1x per month), whereas the direct teaching method is adopted frequently (1x per week).

Table 3 shows that participants do not differ significantly in the frequency of use of different types of learning and teaching with respect to the years of service, except on the active learning subscale with the use of modern information and communication technology. A post hoc Tukey test showed that participants with 21 – 25 years of experience use information and communication technology (ICT) less frequently than examinees with 6 – 10 years of experience.

Participants who have undergone professional development in the last 5 years are more likely to use problem – based and collaborative learning in teaching than those who have not. For the other strategies, the difference was not significant.

Furthermore, results indicate that job satisfaction does not affect any subscale except the activity subscale aimed at developing students' communication and learning competencies. Tukey's post hoc test showed that teachers who are disgruntled with their job use this teaching strategy far less often than teachers who are completely or partially satisfied with their job.

The results display that teachers working in a city – based school are more likely to use problem – solving, research – based, and information and communication technology – based strategies than teachers working in a rural school. For other forms of learning and teaching, the differences were not statistically significant, that is, teachers working in the city and those working in the countryside equally use direct teaching, collaborative learning and various activities aimed at developing students' communication and learning competencies.

Students evaluate the frequency of use of all active learning and teaching strategies less frequently than teachers estimate. In addition, they also evaluate the frequency of direct teaching as less common than by the teachers themselves.

DISCUSSION AND CONCLUSION

This research confirmed the hypothesis that teachers of Nature and Society use active forms of learning and teaching occasionally (1x per month) and direct teaching frequently (1x per week); that of the above mentioned forms of active learning and teaching, teachers in the teaching of Nature and Society apply the strategy of collaborative learning most of the time, and the strategy of active learning and teaching with the use of modern information and communication technology is only rarely utilized; that there is a statistically significant difference in the frequency of implementation of certain learning and teaching strategies in the teaching of Nature and Society; that students' estimation of the frequency of use of active learning and teaching and direct teaching strategies differs from the teachers' assessment.

The hypotheses regarding the differences in the frequency of application of different forms of learning and teaching were rejected with regard to the participants' qualifications and the class in which the participants work (there is no statistically significant difference for any subscale of teaching strategies).

The hypotheses related to the participants' years of service, attendance at professional conferences, job satisfaction and the environment which the participants' school is in have been partially confirmed.

The results of this research have shown that the implementation of active learning and teaching strategies is intermittent, indicating the need for a change in our school system. The goal of every teacher should be a happy and contented child, full of applicable knowledge and ready for the life that awaits him or her. In order for teachers to achieve this, it is important for them to continue their professional development. Primary education teaching, which is the beginning of learning and meeting a new world that is different from the one children have been used to before and that will open the door for students to a new world that is waiting for them, should be directed towards active learning and teaching because it enables them to make all the progress they need and deserve.

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