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TEAMWORK IN THE FIRST TRIENNIUM OF PRIMARY SCHOOL IN THE REPUBLIC OF SLOVENIA

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Abstract. One of the basic issues of primary school reform that took place in Slovenia at the end of the past millennium is the emphasis placed on teamwork of teachers. The purpose of this article is to show how teamwork is accepted and carried out by teachers during classes in the first triennium of primary school. The research was carried out on a non-probability sample of 105 teachers. We found that teamwork is mostly put into action in the first grade where teacher and educator collaborate the most. Respondents believe that teamwork has the most basis in the subject, Environmental Studies which is why it is practised more frequently in this subject. Teachers evaluate their teams as efficient and they feel comfortable in them. Teachers state these advantages of teamwork: exchange of experiences, opinions, knowledge, collaboration and help. Mostly organisational and interpersonal obstacles stand out.

Keywords: primary school, first triennium, teamwork, Environmental Studies

Introduction

The nine-year primary school, which was introduced in Slovenia at the end of the last century, brought several issues into the Slovenian educational area. One of them is the emphasis of teamwork among teachers. It was enacted in the first grade, and recommended for all other grades.

The need for teamwork derives from the curricula and is shown in the teachers' qualification for the implementation of modern learning approaches (Pevec Semec et al., 2001). We would especially like to point out interdisciplinarity, individualisation, differentiation, etc. (Polak 1999).

Teamwork is defined as an event where at least two or more educational workers at the same time guide the same pupils with educational objectives within an individual teaching activity, teaching subject or a combination of subjects in the classroom or outside of it. It can take place in one or more stages: planning of classes in teams, teaching in teams (educational workers have direct contact with pupils), and evaluation in teams. A team is formed so that with positive coherence they can achieve common objectives, which could

not be achieved by a teacher individually, which affects the quality of teaching and learning (Polak 2007).

Basic conditions for good teamwork are common objectives and a positive coherence of team members. Basic objectives of teachers' teamwork that should be formed are: higher efficiency of educational work, personal and professional development of team members, as well as a sense of belonging and a source of motivation (Polak 1999).

There are various models of team forming. Teams are formed according to the needs and objectives. Teams can be efficient, average or inefficient. Efficient teams evaluate their work as good. Between the efficient and inefficient teams there are average teams where they work just as successfully as when members would be working on their own. That is why some believe that it is better to teach transmissionally if teamwork is inefficient and a failure because it does not contribute to the progress of teachers and pupils and it is better to abandon it (Tobin and Roth 2005).

The advantages of teachers' teamwork can be divided into three major groups, namely the what teamwork brings to the pupils, to the teachers and to the school (Polak 2007).

Obstacles that can occur in teachers' teamwork can be organisational, vaguely defined roles in a team, communicational obstacles, interpersonal and personal obstacles (Polak 2007). Research done by Murphy and Beggs (2006) also pointed out some weak points of teamwork, which are associated with communication within the team members, their interpersonal collaboration and assuming a role within a team.

Therefore, communication is the basic tool of interaction within a team that enables social interaction (mutual impact of two or more persons) within a team and the team connectedness with its social environment. Teachers choose people for their teams with whom they get along better, have a sense of humour and are less conflictive (Kain 2006).

Team members can communicate verbally and nonverbally. We can hardly say that one or the other type of communication has a more important role. An advantage of a teaching team is a greater informative value of nonverbal communication (during teaching in teams it is intended for the co-worker, for expressing emotions, attitudes, own characteristics, etc.), while verbal communication is mainly intended for the pupils (Polak, 1999; Pozzer-Ardenghi and Roth, 2009).

Research of authors Roth, Tobin, Carambo and Dalland (2005) showed the significance of coordination in teamwork. Therefore, team planning is very important because it helps us to prevent stressful situations during the course of teaching that could affect the teachers and consequently the pupils. For this not to occur so often, it is strictly necessary to evaluate teaching in teams, to prevent or at least minimize inconveniences in advance.

Teamwork in a school practice

In this section the findings of some selected researches on teamwork in classes is introduced

Research of author Javornik Krečič (2006) was done on the meaning of team culture and collaboration in primary schools and grammar schools (gymnasium) in the Republic of Slovenia. She found that teamwork is valued higher by primary school teachers in comparison to grammar school teachers, and that beginning teachers appreciate the meaning of team culture the most according to professional experience.

Researches (Eick 2002; Eick, Ware and Jones 2004; Gustafson, Guilbert and MacDonald 2002) have confirmed that beginning teachers prefer working in a team rather than individually, especially in subjects where the basis is natural science and working with various experiments. When beginning teachers have the possibility of mentorship, they are more prepared to collaborate, because mentor internship is in a way considered as a part of teamwork (Edwards and Collison 1996; Gustafson, Guilbert and MacDonald 2002; Hudson, Skamp and Brooks 2005; Roth, Masciotra and Boyd 1999).

A three-year study took place in the United States of America on how to enter natural science team teaching as a model into high schools (Scatlebury, Gallo-Fox and Wassell 2008). It was found that teamwork can be successful if the model is based on the following stages: team negotiation (planning), mutual respect, team teaching and taking overall responsibility (evaluation). This kind of teaching model requires additional engagement from the natural science teachers and enables their professional development.

A research carried out in Canada has also shown the advantages of teamwork. A model of teach teaching is put into practice in high schools. The work of two groups was monitored. The first group accepted the learning sequence through the transmission teaching approach and the second through team teaching. Students that accepted learning material through team teaching were more cooperative, the teachers were more active, there was more communication, and teachers could do more experiments (Roth, Tobin and Zimmermann 2002).

Research (Leon and Tai 2004) also showed that in teamwork and modern teaching there is more communication among the teachers than in traditional teaching.

An American study (Friend 2007) demonstrated the course and the positive sides of teamwork in the third grade in literacy. Additionally, the dilemmas of teachers were also addressed. In the beginning teachers were scared because they did not know how to teach in teams. They had to change their individualistic way of teaching and accept a new method – team teaching. They found that they can work successfully only with the help of good interpersonal relations, which is closely related to successful communication

among team members. Teachers and pupils were excited about the positive results of teamwork. Pupils with learning problems were far more successful when teachers were working in teams.

There was a research in Taiwan related to team teaching of natural science subjects in primary and secondary schools with the help of computer technology (Shy-Jong 2008). Results show that with this way of teaching pupils and students was far more successful than traditional teaching. However, teachers had to put more energy into their work because more mutual coordination and knowledge on computer technology was needed.

A Canadian research (Roth 1997) showed positive results of team teaching in the fourth and fifth grade of a primary school in natural science where teaching in teams was done by two class teachers. They both learned many new things in practice when they were teaching in a team because joint teaching is an ability that has to be learned. However, there is often a disagreement between theory and real team teaching stating that even though there are advantages there are also obstacles that have to be overcome..

In the same country a research was carried out in the seventh grade of a primary school natural science classe in a thematic unit called Water (Roth and Boyd 1999; Roth, Masciotra and Boyd 1999). Authors determined that team teaching taking place at this sequence was excellent for the professional development of teachers. This also had a positive effect on cooperative learning of pupils because teachers influenced their work and learning by example. Professional development of teachers was mostly influenced by learning to control the relationship between teachers in a team.

According to the fact that findings of the majority of researches refer to teamwork in higher grades of primary and grammar school and that there is not much information about teamwork in lower grades, it was decided to examine the situation in this area in the Republic of Slovenia.

The purpose of this research was to determine the justification and the frequency of teamwork with the educational workers that teach in the first triennium of primary school. Of specific interest was:

1. In which subjects do educational workers believe that teamwork is the most necessary and justified?
2. In which classes do they work in teams?
3. In which thematic units of the environmental studies subject does teamwork prevail?
4. Which stage of teamwork prevails?
5. With whom do educational workers collaborate the most?
6. How do educational workers characterize the quality of a team in which they collaborate the most?
7. Which advantages of teamwork do they notice?
8. Which obstacles in teamwork do they notice?

Methodology

We used the descriptive and causal – non-experimental method of empirical pedagogy research.

The research took place on a non-probability sample (n = 105) of educational workers that taught in the first educational period (1st-3rdgrade) of a primary school in the Republic of Slovenia.

The sample varies on the profile of teaching: class-level teacher (90.5 %), educator (7.6%) and others (1.9%); on the grades in which they were teaching: first (42.8%), second (27.6%) or third (29.5%) grade and according to the length of service: a shorter length of service is up to 15 years (44.8%), and a longer length of service 15 years and more (55.2%).

We obtained the data through an anonymous questionnaire that was sent to teachers in electronic form. Research took place in March and April of 2009.

We processed the data with the SPSS programme. We used frequencies (f, f%), descriptive statistics (Mean, MIN and MAX), CROSSTABS, K INDEPENDENT SAMPLES (Kruskal-Wallis test), two INDEPENDENT SAMPLES (Mann-Whitney test) and ranking of responses .

Results

Opinion of educational workers on the merits of teamwork in an individual subject

With 1, respondents graded the subject where teamwork appears to be most justified and with 6 the least justified.

Table 1. Ranking type of teamwork for individual subjects based on the justification (M)

Rang	1	2	3	4	5	6
School subject	Environmental Studies	Slovene	Mathematics	Physical Education	Art Education	Music Education
Mean	1.83	2.31	2.97	3.60	4.50	4.59

Respondents believe that teamwork is most justified and necessary in Environmental Studies (M = 1.83), followed by Slovene, Mathematics, Physical Education, Art Education, Music Education. The reasons why they believe teamwork is most necessary in Environmental Studies are: because the nature of work is such that there are a lot of experiments, observations, researching and that content and objectives are appropriate for teamwork (22 arguments); because of inclusion of external associates, subject level teachers

(13 arguments); teamwork is necessary because of fieldtrips, field work, learning walks, escorts outside of their classrooms (8 arguments); teamwork is necessary because of demonstrations and teaching aids, use of various materials (4 arguments); because teachers mutually complement themselves due to their various styles of teaching (3 arguments).

There already was a very positive opinion expressed by the teachers on teamwork in the subject of Environmental Studies in the first grade. Research was carried out after a one year implementation in a nine-year primary school. (Hus 2001; Hus 2003).

Frequency of use of teamwork in individual subjects

Respondents answered questions using a 5-step scale on frequency of use of teamwork in school (where 1 meant never, 5 always).

Table 2. Average values (M) for frequency of teamwork at individual school subjects

Frequency of use of teamwork in school subjects	Environmental studies	Slovene	Mathematics	Physical Education	Art Education	Music Education
Mean	3.81	3.66	3.37	3.23	2.99	2.71

The table shows that the respondents most often use teamwork in the subject of Environmental Studies (M = 3.81), followed by Slovene, Mathematics, Physical Education, Art Education and lastly Music Education. This finding very much coincides with the results of the previous question. Therefore, opinions of teachers about the merits of teamwork in an individual subject are closely connected to the use of teamwork in an individual subject.

Environmental Studies is a specific subject because it combines the contents of various scientific fields as well as the fields of natural science and social science. The purpose of the subject is to show all the complexity, diversity and intertwining of factors that function in a person's natural and social environment. The content of the subject is divided into ten units that are connected both in content and objectives, and which are progressively structured from grade to grade. These units are: Who I am, You and I, You and We, My School and I, We Celebrate, My Past, It Was Once, Nature and I, Health and I, I Look Around, What I Can Do.

Representation of teamwork in individual thematic units in teaching Environmental Studies

Here teachers also answered questions using a 5-step scale to indicate the frequency of use of teamwork for the individual thematic units, where 1 meant never, 5 always. The data showed that teamwork is most frequently used for the thematic unit What I Can Do (M = 3.79), followed by: Health and I (M = 3.63), It Was Once (M = 3.62), Nature and I (M = 3.6), I Look Around (M = 3.6), We Celebrate (M = 3.58), My School and I (M = 3.52), You and I, You and We (M = 3.5) and Who I Am, Who Are We, How We Live and What We Do (M = 3.48).

The analysis of the examples of activities defined in the syllabus (2003), shows that the focus of the work in this unit is on observing (e.g. movement of the celestial bodies, falling of leaves, etc.), describing (e.g. weather conditions, drying fruit, etc.) cognition, classification and comparison (e.g. of different substances, etc.), cutting and making products from paper material (e.g. traffic signs, ornaments, etc.), realisation of different visits and viewings (e.g. visit to a library, viewing of how to borrow a book, etc.), preparing different experiments (e.g. air movement) and preparing various products (e.g. a histogram, table, etc.).

Respondents pointed out natural science as the area where teamwork is most justified and where it is practiced the most. Findings of the research coincide with the findings of researches that were presented in the theoretical introduction (Eick, 2002; Eick, Ware and Jones 2004; Gustafson, Guilbert and MacDonald 2002).

Frequency of use of individual stages of teamwork

Respondents answered questions using a 5-step scale for frequency of use of teamwork in school (where 1 meant never, 5 always).

Table 3. Frequency of use of individual stages of teamwork (minimal value, maximal value, average value, standard deviation, results of Kruskal-Wallis' in Mann-Whitney test)

Frequency of use of individual stages of teamwork	MIN	MAX	\bar{x}	s	P according to the profile of teaching (Kruskal-Wallis test)	P according to the grade (Kruskal-Wallis test)	P according to the length of service (Mann-Whitney test)
Frequency of team planning	2.00	5.00	3.91	0.82	0.060	0.006	0.550
Frequency of team teaching	1.00	5.00	3.23	1.01	0.000	0.000	0.108
Frequency of team evaluation of work	1.00	5.00	3.49	0.90	0.945	0.121	0.512

Table 3 shows that team planning is the most represented ($M = 3.91$) and that there is no respondent that would never carry it out ($MIN = 2$). Team planning is the most common form of teamwork in the first educational period, followed by team evaluation ($M = 3.49$) and lastly team teaching ($M = 3.23$).

We have explored the frequency of stages of teamwork according to the profile of teaching, teaching grade and length of service. We found that length of service regarding the frequency of teamwork is not related. However, statistically significant differences can be seen in the frequency of team planning according to the profile of teaching ($P = 0.060$). Most of team teaching can be found in the first grade among the educators, as shown by statistically significant differences. Team evaluation however, was not statistically conditional on any independent variable.

Such results were expected because in the first grade, teacher and educator mostly work as a team.

Collaboration in a team

CROSSTABS has showed that there are no statistically significant differences between collaboration in teams according to the work profile ($P = 0.583$) and length of service ($P = 1.530$). However, there are some statistically significant differences in collaboration in teams according to the grades ($P = 0.002$). Again, a difference can be seen in the first grade where the most collaboration is done by the class level teachers and educators, and in second and third grade mainly class level teachers collaborate among themselves. Educational workers in the first educational period also collaborate with special educators, librarians and subject level teachers, but to a lesser extent.

Evaluation of the respondents on their own team's effectiveness

The survey shows that 66.7% of respondents claim that their team is efficient, 31.4 % that it is average and only 1.9% that it is inefficient. We can state that the majority of educational workers in the first educational period work in efficient and in at least average teams.

Regarding the use of CROSSTABS we determined that there are statistically significant differences in team planning and marking team quality ($P = 0.003$), because the ones that rarely do the planning in teams also indicate their team as worse. There are also some statistically significant differences in team evaluation and marking their own team's efficiency ($P = 0.002$). Where there is rarely a teamwork evaluation done, the team is indicated as average or even inefficient. In team teaching in connection to marking their own team's quality there are no statistically significant differences ($P = 0.132$).

We conclude that the marking of team efficiency is dependent on the frequency of team planning and evaluation. Therefore, if educational workers

work together effectively then they also plan more and evaluate their work more.

Opinion of educational workers on teamwork advantages

Table 4. Teamwork advantages – number of answers of educational workers (f), assigned into groups

Teamwork advantages	Answers of educational workers	
Advantages of teachers' teamwork for pupils	Internal differentiation	3
	More interesting classes	
	More motivated pupils	
	Diverse styles of teaching	
	Faster feedback for pupils	
	An example that pupils can also participate	
	Unified approach on pupils	
Advantages of teachers' teamwork for teachers	Exchange of ideas, experiences, solutions	9
	Distribution of tasks, assignments and work in general	5
	Good communication, collaboration, mutual help	9
	Better quality of classes	8
	Saved time and work	8
	Joint preparation and use of learning materials	2
	Easier work planning	1
	Easier work evaluation	
	Better work organisation	
	Alignment of annual work plans, greater productivity, more systematic work, less mental stress, relief, easier execution of some activities (role play, dramatisation), better management of the learning process, facilitation of examination and evaluation, exchange of observations about children, teacher's personal growth and involvement of more people	each
Advantages of teachers' teamwork for school	Acquisition of new knowledge	
	More professional work	

The table shows that respondents see that the greatest advantage of teamwork is to exchange opinions, experiences and propose new solutions, distribute work, collaborate and help each other. . Regarding pupils, they believe that teamwork is of the utmost importance due to greater possibilities of adjusting classes to pupils, considering their abilities and possibilities of better motivation. It is also interesting that teachers know that they can set an example for the children, e.g. with collaborative learning (Roth in Boyd 1999; Roth, Masciotra in Boyd 1999).

Opinion of educational workers on teamwork obstacles

Table 5. Teamwork obstacles – number of answers of educational workers (f) assigned into groups

Teamwork obstacles	Answers of educational workers	f
Organisational obstacles	Time coordination	3
	Spatial coordination	
Vaguely defined tasks	Member's dominance over others	
	Too many workers in a team, lack of knowledge of teamwork strategies	
	Passivity, lack of members' interest	
Obstacles regarding status	Unpaid work in their free time	
Obstacles in communication	Conflicts, different ideas, negotiation	
Interpersonal obstacles	Acceptance of differences, promotion of own ideas, interpersonal discrepancy	5
Personal obstacles	Overburdening, individualism, lack of adaptation, lack of confidence	5
Other	Not enough adequate personnel	
	Not enough team teaching in school	

Respondents mainly pointed out the organisational obstacles. They are mostly bothered by the time coordination between individual team members. Secondly, there are the interpersonal obstacles where they see some problems in acceptance of differences, in interpersonal discrepancy and in excessive promotion of one's own ideas.

Discussion

This research determined that teamwork in the first educational period (from 1st-3rd grade) of primary school is most common in the first grade, which

was to be expected because it is enacted by law. Teacher and educator collaborate the most. Here it is about the associative teamwork (Blažič et al. 2003) where closer connection and cooperation of teachers is typical. In this case it is about joint planning and execution of classes and with this also sharing responsibility. These kinds of classes can become more flexible, enable better communication in the classroom, give a more holistic look on the learning content, can significantly influence the collaborative culture, and reflective teaching can intensify (Polak 2004).

There is much less teamwork in the second and third grade. Most frequently both class teachers work a team. This teamwork has the characteristic of coordinated team classes (Blažič et al. 2003) where the main responsibility is on only one teacher who coordinates the work of other teachers.

Respondents especially pointed out that Environmental Studies is the subject where there is the most teaching in a team. Environmental Studies classes have the characteristics of open classes because pupils gain knowledge through experiences, cooperate in classes, express their opinions and views, solve simple problems, explore. These classes therefore, focus from transmission to transaction and transformation (Hus and Grmek 2011). Teamwork comes as a necessity with these types of oriented classes which the respondents have pointed out.

Regarding the representation of individual phases of teamwork we can conclude that planning prevails, followed by evaluation and then teaching. In the first grade, the second person (educator or teacher) teaches together with the teacher only for a limited time. Perhaps this is why there is a minor representation of teaching. It is similar for the second and third grade where joint teaching is not foreseen at all. However, the teacher and educator can plan the work together and also evaluate the effects together.

Respondents experience their teams as efficient that work well and in which they also feel comfortable. They see the greatest advantages as being able to exchange ideas and experiences among themselves, help each other, and collaborate. Only after that they state the quality of classes and then the advantages pupils have with such work (greater individualisation and differentiation of classes). Organisational (team's time coordination), personal (acceptance of differences, promotion of own ideas, interpersonal discrepancy) and interpersonal (overburdening, individualism, lack of adaptation, lack of confidence) obstacles stand out among those in the functioning of a team.

For more effective teamwork it is necessary primarily to eliminate the obstacles. Here additional teacher training can certainly bring significant value to it. How to educate and inspire teamwork cannot only be a programmatic, organisational or even a systemic question. It is essential that we induce a much needed personal and social need for collaboration in an individual so

that teamwork in the educational area would not only become a fashionable choice but the only possibility for realisation of learning objectives (Polak 1998). It is good cooperation that keeps the team successful (Eisen 2000; Murphy and Carlisle 2008). Team teaching is not just a new approach to teaching but also a change in the way of thinking of the teachers who have to share their previous individual planning, teaching and evaluating with someone else. When teachers successfully overcome these obstacles they can claim to have reached a higher professional level with teamwork. Researches (Roth 1997; Roth and Boyd 1999; Roth, Masciotra and Boyd 1999; Roth and Tobin 2001) showed that team teaching and collaborative learning are connected and strongly influence the professional development of teachers.

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TIMSKI RAD TIJEKOM PRVE TRI GODINE OSNOVNOŠKOLSKOG OBRAZOVANJA U REPUBLICI SLOVENIJI

Sažetak. Jedno od glavnih problema osnovnoškolske reforme u Sloveniji na kraju prošlog stoljeća odnosio se na naglašavanje uloge timskog rada učitelja. Cilj ovog rada je prikazati prihvaćenost timskog rada u nastavi i njegovo provođenje tijekom prve tri školske godine. Istraživanje je provedeno na nestatističkom uzorku od 105 nastavnika. Utvrđeno je da se timski rad uglavnom provodi u prvom razredu, kada je najčešća suradnja između učitelja. Ispitanici vjeruju da timski rad ima najviše učinka na nastavu Ekologije, što je razlogom njegovog češćeg provođenja pri izvođenju te nastave. Učitelji su svoje timove procijenili učinkovitima i u njima se osjećaju ugodno. Navedene prednosti timskog rada su razmjena iskustva, mišljenja i znanja, suradnja i pomoć. Utvrđene su i određene organizacijske i interpersonalne prepreke uspješnom izvođenju timskog rada.

Ključne riječi: osnovna škola, trogodišnje razdoblje, timski rad, nastava Ekologije.

