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Sociability and its impact on successful team work in an online-environment

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Abstract

The aim of this study is to explore the relationships between team members and their influence on a team achievement during project work in an online environment. Thirty English language students (from an upper secondary school in Prague) worked in twelve teams on a detailed guided tour through one historical Prague district by means of an online tool wiki. The main aim of the research was to answer the questions: Does student's sociability have an impact on team work, and if it does, to which extent? The methods of a post-questionnaire, a sociometric-rating questionnaire SORAD (Hrabal and Hrabal, 2002) and the analysis of students' wiki contributions were used. Firstly, the paper deals with the terms sociability and sociometry, then the research is introduced and finally, the results are presented. The results show that student's position in a class plays more important role in team cooperation and collaboration than their personal preferences or motivation.

Key words: team work, sociability, sociometric methods, project – based learning, wikibased activity

Introduction

Team work or group work has become an everyday popular method of teaching at every education level. It is a successful way to the improve performance and quality in a school learning environment. The terms 'teams' and 'groups' are very often used interchangeably. Jaques and Salmon (2007, p. 6) define the term group for people who come together to share knowledge, for personal development or to learn from each other through discussion. They use the term team for groups that are engaged in a task or project geared towards an end product or decision. For the purpose of this paper therefore, groups are considered as the more general term and teams as task specific. To understand how students work in teams helps teachers to plan better lessons or activities. Many research studies deal with the composition of participating groups or teams. These compositions produce different learning and social interaction results. (Zurita, Nussbaum and Salinas, 2005, p. 149) The size of a group is an important factor for a good social interaction, as well. Jaques and Salmon (2007, p. 25) point out that there is the



greater likelihood of better participation and consonance in smaller groups. Sharing and rotating of leadership and other roles are more promising in smaller groups or teams than in large groups, where the increasing differentiation of roles will ensure the occurrence of a leader. A measurement tool that might provide more insight and predict team success is sociometry that is a technique for mapping the relationships of attraction and rejection among members of a group (Lucius & Kuhnert, 1997, p. 23).

Being able to cooperate and collaborate are social skills that are generally required by current employers. Upper secondary specialized school graduates are expected to use such skills in both an office working environment and online environment. The question is how to effectively teach collaborative skills that are integrated in cooperative and collaborative learning equally. These skills are more or less certain aspects of behavior that affect cognitive, affective-motivational and social dimensions of a learning process. Moreover, the composition of teams plays a crucial part of successful school team work. The knowledge of relationships among team members and their positions in a class indicate a social interaction within each team and helps teachers to moderate the team work smoothly, antecede negative behavior and communicate with each team individually. Collaboration might be sometimes very emotional and stressful for adolescents, especially in an online environment, where the teacher's supervision is missing. This paper tries to show the positive and negative aspects of cooperation and collaboration based on social interactions among team members.

1. Sociability

The effectiveness of team learning in an asynchronous online environment depends on the quality of social interaction that takes place. This social interaction affects both cognitive and socio-emotional processes that take place during learning, group-forming, establishment of group structures, and group dynamics. (Kreijns et al, 2004, p. 155) The same authors provide the taxonomy of eight elements affecting a social interaction and group learning:

- Appropriate teacher behaviour
- Appropriate member behaviour
- Nature of the learning tasks
- Member roles
- Task resources: knowledge or physical resources that enable execution of the task
- Goal definition. Describing the purpose of the collaboration
- Formative evaluation with feedback from peers or from educators
- Summative evaluation and reward structure (Kreijns, Kirchner and Jochems, 2002, p. 11)



Sociability is a personality trait, the ability to be fond of the company of others. People who are sociable are inclined to seek out the opportunity of social contacts with others. According to Hrabal and Hrabal (2002, p. 108-109) sociability indicates a personal complex of more or less structured and mutually connected individual's dispositions, activities and relationships. Their subject of concern is a person and a social formation, so both individual and social reality. The level of moral maturity is from the viewpoint of diagnostic aspect the part of sociability. (Author's own translation) Hrabal and Hrabal (2002, p. 108-112) suggest choosing the term of interindividual relationships for describing sociability as the school is a place with a vast net of relationships.

1.1 Interindividual dyadic relationships

The authors characterize interindividual dyadic relationships as an immediate, reciprocal and repeated interaction in a pair and related current mental activities associated with that interaction, plus partners' dispositions. They state that dyadic interactions are generally characterized by following dimensions:

Proximity and Distance

express the quality of positivity or negativity in relationships and the intensity of interactions

among subjects.

Direction and Subordination

represent the share on the regulation of the interaction. A stronger tendency to regulation is called dominance, the weaker tendency is called submissiveness.

Balance and Imbalance

represented in relationships and cooperation in interactions. If both relationships in a pair are positive and intensive or negative and rare, the subjects have either positive or negative attitudes to the subject, tasks and cooperation equally.

In sociometry the structure of dyadic relationships is presented by means of a sociogram, a sociometric chart plotting the structure of interpersonal relations in a group situation.

1.2 Online Interactions

To prepare an effective wiki-based activity both cognitive and affective-motivational aspects of online interactions should be considered. According to West and West (2009, p. 27-28) a wiki-based interaction includes following skills: writing and constructive editing skills (ability to write, delete and edit and awareness of appropriateness of editing), web skills (ability to access the internet, to use web browsers, work with digital images and other web media), group process skills (set goals, communicate clearly, share leadership, participate, power



and influence; make effective decisions or negotiate conflicts), which represents the cognition. Furthermore, personal characteristics of each team member and promotion of the desirable ones for online team work should be focused on. West and West (2009, p. 28-29) state these characteristics: *openness* (to be open to others' modifying, reorganizing and improving their contributions), *integrity* (represents accountability of each student, honesty of each student and competence of each student's contribution), and *self-organization* (ability to see and adjust your own behavior in relation to your environment, which requires metacognition, self-assessment and to be able to adjust to environmental feedback). Self-organization characteristics partially represent collaborative skills.

Prokofieva's research on wiki interactions (2013, p. 508) proved two types of online interactions where student-content interaction is dominant to a student-student interaction. A student-student interaction is mainly conditioned by the same level of cognitive skills such as web skills or editing skills. Furthermore, Prokofieva states the length of an activity. Apparently, shorter tasks assigned to student groups on a regular basis discouraged cooperation and encouraged collaboration (2013, p. 509).

2. Sociometry

Sociometry is measurement techniques used in social sciences such as social psychology and sociology, and sometimes in social anthropology and psychiatry based on the assessment of social choice and interpersonal attractiveness. A sociometric measure assesses the attractions (or repulsions) within a given group. The basic technique involves asking all group members to identify specific persons within the group they would prefer (or would not prefer) to have as partners in a given activity. Many variations on this technique exist for studying different aspects of social preferences. A lot of work has dealt with the concept of sociometric status. This includes studies of social adjustment, ranging from the social isolate (or unchosen individual) to the sociometric star (or highly chosen); of the relationship between sociometric status and other personality variables or of leadership.

2.1 Sociometric-rating questionnaire SORAD

In Hrabal and Hrabal's (2002, p. 126 -127) sociometric-rating questionnaire SORAD the indicator for employed force of self-assertion is *the index of influence*. While the intensity and quality of student's affiliated and hostile tendencies are indicated by *the index of fondness*. The ratio of the index of influence to the index of fondness has its specific diagnostic value in four following cases:



- Both indexes are high: successful integration, social independency, self-assertion and regulations in teams.
- Level of influence is higher than level of fondness: a small difference indicates an effective leader with restricted affiliated tendencies to accomplish team tasks. A big difference indicates aggressive and dominant egoism, inability to identify with partner.
- Level of influence is lower than level of fondness: a small difference indicates strong and developed affiliation and allocentric needs. A big difference indicates preferences to satisfy other students or team's needs at the expense of their own needs.
- *Both indexes are low*: social maladaptation caused by social immaturity, group pathology or lower sociability and moral development.

Teacher should be aware of above mentioned characteristics, regardless of their preferences to assign students to group randomly or let students self-select, to moderate the team work successfully and anticipate any problems that potentially might occur. Zurita et al (2005, p. 158) compared a group formed by the students affinity (*Preference*) with a group according to teacher's criteria (*Sociability*), and concluded that *Positive Interpendance* and *Interest* only appears when the teacher selects, while *Communication, Conflicts, Acceptance and Tolerance, and Help* when students select.

3. Research sample and methodology

To reflect students' team relationships and their influence on cooperation and collaboration in an on-line environment we prepared a short case study run in autumn 2015 within English language lessons. The students formed dyads and teams of 3 members according to their own choice. They had one month to prepare a PowerPoint presentation about a selected Prague historical part. They were asked to prepare a one-day trip for friends from Scotland including a detailed tour, eating facilities, transport, information about monuments and an evening event. The activity included also a collaborated text on Prague interesting places (included in PPT), which serves as a material for a school leaving examination. The students were asked to use an online tool wiki (wikispaces.com) for cooperative and collaborative activities. During an English lesson all participants were carefully instructed about the aim and assessed/marked output of this activity; the differences between cooperative and collaborative team work were explained to them. The participants formed their teams and spent approx. 20 minutes on planning and dividing tasks. They also questioned the teacher and tried to clarify the steps needed for accomplishing the task. The target group for the purpose of the study was 30 English language students (two language groups) from two different classes A and B of an upper secondary school in Prague specialised in



diplomatic services. Each school class is divided into two language classes. The participants were the third year students at the age of 17 – 19 (eight boys and twenty-two girls). Each participant had previous experience in using a wiki environment (editing, writing, commenting and adding different images) both in English and CLIL Social Science lessons. There were six teams (2-3 members) from each language class. Table 1 shows the subject (English language) skills and Learning to learn skills which the project was focused on. Learning to learn skills are divided into Cooperative and Collaborative skills which represent skills for team work. Some skills can be applied for both cooperation and collaboration, in such a case they are displayed only once under cooperative skills.

Table 1: Skills practised during the project

Output of the project							
Subject/English	Learning to learn skills	Learning to learn skills					
language skills	Cooperative skills	Collaborative skills					
Speaking skills: giving a presentation Writing skills: an informative text, a summary, functional Grammar: present tenses, modals, prepositions of places, articles Vocabulary: functional (giving instructions, giving opinions, arguments) specialised (sightseeing, towns, directions, food, travelling)	 set goals communicate clearly share leadership participate make effective decisions keep timemanagement be responsible ask for help be helpful 	 to be open to others' modifying, reorganizing and improving their contributions accountability of each student honesty of each student competence of each student's contribution to be able to see and adjust your own behavior in relation to your environment 					

4. Selected results

Qualitative and quantitative data were collected and examined from three sources: the SORAD, the post-questionnaire and analysis of students' contributions to class wikis. The post-questionnaire consists of 12 items scored on a four-point Likert scale (I agree, I partially agree, I partially disagree, I disagree) and 3 open questions, it was designed to survey students' immediate preferences and their attitudes to an activity on a wiki.



4.1. Data analysis of the SORAD

For our purposes we used the sociometric – rating questionnaire SORAD (the SORAD) designed by Hrabal and Hrabal (2002). By means of the SORAD we can collect data about interindividual relationships among students within one class and also personal characteristics of each student that are related to interindividual relationships. The results can be analysed from the class or team viewpoint or from the position and the role of each student in a group. Firstly, the students answer two questions referring to *influence* and *fondness*. Each student fills the SORAD, where they indicate their attitudes to each classmate on a five-point Likert scale (1. The most influential classmate/most likeable, 2. A classmate belongs to a few most influential classmates/ is likable classmate, 3. A classmate has average influence as others do/ is neither likeable nor unlikeable, 4. A classmate has weak influence/ is rather unlikeable 5. A classmate has no influence/is unlikeable). Then they write a comment to each assessment.

4.1.1 Group Statistics

As the SORAD is administrated within the whole class we ran the independent samples tests: a Levene's Test for Equality of Variances (p < 0.05) and a T-test for Equality of Means (p < 0.05) to assure that there are no statistical differences within both groups A and B. The Czech words in a Group Statistics mean as followed: ($t\check{r}ida$ means a class, soradc means the number of students in each class, soradsym means the index fondness and soradvl means the index influence). The results shown in Picture 1 clearly prove that both classes are statistically the same and the measured data can be used for our case study.

Tables 2 and 3 introduce the Pearson correlations between both Fondness and *Influence* indexes and *Wiki impacts* in group A and B. Wiki impacts represent the number of student's active entrances on a team wiki page during a previous school year within CLIL Social lessons, where the students worked on the similar one month-long project in teams. If Fondness and Influence indexes have the positive correlation, it means the more likeable student, the more influence he/she has and vice versa the less likeable student, the less influence he/she has. In case of the correlation between SORAD indexes and wiki impacts, the wiki impacts might represent the student's motivation or his/her engagement in a team activity. The higher number in wiki impacts means higher motivation, while the higher number in SORAD indexes means low student's status in a class. We can see that the Pearson correlation between Fondness and Wiki impacts are almost identical in both groups. The correlation 0.017 is significant at the 0.05 level (2-tailed). It implies that the students, who have the lowest index of Fondness (1 means the best, 5 means the worst), have the highest Wiki impact. In other words, the students, who are the most likeable are the most motivated to work in teams on a



wiki. The Pearson correlation between *Influence* index and *Wiki impacts* proves statistical significance only in group A, 0.036 at the 0.05 level (2-tailed). Again it implies that the students who have the biggest influence on others, are the most motivated to work in a team on a wiki.

Picture 1: A and B Group Statistics and Independent Samples Test

Group Statistics										
	třída	N	Mean	Std. Deviation	Std. Error Mean					
100000000000000000000000000000000000000	Α	30	2,85347	,577273	,105395					
soradc	В	27	3,10696	,468325	,090129					
	Α	30	2,55397	,460389	,084055					
soradsym	В	27	2,76544	,528719	,101752					
	A	30	3,15283	,820185	,149745					
soradvl	В	27	3,44856	,688670	,132535					

	Indepe	endent Samples	Test .				
		Levene's Test for Varianc	- 15 ME 12	t-test for Equality of Means			
		F	Sig.	t	Sig. (2-tailed)		
	Equal variances assumed	1,052	,309	-1,808	,076		
soradc	Equal variances not assumed			-1,828	,073		
soradsym	Equal variances assumed	1,863	,178	-1,614	,112		
soradsym	Equal variances not assumed			-1,602	,115		
soradvl	Equal variances assumed	1,352	,250	-1,465	,149		
SoradVI	Equal variances not assumed			-1,479	,145		

Table 2: Pearson correlations in group A

Group A	Fondness	Influence	Wiki
Fondness	1	,594**	-,432*
Pearson Cor. Sig.		,001	,017
N	30	30	30
Influence	,594**	1	-,385*
Pearson Cor. Sig.	,001		,036
N	30	30	30
Wiki	-,432*	-,385*	1
Pearson Cor. Sig.	,017	,036	
N	30	30	30

^{**} Pearson Correlation is significant at the 0.01 level (2-tailed).

^{*} Pearson Correlation is significant at the 0.05 level (2-tailed), (p < 0.05)



If we consider the results of our case study and the composition of the teams, we can see that social stars in group A were more motivated to collaborate in teams than social stars in group B. The statistically significant Pearson correlation between *Fondness* and *Influence* indexes proves only in group A, 0.001 at the 0.01 level (2-tailed). It represents the fact that the more likable students are also more influential on class matters. In group B there are less students who have both indexes law (it means positive) than in group A.

Table 3: Pearson correlations in group B

Group B	Fondness	Influence	Wiki
Fondness	1	,170	-,455*
Pearson Cor. Sig.		,397	,017
N	27	27	27
Influence	,170	1	,081
Pearson Cor. Sig.	,397		,690
N	27	27	27
Wiki	-,455*	,081	1
Pearson Cor. Sig.	,017	,690	
N	27	27	27

^{*} Pearson Correlation is significant at the 0.05 level (2-tailed), (p < 0.05)

4.2. Teams compositions

Based on the SORAD data we created a numerical order according to an average value of *influence* (the students' influence on class matters) and *fondness* (how the student is well-liked by classmates), which each student received. For better orientation and keeping the information about teams and students in secret, we named each team with capital letters, where the first letter A refers to the first group and the letter B to the second one. The students are called just members 1, 2 or 3. In Table 4 the value of each index is displayed on the left side, while on the right side there is the assigned position within each group.

In Table 5 we can see the composition of each team according to Hrabal and Hrabal's (2002) indicators of the level of sociability. The four prominent characteristics which have a fundamental influence on team work are in bold. The numbers mark the students of each team. The crosses in a category *Problems* signify the disagreements in the team based on a post-questionnaire.



Table 4: The SORAD results – the value of influence and fondness indexes and the student's position within their groups A or B

	Team	membe	r 1		Team member 2				Team member 3				
index es/ teams	Influe	ence	fondi	iess	influ	ence	fondr	iess	influ	ence	fondn	ess	
AA	4.42	14	3.17	13	4.34	13	3.00	11					
AB	1.86	1	2.06	3	2.72	6	2.34	9	3.75	10	2.37	5-6	
AC	2.03	2-3	1.89	1	2.27	5	2.20	4					
AD	2.37	7	2.03	2	2.72	2-3	2.34	12					
AE	3.89	11	3.31	14	4.03	12	2.48	7	3.00	8	2.37	5-6	
AF	3.41	9	2.51	8	2.89	4	2.20	10					
BA	3.81	10-11	2.00	1	2.66	3-4	2.96	14					
BB	3.14	7	2.29	7	2.40	2	2.22	4-5	3.59	8	2.59	11	
BC	3.81	10-11	2.55	10	4.18	12-13	2.63	12	4.40	14-15	3.44	16	
BD	3.00	6	2.51	9	3.63	9	2.14	3				•	
BE	2.96	5	2.22	4-5	2.66	3-4	2.25	6	2.07	1	2.70	13	
BF	4.40	14-15	2.48	8	4.18	12-13	2.11	2	4.48	16	2.88	15	

Table 5: The composition of the teams according to student's level of sociability

Teams Characteristics	AA	AB	AC	AD	AE	AF	BA	BB	ВС	BD	BE	BF
Social stars		1	1 2	1				2			1 2 3	
Influence > Fondness						2	2					
Influence >> Fondness				2								
Fondness > Influence		2			3					1 2		
Fondness >> Influence		3			2	1	1	1 3	1 2			1 2
Social isolate	1 2				1				3			3
Problems			Х	Х				Х			Х	Х

As we can see both groups are similar in a number of students from each indicator of sociability. Surprisingly, 80 % of the students belong to one of the prominent characteristics. There are four social stars in both groups, group A has three social isolates while group B only two. Moreover, there are ten students who received a big difference between fondness and influence (preferences to satisfy



other students or team's needs at the expense of their own needs), while in a category a big difference between influence and fondness (aggressive and dominant egoism, inability to identify with partner) there is only one student. Altogether there are five teams which show some kind of disagreement and there are 88 % of the social stars involved.

The results of the post-questionnaire in Table 6 and the answers to three open questions in Table 7 explain the relationships in teams and students' attitudes to the activity. The mean in group A is in each question lower (it means better) than in group B. The difference which is 0.5 or more is in questions 2, 4, 9 and 10. The majority in both groups liked the way of presenting the topic Prague. 93 % of the students in group A think that the activity gave them enough information for a school leaving exam, on contrary to 53 % of the students from group B.

Table 6: Answers to the post-questionnaire, A- group A (14 students), B – group B (15 students)

Legends: 1. I agree, 2. I agree partially, 3. I disagree partially, 4. I do not agree

Questions	1A	1B	2A	2B	3A	3B	4A	4B	Mean A	Mean B
I liked the way of presenting the	7	6	6	7	1	1	0	1	1.6	1.8
topic Prague, the team project.	50%	40%	43 %	47%	7%	7%	0%	7%		
The way of presenting the topic Prague gave me enough information to a school leaving	6 43%	3 20%	7 50%	5 33%	1 7%	7 47%	0	0	1.6	2.3
examination.										
I practiced all English skills (reading, writing, speaking, grammar and vocabulary).	9 64%	8 53%	4 29%	6 40%	1 7%	1 7%	0	0	1.4	1.5
The wiki environment was suitable for this activity.	8 57%	5 33%	5 36%	5 33%	0 0%	4 27%	1 7%	1 7%	1.6	2.1
The team cooperation was without any problems.	11 79%	9 60%	2 14%	4 27%	1 7%	3 20%	0 0%	0 0%	1.3	1.7



We divided the										
task equally,	14	12	0	3	0	0	0	0		
everybody	100								1.0	1.2
contributed with	%	80%	0%	20%	0%	0%	0%	0%		
their parts.	70									
I liked the	6							2		
teamwork in an		3	4	8	3	2	1		1.9	2.2
online	43%	20%	29%	53%	21%	13%	7%	13	1.9	2.2
environment.		2070	2770	3370	21.70	1370	7 70	%		
I have no										
problems with	7	8	6	2	1	4	0	1		
teamwork in an			43%		7%				1.6	1.9
online	50%	53%	1370	13%	7 70	27%	0%	7%		
environment.										
I cooperated										
because I did not	12	3	2	11	0	1	0	0		
want my									1.1	1.9
teammates to get	86%	20%	14%	73%	0%	7%	0%	0%		
a bad mark.										
I would like to								4		
work on next	6	2	6	3	1	6	1	4		
school leaving								27	1.8	2.8
exam topics the	43%	13%	43%	20%	7%	40%	7%	%		
same way.										
I cooperated on a	2	2	0	1	0	0	0	0		
project not to get	4.407	13%	00/	5 0/	001	001	00/	00/	1.0	1.3
a bad mark.	14%		0%	7%	0%	0%	0%	0%		
I cooperated on a	11	10	1	2	0	0	0	0		
project to get a				400/					1.1	1.2
good mark	79%	67%	7%	13%	0%	0%	0%	0%		

More than 90 % of the students from both groups agree that they practised all English language skills. One student (7 %) from group A thinks that a wiki environment was not suitable for the activity, in group B there are 5 students (34 %). 5 students altogether think that there were some problems during team cooperation. Every student agrees that they divided the tasks equally. 72 % of the students from group A and similarly 73 % of the students from group B liked the team work in an online environment. However, 93 % of the students from group A and 66 % of the students from group B think that they have no problems with team work in an online environment. The biggest difference is in question 10, whereas 86 % from the group A would like to work the same way on school leaving examination topics, in group B there would like to work only 33 % of the students. Overall, the majority of the students cooperated on the project, because they wanted to get a good mark.



Table 7: The open answers in the post-questionnaire

Finish the statements	Group A open answers	the number of students for each answer	Group B open answers	the number of students for each answer
I liked the most two	cooperation	9	new information	8
things:	fair task division	4	cooperation	7
	my team	3	the form of PPT	4
	English skills	3	English skills	2
I liked the	wiki	4	wiki	7
least:	the form of PPT	2	the form of PPT	4
	time	2	cooperation	2
I would	nothing	7	nothing	7
change:	more time	3	work in a school	3

The closer look at the Table 7 reveals, that in both groups the students liked the most cooperation, plus in group B new information. In both groups similarly they liked the least a wiki environment and the form of PPT. 50 % of students in both groups would change nothing about this activity.

The analysis of team wiki contributions revealed, that two teams had problems with communication, there were two members who did not response for the first three week at all. Four teams had problems with managing a wiki (adding and deleting the text and pictures) although they had previous long term experience with it. Generally, the contributions (the text on Prague – a guide tour) were well-organised, without many language mistakes and well-collaborated.

Discussion

This study constituted a small scale experiment, and the learning context is critical to outcomes. The author does not make any great claims about the generality of the results. Nevertheless, the findings from this study might provide good insight into team work. Generally, the students were more successful during cooperating in a wiki environment. They were able to use basic collaborative skills such as dividing tasks, communicate, leadership, decision-making, keeping team's schedule and solve minor conflicts. On the other hand, a collaborative part, which included a class presentation, showed the shortcomings in team communication, team roles and taking responsibility for a final product. While the compiling a Word text and PowerPoint presentation on Prague was just putting team



members' shares together (cooperation), the final oral presentation (each team member was involved in presenting) proved hardly any collaboration (final rehearsals, agreement on other member's presentations and peer-correction and coherence were very often missing). Prevailing team opinions on a class presentation was "I will present my part and you will present yours", although the students were carefully instructed about assessment of both a process and final product including an oral presentation. The students did not use any online tool such as e.g. Skype to practise their team presentations. However, in their feedback the students stated that they would like to have some time during English lessons to practise their presentations or discuss the progress on their projects.

The research problem of the study was: Does student's sociability have an impact on team work, and if it does, to which extent?

The composition of the teams was class self-selected. Although self-selected teams tend to spend more time socializing than working (Burke, 2011, p. 90), it was not proved in this study. The students used a wiki primarily for working purposes. Table 4 outlines the team compositions according to student's level of sociability. We can see there five teams with social stars. In contrast to Emanovský (2015, p. 57), who states that sociometric stars have the largest radius in the classroom, their views are respected, and so they can streamline the educational intervention of the teacher, our seven social stars participated in team conflicts which resulted in a negative influence on their team members. Very common conflicts come from according to Roberts and McInnerney (2007, p. 258) commonly expressed student views against involvement in group work such as (I study best on my own, I have no need to work in a group, I can't spare time to meet and communicate with others and others in the group are less capable). In teams AC and BE there were in one team two or three social stars who had difficulties in leading roles, making compromises and putting together a final class presentation. According to Table 1 the students hardly used any collaborative skills from the list, even though they had been instructed about the procedure of the activity before. In both teams there was one student who is excellent in English, but less hardworking and persistent in completing tasks and deadlines. Their laid back attitude "everything will be ok" and friendly spirit negatively influenced the final presentation. Obviously, the other social stars did not want to interfere due to adolescent's insecurity and preferences (keeping social status is more important than a mark from English). However, if there is only one social star, his/her attitudes to a wiki and motivation to learn English can influence the others. It can be seen in teams AB and BB, while in AB the rest of team was highly motivated to collaborate by a social star. In contrary to team BB, where a social star expressed the negative attitudes to the whole activity from the beginning. Although members 2 and 3 like English lessons and tried to encourage positive atmosphere in a team,



they failed and soon they gave up similarly to members in team BE. It confirms that students whose *fondness* is much higher than *influence* seem to adopt their team leader's opinions easily. On the other hand, teams where the students have the similar level of sociability and are also good friends were successful in team work. The best achievement was reached by group AA, where both members are social isolated. We can't put forward any general conclusions as more psychological tests and interviews should have been done to deeply clarify the students' behaviours. Nevertheless, we can say that sociability (student's status within a class) played a crucial role in team cooperation and collaboration.

Conclusion

Literature aimed at wiki interactions within upper secondary and higher education reveals the ambivalence in wiki-based collaboration. Generally speaking, in a short-term project focused on practising one or two particular skills such as writing or reading the interaction/collaboration is assessed positively e.g by Hewage and Perera (2013) or by Li, Chu and Ki (2014). On the other hand, speaking about more complex collaborative tasks aimed at searching, collecting, analysing and presenting data/information, the collaboration requires higher collaborative skills dealing with affective - motivational aspects rather than cognition more in Froldova (2016) such as displayed in Table 1. It complies with Trocky and Buckley (2016, p. 374) findings, where collaboration needed guidance and did not arise easily or Vivian et al. (2016, p. 7:13) where the skills of monitoring and regulation were rarely displayed (such as submission deadlines or planning group goals). The study outlines the aspect of sociability which might be taken into consideration while planning team work. Social stars' motivation and attitudes to an English language and wiki played an important part in goal achievements. Although it takes a long time to identify the level of sociability in a group, the method of a sociometric-rating questionnaire might be a useful tool in teachers' lesson preparation as it might help to overcome pitfalls of online collaboration. Nevertheless, using any psychological instruments should be in hands of school psychologists as they can reveal any sensitive data about students. It is up to school management to decide whether such instruments use or not. To base team work on sociometric data arises questions not only about the level of psychological knowledge built in teacher's training and teachers' ability to effectively work with students' sensitive data, but also about the content and form of teaching and learning. There is a curriculum question concerning what to teach in English lessons? Social competences, collaborative skills or English language skills?



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References

- Burke, A. (2011). Group Work: How to Use Groups Effectively. *The Journal of Effective Teaching*, 11, 2, 87-95.
- Emanovský, P. (2015). Problem-Based Learning and its Effect on Learners' Relationships. *Problems of Education in the 21st Century*, 63, 53-61.
- Froldová, V. (2016). Why do Higher Secondary Students Like Cooperation but Reject Collaboration in an Online Environment? *Proceedings of the 15 European Conference on e-learning ECEL 2016*. Reading: Academic Conferences and Publishing International Limited.
- Hrabal, V. st. & Hrabal, V. ml. (2002). *Diagnostika: Pedagogickopsychologická diagnostika žáka s úvodem do diagnostické aplikace statistiky*. Praha: Karolinum.
- Hewege, C. R., & Perera, L. C. R. (2013) 'Pedagogical significance of wikis: towards gaining effective learning outcomes', *Journal of International Education in Business* [online], 6, 1, 51-70.
- Jaques, D. & Salmon, G. (2007). *Learning in Groups. A Handbook for face-to-face and online environments.* London & New York: Routledge.
- Kreijns, K., Kirchner, P. A., & Jochems, W. (2002). The Sociability of Computer-Supported Collaborative Learning Environments. *Educational Technology & Society*, 5, 1, 8-22. Retrieved from: http://www.ou.nl/docs/expertise/otec/publicaties/karel%20kreijns/kreijns. pdf (1. July 2016)
- Kreijns, K., Kirchner, P. A., Jochems, W., & van Buuren, H. (2004). Determining Sociability, Social Space, and Social Presence in (A)synchronous Collaborative Groups. *Cyber Psychology & Behaviour*, 7, 2, 155-172. Retrieved from: https://www.researchgate.net/publication/8566335_Determining_Sociability_Social_Space_and_Social_Presence_in_Asynchronous_Collaborative_Groups (1. July 2016)
- LI, X., CHU, S. K. W. & KI, W. W. (2014). The effects of a wiki-based collaborative process writing pedagogy on writing ability and attitudes among upper primary school students in Mainland China. *Computers* & Education, 77, 151 169.
- Lucius, R. H. & Kuhnert, K. W. (1997). Using Sociometry to Predict team Performance in the Work Place. *The Journal of Psychology*, 131, 1, 21-32.



- Prokofieva, M. (2013). Evaluating types of student's interactions in a wiki-based collaborative learning project. *Australasian Journal of Educational Technology*, 29, 4, 496-512.
- Roberts, T. S. & McInnerney, J. M. (2007). Seven Problems of Online Group Learning (and Their Solutions). *Educational Technology & Society*, 10, 4, 257-268. Retrieved from: http://www.ifets.info/journals/10_4/22.pdf
- Trocky, N. M. & Buckley, K. M. (2016). Evaluating the Impact of Wikis on Student Learning Outcomes: An Integrative Review. *Journal of Professional Nursing*, 32, 5, 364 376.
- Vivian, R., Falkner, K., Falkner, N., & Tarmazdi, H. (2016). *ACM Transactions on Computer Education*, 16, 2, 7:1 7:28.
- West, J. A. & West, M. L. (2009). *Using Wikis for Online Collaboration: The Power of the Read-Write Wiki*, Jossey-Bass, San Francisco.
- Zurita, G., Nussbaum, M. & Salinas, R. (2005). Dynamic Grouping in Collaborative Learning Supported by Wireless Handhelds. *Educational Technology & Society*, 8, 3, 149-161.

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