



Informal learning via Internet forum

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Abstract: *This study examined students' attitudes about general issues related to internet forums, as well as about their advantages and disadvantages. The questionnaire, consisting of three parts, was specially prepared for this research. The study included 165 students from the Faculty of Technical Sciences Čačak, of which 150 said they used the internet forum, so their estimations were relevant for this study. It was found that the students are well informed on what internet forum is, that a large percentage of students use it and that the internet forum has more advantages for learning than disadvantages.*

Keywords: *internet forum; informal learning; discussion; participant; survey*

1. INTRODUCTION

Formerly, in the Roman era, forum was a square where people used to gather and exchange views. Today forum represents the place on the Internet where people who are interested in a topic or have a common interest, gather and exchange their views and opinions (http://informatikazaos.blogspot.rs/2015/11/3_45.html).

Internet forum is a web 2.0 tool for organizing public discussion "at a distance" whose contents is created on a certain theme by the discussion participants. In the literature, internet forums are also called: electronic forums, web forums, newsgroups, discussion forums, message boards, discussion boards, bulletin boards or simply – forums (Papić & Aleksić, 2015).

Discussion forums are the most significant applications of computer-mediated communication in E-learning environments (Kearslei, 2000 in Shana, 2009). According to Shana (2009), web discussion forums provide a way for students to extend the classroom discussions. It provides better cognitive and exploratory learning, increased student-to-student discussion and cooperation, superior learner empowerment, and upgraded critical thinking skills.

According to the estimations (Stefanović, 2014), there are currently over 110.000 internet forums on which a certain form of informal learning is conducted daily, by active participation of participants.

The authors therefore wanted to review the students' opinions regarding general knowledge about internet forums, the degree to which they use it and for what purposes. The authors also wanted to determine what the students think about internet forums in general, as well as about their good and the bad side.

2. ORGANIZATION OF RESEARCH

During the summer semester of 2015/16, 165 students of the Faculty of Technical Sciences in Čačak were anonymously surveyed. Questionnaire with mostly closed questions was used for the survey. The survey included students from the following study programs: Information technologies (IT) – first year, Technics and informatics (TI) – first year, Engineering Management (IM) – first year, Entrepreneurial Management (EM) – second and fourth year, Electrical and Computer Engineering (ECE) – second year. From a total of 165 surveyed students: 69 study IT, 22 TI, 24 IM, 24 EM and 26 ECE. Fifteen students never accessed an internet forum so their results were excluded from further processing.

The questionnaire consisted of three parts:

- *Part one:* A series of statements to which the students responded with YES or NO (table 1);
- *Part two:* A series of statements from which students chosen two answers at most (table 2);
- *Part three:* Assessment scale (tables 3-5) with a series of statements related to the use of internet forums (in general, good sides, bad sides). It was necessary to enter the answer into the table that matches the opinion of the surveyed students for the corresponding statement the most. Possible answers were in categories from 1 (strongly disagree) to 5 (strongly agree).

3. RESULTS AND DISCUSSION

Table 1 presents the answers of the surveyed students on questions in the first part of the survey – basic information about internet forums.

Table 1. *Percentual answers of students in the first part of the survey*

Question	IT	TI	IM	EM	ECE	All
	yes%	yes%	yes%	yes%	yes%	yes%
Do you know what the internet forum is?	97	95	96	92	92	96
Have you visited an internet forum?	94	91	87	83	92	91
Have you participated in discussions on an internet forum?	44,6	40,0	57,1	45,0	50,0	46,7
Are you registered on an internet forum?	63,1	65,0	57,1	75,0	58,3	63,3
Do you have a role of administrator on an internet forum?	4,6	5,0	4,8	15,0	4,2	6,0
Have you ever advised other participants on internet forum about a certain topic, or how to solve a particular problem?	40,0	35,0	38,1	45,0	29,2	38,0

Almost all the students who participated in the study know what the internet forum is (96%) and have once visited an internet forum (91%), with IM students to have the highest percentage of participation in the discussions. A large number of students are registered on a forum (63%), while the number of students who have the role of an administrators is negligible (6%). The highest percentage of students who in turn have the administrator role is among EM students (15%) –II and IV year students. The number of students who advised other participants through forum was 38%, while also EM students were the most active. This can be explained by the fact that they have more needs for internet forums than their younger colleagues while they are the oldest and that they spent most time studying so far.

In the second part of the survey, students answered two questions: 1. *Why do you use internet forum?* and 2. *How often do you use internet forum?* with five and four offered answers respectively. They could round up two answers at most in the first question, and only one in the second. Table 2 shows the percentage answers to above mentioned questions.

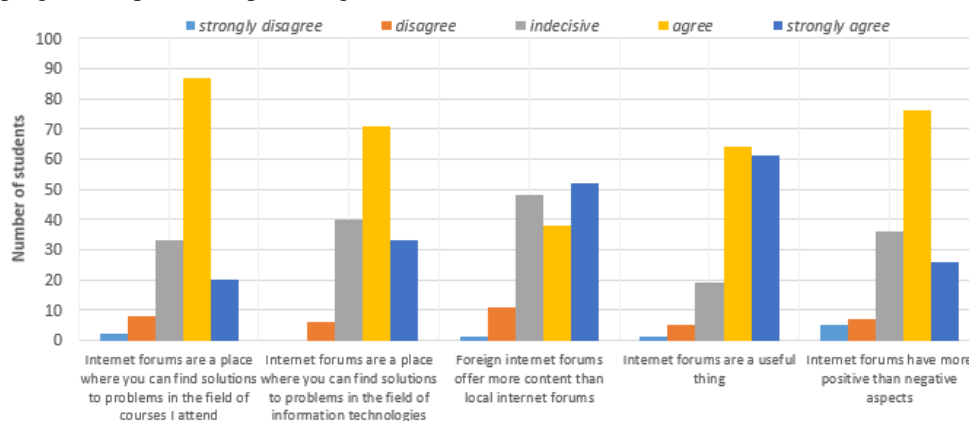
Table 2. Percentual answers of students in the second part of the survey

Question	IT	TI	IM	EM	ECE	All
	%	%	%	%	%	%
Why do you use internet forum? (2 answers max)						
Out of curiosity.	49,2	25,0	28,6	35,0	45,8	40,7
I follow trends in the area I study.	15,4	35,0	28,6	20,0	29,2	22,7
I'm looking for information on how to solve a problem from courses I attend.	47,7	70,0	66,7	45,0	45,8	52,7
I'm looking for material for preparation of tests, exams and seminar papers.	36,9	45,0	33,3	60,0	12,5	36,7
Not for any of these reasons.	7,7	0,0	14,3	20,0	16,7	10,7
How often do you use internet forum? (1 answer only)						
Daily.	6,2	20,0	19,0	20,0	16,7	13,3
Few times a week.	30,8	10,0	4,8	15,0	12,5	19,3
Few times a month.	10,8	10,0	19,0	10,0	20,8	13,3
If necessary.	52,3	60,0	57,1	55,0	50,0	54,0

IT students mostly use internet forums out of curiosity (49.2%), TI and IM students look for information on how to solve a problem from courses they attend (70%, 66.7%), ECE students use forums equally for two above mentioned reasons (45.8%), while EM students use forums to look for material for preparation of tests, exams and seminar papers (60%).

All surveyed students mostly use forums if necessary (54%), while only 13.3% of them visit forums daily, with only 6.2% of IT students to visit them daily.

The third part of the survey represent the students' assessments concerning the general knowledge of internet forums, as well as the pros and cons, ie the good and the bad sides of it. The assessments are expressed on a scale from 1 to 5: 1 (strongly disagree), 2 (disagree), 3 (indecisive), 4 (agree) and 5 (strongly agree). Figures 1-3 and tables 3-5 show the answers of the surveyed students on questions from this part of the survey. Figures show summary assessments of students, while the tables also show the assessments given by the study programs expressed in percentages.

**Figure 1.** Assessments of students concerning the internet forum in general

Generally, the students believe that the internet forums are very useful thing. Students in equal number believe that the internet forums are places where they can find solutions for both problems in the field of teaching, as well as the problems in the field of IT. It is notable

that students can not decide which forums are better and have more content. The biggest disagreement is with the statement that internet forums have more negative than positive aspects (of 8%).

Table 3. Assessment scale (1-5) – General statements about internet forum

GENERAL STATEMENTS ABOUT INTERNET FORUM		strongly disagree	disagree	indecisive	agree	strongly agree
Internet forums are a place where you can find solutions to problems in the field of courses I attend.	IT	3,1%	3,1%	26,2%	58,5%	9,2%
	TI	0,0%	5,0%	25,0%	60,0%	10,0%
	IM	0,0%	9,5%	23,8%	57,1%	9,5%
	EM	0,0%	5,0%	5,0%	65,0%	25,0%
	ECE	0,0%	8,3%	20,8%	50,0%	20,8%
	All	1,3%	5,3%	22,0%	58,0%	13,3%
Internet forums are a place where you can find solutions to problems in the field of information technologies.	IT	0,0%	7,7%	30,8%	43,1%	18,5%
	TI	0,0%	0,0%	45,0%	35,0%	20,0%
	IM	0,0%	0,0%	23,8%	47,6%	28,6%
	EM	0,0%	0,0%	15,0%	65,0%	20,0%
	ECE	0,0%	4,2%	12,5%	54,2%	29,2%
	All	0,0%	4,0%	26,7%	47,3%	22,0%
Foreign internet forums offer more content than local internet forums.	IT	0,0%	9,2%	30,8%	23,1%	36,9%
	TI	0,0%	0,0%	35,0%	15,0%	50,0%
	IM	4,8%	4,8%	14,3%	42,9%	33,3%
	EM	0,0%	10,0%	45,0%	30,0%	15,0%
	ECE	0,0%	8,3%	37,5%	20,8%	33,3%
	All	0,7%	7,3%	32,0%	25,3%	34,7%
Internet forums are a useful thing.	IT	1,5%	1,5%	12,3%	47,7%	36,9%
	TI	0,0%	5,0%	25,0%	40,0%	30,0%
	IM	0,0%	0,0%	9,5%	33,3%	57,1%
	EM	0,0%	15,0%	0,0%	45,0%	40,0%
	ECE	0,0%	0,0%	16,7%	37,5%	45,8%
	All	0,7%	3,3%	12,7%	42,7%	40,7%
Internet forums have more positive than negative aspects.	IT	1,5%	4,6%	32,3%	50,8%	10,8%
	TI	5,0%	0,0%	30,0%	50,0%	15,0%
	IM	0,0%	4,8%	9,5%	57,1%	28,6%
	EM	15,0%	5,0%	10,0%	50,0%	20,0%
	ECE	0,0%	8,3%	20,8%	45,8%	25,0%
	All	3,3%	4,7%	24,0%	50,7%	17,3%

90% of the oldest students (EM), declared themselves that they use internet forum for finding solutions in the field of teaching and information technology, which is 22.3% more than what IT students said. IM students are most familiar with the contents of foreign forums, because they are the least indecisive (14.3%). A quarter of the surveyed TI students is indecisive on the issue of the usefulness of internet forums. EM students have the most negative experiences on the internet forums, because 20% of them consider that internet forums do not have more positive than negative aspects.

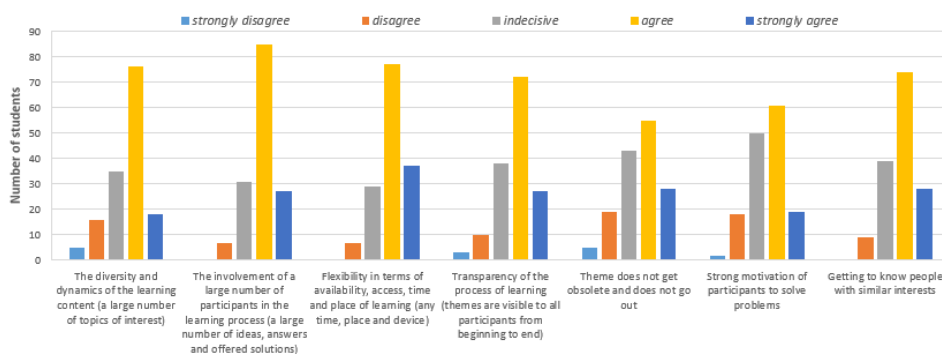


Figure 2. Assessments of students concerning the good sides of internet forum

As for the positive sides of the Internet forum, students mostly agree with all the above claims. The greatest agreements and the least disagreements were on the issue of forum flexibility and involvement of a large number of participants in the learning process – 76% and 74.7% agreed, while only 4.7% students did not agree with the above statements. Here we have the lowest percentage of indecisive students – 20.7% and 19.3%, respectively.

Internet forums are very flexible regarding the time and place of learning. Forums are active all day, every day of the year, thus enabling the learning to be achieved in the time that works best for the participants. Access to internet forums is possible with any contemporary communication device (PC, laptop, tablet, smart phone, smart TV, etc..) and any modern operating system (Windows, Linux, MacOS, Android, iOS, etc.). Therefore, learning is accessible practically to anyone, for example from home, school, work or any other place covered by the internet network. The advantage of this concept of learning is reflected in the fact that there is no loss of time and resources in coming and going of the common place of learning.

Table 4. *Assesment scale (1-5) – Good sides of internet forum*

GOOD SIDES OF LEARNING THROUGH INTERNET FORUM		strongly disagree	disagree	indecisive	agree	strongly agree
The diversity and dynamics of the learning content (a large number of topics of interest).	IT	6,2%	7,7%	23,1%	49,2%	13,8%
	TI	5,0%	5,0%	25,0%	55,0%	10,0%
	IM	0,0%	9,5%	23,8%	52,4%	14,3%
	EM	0,0%	35,0%	5,0%	50,0%	10,0%
	ECE	0,0%	4,2%	37,5%	50,0%	8,3%
	All	3,3%	10,7%	23,3%	50,7%	12,0%
The involvement of a large number of participants in the learning process (a large number of ideas, answers and offered solutions).	IT	0,0%	3,1%	15,4%	56,9%	24,6%
	TI	0,0%	5,0%	25,0%	55,0%	15,0%
	IM	0,0%	4,8%	9,5%	71,4%	14,3%
	EM	0,0%	5,0%	40,0%	50,0%	5,0%
	ECE	0,0%	8,3%	25,0%	50,0%	16,7%
	All	0,0%	4,7%	20,7%	56,7%	18,0%
Flexibility in terms of availability, access, time and place of learning (any time, place and device).	IT	0,0%	4,6%	16,9%	58,5%	20,0%
	TI	0,0%	0,0%	25,0%	50,0%	25,0%
	IM	0,0%	0,0%	14,3%	33,3%	52,4%
	EM	0,0%	15,0%	10,0%	60,0%	15,0%
	ECE	0,0%	4,2%	33,3%	41,7%	20,8%
	All	0,0%	4,7%	19,3%	51,3%	24,7%
Transparency of the process of learning (themes are visible to all participants from beginning to end).	IT	0,0%	6,2%	29,2%	43,1%	21,5%
	TI	0,0%	0,0%	40,0%	35,0%	25,0%
	IM	0,0%	14,3%	9,5%	61,9%	14,3%
	EM	15,0%	5,0%	10,0%	55,0%	15,0%
	ECE	0,0%	8,3%	29,2%	54,2%	8,3%
	All	2,0%	6,7%	25,3%	48,0%	18,0%
Theme does not get obsolete and does not go out.	IT	1,5%	12,3%	30,8%	38,5%	16,9%
	TI	0,0%	10,0%	35,0%	30,0%	25,0%
	IM	4,8%	23,8%	9,5%	23,8%	38,1%
	EM	10,0%	5,0%	25,0%	45,0%	15,0%
	ECE	4,2%	12,5%	37,5%	41,7%	4,2%
	All	3,3%	12,7%	28,7%	36,7%	18,7%
Strong motivation of participants to solve problems.	IT	1,5%	10,8%	26,2%	46,2%	15,4%
	TI	0,0%	15,0%	40,0%	30,0%	15,0%
	IM	0,0%	9,5%	42,9%	33,3%	14,3%
	EM	5,0%	20,0%	40,0%	30,0%	5,0%
	ECE	0,0%	8,3%	33,3%	50,0%	8,3%
	All	1,3%	12,0%	33,3%	40,7%	12,7%
Getting to know people with similar interests.	IT	0,0%	1,5%	29,2%	50,8%	18,5%
	TI	0,0%	15,0%	25,0%	45,0%	15,0%
	IM	0,0%	9,5%	19,0%	38,1%	33,3%
	EM	0,0%	0,0%	30,0%	55,0%	15,0%
	ECE	0,0%	12,5%	20,8%	54,2%	12,5%
	All	0,0%	6,0%	26,0%	49,3%	18,7%

Given that participation in internet forums is usually initiated by a specific need – informal learning of this character is distinguished by a strong motivation of participants. However, 13.3 percent of students did not agree. Also, 16% of students disagreed with the statement that the threads on forums do not expire even though it is one of the most important advantages of collaborative learning via the internet forum. Namely, the discussion flow on the forums remains permanently recorded, visible and accessible to everyone – forever. Even after the forum has been shut down, the contents remain recorded in so-called "web archives". This concept of learning is based on the assumption that the "knowledge" is public good and that it is not dedicated only to an individual in need of help at the moment. The idea is that the whole community benefits from a help given to an individual through a discussion on a certain theme. Forum and internet archives provide insight into the discussions that took place earlier, the methods used in solving problems, the problems which occurred, ways to overcome them and so on. In such circumstances, "knowledge is based on knowledge," more ideas for creating new tasks are opened, participants enter in a subsequent realization of a theme with a certain degree of some basic knowledge, and can avoid the numerous errors that were identified in earlier projects.

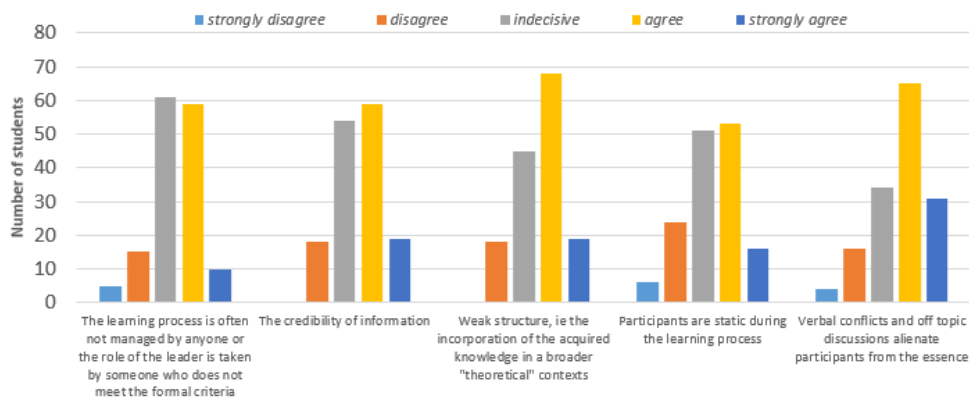


Figure 3. Assessments of students concerning the bad sides of internet forum

Characteristic about the claims about the bad sides of the Internet forums is that there is a large number of indecisive students for all the claims. If we exclude the indecisive students, the conclusion is that students agree with statements about the bad sides of the forum but to a lesser extent than they agree with the good sides of the forum.

Table 5. *Assesment scale (1-5) – Bad sides of internet forum*

BAD SIDES OF LEARNING THROUGH INTERNET FORUM		strongly disagree	disagree	indecisive	agree	strongly agree
The learning process is often not managed by anyone or the role of the leader is taken by someone who does not meet the formal criteria.	IT	3,1%	1,5%	44,6%	46,2%	4,6%
	TI	0,0%	10,0%	40,0%	30,0%	20,0%
	IM	0,0%	23,8%	38,1%	33,3%	4,8%
	EM	15,0%	15,0%	25,0%	40,0%	5,0%
	ECE	0,0%	16,7%	45,8%	33,3%	4,2%
	All	3,3%	10,0%	40,7%	39,3%	6,7%
The credibility of information (inability of clear assessment whether the information comes from a competent participants, or from participants who do not have the necessary breadth of knowledge on the subject matter).	IT	0,0%	6,2%	40,0%	44,6%	9,2%
	TI	0,0%	5,0%	45,0%	30,0%	20,0%
	IM	0,0%	0,0%	47,6%	42,9%	9,5%
	EM	0,0%	35,0%	25,0%	25,0%	15,0%
	ECE	0,0%	25,0%	16,7%	41,7%	16,7%
	All	0,0%	12,0%	36,0%	39,3%	12,7%
Weak structure, ie the incorporation of the acquired knowledge in a broader "theoretical" contexts (learned how to do things, but not why).	IT	0,0%	10,8%	38,5%	36,9%	13,8%
	TI	0,0%	5,0%	25,0%	50,0%	20,0%
	IM	0,0%	23,8%	9,5%	57,1%	9,5%
	EM	0,0%	15,0%	25,0%	45,0%	15,0%
	ECE	0,0%	8,3%	33,3%	54,2%	4,2%
	All	0,0%	12,0%	30,0%	45,3%	12,7%
Participants are static during the learning process (neglecting other sources of information and knowledge - books, textbooks, tutorials ...)	IT	3,1%	13,8%	33,8%	36,9%	12,3%
	TI	10,0%	15,0%	20,0%	40,0%	15,0%
	IM	0,0%	19,0%	28,6%	38,1%	14,3%
	EM	0,0%	15,0%	35,0%	45,0%	5,0%
	ECE	8,3%	20,8%	50,0%	16,7%	4,2%
	All	4,0%	16,0%	34,0%	35,3%	10,7%
Verbal conflicts and off topic discussions alienate participants from the essence.	IT	3,1%	10,8%	27,7%	43,1%	15,4%
	TI	5,0%	10,0%	15,0%	55,0%	15,0%
	IM	4,8%	4,8%	9,5%	42,9%	38,1%
	EM	0,0%	0,0%	15,0%	60,0%	25,0%
	ECE	0,0%	25,0%	33,3%	20,8%	20,8%
	All	2,7%	10,7%	22,7%	43,3%	20,7%

The oldest among the surveyed students (EM) disagree the most with the statements that The learning process is often not managed by anyone (30%) and The credibility of information (35%). Also, they are most bothered with verbal conflicts (85%).

These disagreements can again be attributed to their experience, because as far as the disorganization of management of learning process, it does not mean the absence of any criteria at the same time. The criteria in such cases are usually promoted by the community where learning is conducted. The role of the head of learning is informally taken by the forum community members, who stood out in the past with quality answers and positive attitude towards other participants.

When we talk about the credibility of the information, or the impossibility of a clear assessment whether the information comes from "authority", ie. competent participant, or the participant who lacked the necessary breadth of knowledge on the certain issue – the forum members therefore need to be constantly aware of it and need to learn how to cope with this phenomenon and make the right decision. Usually in such cases, the number and quality of responses of participants in the learning process who deliver information is compared, and if the tendency that the participant continuously provided useful and accurate information, the chances are that it is once again the case. Even then (when serious issues are in question), it is desirable to seek a "second opinion" - in other forums, on the internet in general, in literature or in other ways. Distinguishing information from misinformation placed on the Internet and the risks that may arise from it, is one of the essential skills that every user of information and communication technologies should be familiar with.

4. CONCLUSIONS

With the development of the Internet there was a change in the way we are looking for solutions for our personal problems. Whereas the students earlier discussed about their problems with their colleagues at university libraries, hallways, cafeterias, and their rooms, today they do it from their armchairs with a much larger number of colleagues from around the world who are dealing with similar issues.

Students consider internet forums very useful and they believe that forums have more positive than negative aspects. In addition, on the basis of the study, the following general conclusions can be derived:

- 9% of all the students examined, never visited an internet forum, but only 4% do not know what it is;
- A large number of students are registered on the internet forum (63%);
- The number of students who have the role of administrator is little (6%);
- The number of students who advised other participants through forum was 38%;
- Students of all courses usually go to forums if necessary (54%), while only 13.3% of students visits internet forums daily;
- The highest percentage of students use Internet forums for seeking information in order to solve some problems related to courses they attend (52,7%).

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