

Strengthening Teaching Competences in Higher Education in Natural and Mathematical Sciences





# **Report on students survay** July 2019

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# **University in Serbia**

## Structure of the sample

The questionnaire consisted of 79 questions. Respondents who answered less than 35 questions (in total 4 respondents) were excluded from the sample. The total number of questionnaires that were considered was 397. The survey was conducted electronically in April and May 2019.

Note: The average number of responses per questionnaire is 77.2. Due to the small number of missing data, no filling was done, but the analysis was based directly on the answers given by students.

The questionnaire was filled out by students of four state universities: 185 students (making 46.6% of the sample) from the University of Belgrade, 47 students (11.8% of the sample) from the University of Kragujevac, 77 students (21.4%) from the University of Nis and 80 (20.2%) from the University of Novi Sad.

Note: The results in the reports are presented collectively for all four universities and the abbreviations (SRB) for the joint results are shown in the tables in black. In addition to the aggregated results, the results for each individual university were also given. The abbreviation BG was used for the University of Belgrade, and the results are shown in gray. The University of Kragujevac is marked with KG and in green color, the University of Niš with NIS and red color, and the University of Novi Sad with NS and blue.

The structure of the sample is based on gender, area of study, level of studies and year of studies is given in Tables 1-4. The charts are given for the whole sample, i.e., for SRB.





Gender	SRB	SRB%	BG	BG%	KG	KG%	NIS	NIS%	NS	NS%
Male	102	27.6%	37	21.4%	14	33.3%	25	32.5%	26	33.3%
Female	268	72.4%	136	78.6%	28	66.7%	52	67.5%	52	66.7%

Table 1: Gender







Area	SRB	SRB%	BG	BG%	KG	KG%	NIS	NIS%	NS	NS%
Biology	192	48.5%	155	84.2%	17	36.2%	19	22.4%	1	1.3%
Physics	22	5.6%	16	8.7%	2	4.3%	4	4.7%	0	0.0%
Geography	23	5.8%	0	0.0%			17	20.0%	6	7.5%
Chemistry	10	2.5%	0	0.0%	1	2.1%	2	2.4%	7	8.8%
Mathematics	75	18.9%	8	4.3%	15	31.9%	28	32.9%	24	30.0%
Computer science	74	18.7%	5	2.7%	12	25.5%	15	17.6%	42	52.5%

Table 2: Areas of studies

Level	SRB	SRB%	BG	BG%	KG	KG%	NIS	NIS%	NS	NS%
Bachelor	299	75.3%	142	76.8%	44	93.6%	47	55.3%	66	82.5%
Master	76	19.1%	24	13.0%	3	6.4%	36	42.4%	13	16.3%
PhD	22	5.5%	19	10.3%	0	0.0%	2	2.4%	1	1.3%

Table 3: Level of studies





Year	SRB	SRB%	BG	BG%	KG	KG%	NIS	NIS%	NS	NS%
1st	151	38.0%	65	35.1%	16	34.0%	62	72.9%	8	10.0%
2nd	85	21.4%	41	22.2%	5	10.6%	16	18.8%	23	28.8%
3rd	68	17.1%	31	16.8%	6	12.8%	3	3.5%	28	35.0%
4th	63	15.9%	29	15.7%	19	40.4%	3	3.5%	12	15.0%
5th	30	7.6%	19	10.3%	1	2.1%	1	1.2%	9	11.3%

Table 4: Year of studies



# Evaluation of weekly engagement

	SRB		BG		KG		NIS		NS	
Activity	average hours	SD1	average hours	SD	average hours	SD	average hours	SD	average hours	SD
Presence at classes (lectures and exercises)	12.91	8.06	12.11	7.93	17.39	7.74	12.69	7.45	12.37	8.49
Creating homework and other activities	4.75	5.16	4.80	4.86	4.07	3.59	4.00	4.96	5.81	6.49
Self-study	12.49	9.81	13.08	10.40	9.39	7.43	14.28	9.87	11.06	9.16
Work (learning) with other students	2.13	2.78	2.09	3.06	2.82	3.11	1.68	2.30	2.31	2.29
Other activities that are realized at the faculty	1.58	3.98	1.39	2.80	1.40	1.77	1.03	2.27	2.68	7.10
Total	33.61	18.27	31.75	18.92	33.50	17.66	32.80	16.52	34.10	19.11

<sup>1</sup> SD – standard deviation

Table 5: distribution of weekly engagement







CONCLUSION: Looking at the total engagement of students, we notice that they have estimated their load at about 34 hours, which is slightly less than the anticipated load of 40 hours. However, a standard deviation of 18.27 hours indicates that student self-assessment is in a wide range (Figure 6). The largest number of students (one-fourth of the students) estimated their weekly workload in the range of 20 to 30 hours. The two activities taking most of the time are Presence at classes (lectures and exercises) and Self-study (Table 5 and Figure 5).

## Courses in methodology

	SRB		В	G	KG		NIS		NS	
course	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
Electronic learning methodology	88	307	24	161	12	34	13	72	39	40
Teaching methods	102	293	24	161	14	32	17	68	47	32

Table 6a: Absolute frequency of students who listened (or not) two courses in the methodology

	SRB%		BG%		KG%		NIS%		NS%	
course	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO





59.49%

20.00%

Electronic learning methodology	22.28%	77.72%	12.97%	87.03%	26.09%	73.91%	15.29%	84.71%	49.37%	50.63%
Teaching methods	25.82%	74.18%	12.97%	87.03%	30.43%	69.57%	20.00%	80.00%	59.49%	40.51%

Table 6b: Percentage of students who listened (or not) two courses in the methodology



Figure 7b

CONCLUSION: The answers to this question are in direct correlation with the study program and with the year of studies. Courses in the field of methodology are mandatory for teacher education programs. This is also the reason for the rather unevenness of the universities.

## *Types of disciplines of e-learning methodologies (which you had the opportunity to study at the studies)*

	SF	RB	BG		K	G	N	IS	N	IS
area	YES	NO	YES	NO	YES	NO	YES	NO	YES	NO
Electronic publishing (Latex, HTML, XML, PDF, and so on)	151	223	45	128	29	14	28	52	49	29
Online Technology in Teaching	100	274	30	143	7	36	18	62	45	33
Open-source software (MOODLE, Python, GeoGebra, MOOC, and so on)	127	248	20	154	24	19	24	56	59	19
I've never heard of any of these disciplines	109	262	66	109	7	32	30	51	6	70

Table 7a: Absolute frequency of students





	SRB%		BG%		KG%		NIS%		NS%	
area	YES	NO								
Electronic publishing (Latex, HTML, XML, PDF, and so on)	40.37%	59.63%	26.01%	73.99%	67.44%	32.56%	35.00%	65.00%	62.82%	37.18%
Online Technology in Teaching	26.74%	73.26%	17.34%	82.66%	16.28%	83.72%	22.50%	77.50%	57.69%	42.31%
Open-source software (MOODLE, Python, GeoGebra, MOOC, and so on)	33.87%	66.13%	11.49%	88.51%	55.81%	44.19%	30.00%	70.00%	75.64%	24.36%
I've never heard of any of these disciplines	29.38%	70.62%	37.71%	62.29%	17.95%	82.05%	37.04%	62.96%	7.89%	92.11%



#### Table 7b: Percentage of students

Figure 8

CONCLUSION: The answers to this question largely depend on the field of study. Thus, students in the field of computer science and mathematics (KG, NS) answered these questions with YES, while students in other areas dominantly responded with NO







CONCLUSION: The data show that students had very little experience in attending classes in English. Less than ½ said they attended a lecture in English, and in most cases, it was one time only. Even more unfavorable situation is in attending a course on an electronic platform. This experience had less than 1/6. Among students who have had the opportunity to attend online courses are mostly students of computer science.

## *New technologies - electronic materials (presentations), animations / films, online learning platforms, web conferences* Attitudes about the use of new technologies in teaching

Respondents answered how much the following claims are true for them on the five-level Lihter scale (1- It's not true at all; 2 - It's not true in general; 3- Equally true and not true; 4 - Generally true; 5. - Totally true).

notation	statements
a1	Using new technologies in teaching motivates students to get involved more actively in the learning process.
a2	The use of new technologies in teaching helps students to acquire new knowledge more effectively.
a3	Using modern technologies in higher education allows students to be more creative and imaginative.
a4	The use of new technologies in teaching promotes the development of students' interpersonal skills (i.e., the ability to talk and work with others).
a5	The use of modern technologies increases students' self-confidence to be more active at lessons.
a6	Using the online platform allows students easier and faster access to relevant information.
a7	Using the online learning platform contributes to the realization of the individualization of teaching.
a8	The use of new technologies in teaching and learning is the essence of preparing students to live and work in the 21st century.





a9	Students are more respected by teachers who use modern teaching technologies.
a10	It is very important that teachers are open to communicating with students through social networks (Facebook, Twitter, etc.).
a11	Using the online learning platform reduces the amount of stress and nervousness of students.
a12	The use of modern teaching technologies makes students less interested in the content of lessons.

		a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12
	Average	3.78	3.95	3.75	3.66	3.27	4.40	3.87	4.14	3.07	3.04	3.10	2.49
SRB	Median	4	4	4	4	3	5	4	4	3	3	3	2
	Mode	4	4	4	4	3	5	4	5	3	3	3	2
	Average	3.68	3.92	3.59	3.45	3.08	4.43	3.87	4.01	3.09	2.78	3.03	2.35
BG	Median	4	4	4	4	3	5	4	4	3	3	3	2
	Mode	4	4	4	4	3	5	4		3	2	3	2
	Average	3.53	3.83	3.64	3.54	3.43	4.16	3.65	4.22	3.00	3.23	3.15	2.53
<b>M</b>	Median	4	4	4	4	3	4	4	5	3	3	3	3
	Mode		4	4	4	3	5	4	5	3	3	3	1
	Average	3.96	4.02	3.92	3.94	3.35	4.41	3.77	4.21	3.05	3.33	3.24	2.63
NIS	Median	4	4	4	4	3	5	4	4	3	3	3	2.5
	Mode	4	4	4	4	3	5	4	5	3	3	3	2
	Average	3.98	4.01	4.01	3.93	3.56	4.48	4.08	4.35	3.1	3.23	3.08	2.62
NS	Median	4	4	4	4	4	5	4	5	3	3	3	2
	Mode	4	4	4	4	3	5	4	5	3	4	3	2



Table 10: Mean response values of the respondents

	SRB				BG			KG				NIS					NS								
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
a1	9	27	89	188	84	5	14	45	92	29	3	5	14	14	11	0	4	17	42	22	1	4	13	40	22
a2	6	20	76	181	114	4	12	31	86	52	1	4	9	21	12	0	0	21	41	23	1	4	15	33	27
a3	13	24	114	141	103	9	15	57	65	39	3	3	14	15	12	0	4	23	33	24	1	2	20	28	28
a4	11	35	114	152	84	6	24	62	66	27	2	7	11	16	10	1	2	24	32	26	2	2	17	38	21
a5	20	67	148	103	56	11	46	64	44	19	3	7	14	11	11	3	10	39	20	13	3	4	31	28	13





a6	3	13	29	125	222	3	3	10	64	103	0	5	5	13	22	0	3	9	23	50	0	2	5	25	47
a7	7	24	94	156	111	4	12	39	76	52	3	3	12	17	11	0	6	28	29	21	0	3	15	34	27
a8	7	19	57	137	172	3	15	29	68	69	2	2	5	12	25	1	0	17	28	38	1	2	6	29	40
a9	54	62	136	85	57	25	31	58	42	28	8	6	16	12	5	11	11	38	11	13	10	14	24	20	11
a10	61	80	102	83	68	36	47	46	29	25	7	6	13	11	10	9	11	27	19	19	9	16	16	24	14
a11	49	67	133	89	57	29	30	59	39	27	4	11	14	10	8	7	13	33	17	15	9	13	27	23	7
a12	79	136	110	46	23	40	70	51	15	8	15	7	13	9	3	13	29	24	12	6	11	30	22	10	6

Table 11: Distribution of the responses to the twelve observed claims

CONCLUSION: The students had the highest agreement (the average grade above 4) in relation to the claims a6 (Using the online platform allows students easier and faster access to relevant information.) and a8 (The use of new technologies in teaching and learning is the essence of preparing the students to live and work in the 21st century.) The least agreement (the average score below 2.5) was shown by students in relation to the claim a12 (The use of modern teaching technologies makes students less interested in the content of lessons.) Students showed relatively low agreement (average grade of about 3) with claims a9 (Students are more respected by teachers who use modern teaching technologies), a10 (It is very important that teachers are open to communicating with students through social networks (Facebook, Twitter, etc.)) and a11 (Using the online learning platform reduces the amount of stress and nervousness of students).

The second group of consisted of statements about the use of modern technologies by teachers. The students assessed for how many teachers the statement is true, using the phrases: none of the teachers, a few teachers, majority of teachers, and all the teachers.

notation	statement
b1	Students can communicate with teachers via forums or other forms of online communication.
b2	Teachers are open to communicating with students via social networks (Facebook, Twitter, etc.).
b3	Teachers set test results, give assignments, and share other useful information with students online.
b4	Teachers use electronic test systems to test students.
b5	Teachers share with students electronic textbooks and use multimedia software and learning platforms (Moodle for example).
b6	In the classes teachers use electronic material (presentations, animations / films, etc.) as teaching material.
b7	Teachers encourage us to use electronic books, electronic textbooks, and other online educational materials.
b8	Teachers encourage students to use online courses as educational materials.
b9	Teachers use online learning platforms at their classes.
b10	Teachers encourage students to work in teams, form groups, and discussion forums.
b11	Students are given instructions on how to use online tools, learning platforms, and other electronic resources to help them complete their tasks more easily.
b12	Teachers create online tests to ease student self-examination and enable them to check their own knowledge.





b13	Students get ready answers to questions from tests through online communication tools.
b14	Teachers expect students to use collaborative software to communicate with them and other students (Google Docs, Wikis, etc.).
b15	During classes, teachers use web conferences as teaching materials.

	SRB BG							KG						NIS					NS				
	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers			
b1	8.6%	31.4%	38.7%	21.3%	13.5%	36.8%	38.4%	11.4%	8.5%	29.8%	31.9%	29.8%	3.6%	29.8%	34.5%	<b>32.1%</b>	2.5%	21.5%	48.1%	27.8%			
b2	43.1%	40.6%	12.9%	3.3%	57.1%	38.0%	4.3%	0.5%	40.4%	42.6%	10.6%	6.4%	25.0%	38.1%	28.6%	8.3%	31.6%	48.1%	17.7%	2.5%			
b3	3.6%	19.8%	47.5%	29.2%	2.2%	28.3%	53.3%	16.3%	14.9%	27.7%	19.1%	38.3%	1.2%	11.9%	<b>39.3%</b>	47.6%	2.5%	3.8%	59.5%	34.2%			
b4	51.7%	36.8%	8.7%	2.8%	47.5%	47.0%	4.4%	1.1%	59.6%	29.8%	8.5%	2.1%	69.4%	17.6%	<b>10.6%</b>	2.4%	36.8%	38.2%	17.1%	7.9%			
b5	19.2%	41.3%	25.6%	13.9%	25.5%	53.8%	16.8%	3.8%	19.1%	44.7%	19.1%	<b>17.0%</b>	22.4%	32.9%	36.5%	8.2%	1.3%	19.0%	38.0%	41.8%			
b6	1.5%	17.6%	45.7%	35.2%	2.7%	10.4%	50.3%	36.6%	2.1%	<b>31.9%</b>	27.7%	38.3%	0.0%	26.5%	<b>39.8%</b>	33.7%	0.0%	16.5%	51.9%	31.6%			
b7	12.2%	35.6%	38.7%	13.5%	15.2%	40.2%	35.3%	9.2%	<b>17.0%</b>	40.4%	34.0%	8.5%	13.1%	32.1%	34.5%	20.2%	1.3%	25.6%	53.8%	19.2%			
b8	28.2%	40.2%	24.4%	7.1%	38.5%	40.1%	17.6%	3.8%	27.7%	42.6%	21.3%	8.5%	27.1%	38.8%	27.1%	7.1%	6.3%	40.5%	39.2%	13.9%			
b9	30.9%	42.6%	19.9%	6.6%	41.5%	46.4%	10.4%	1.6%	<b>23.9%</b>	45.7%	23.9%	6.5%	34.5%	35.7%	22.6%	7.1%	6.3%	39.2%	36.7%	17.7%			
b10	33.1%	37.2%	24.2%	5.6%	38.6%	40.8%	19.0%	1.6%	37.0%	37.0%	21.7%	4.3%	27.4%	39.3%	21.4%	11.9%	24.1%	26.6%	40.5%	8.9%			
b11	31.2%	41.4%	20.7%	6.6%	44.5%	39.6%	13.2%	2.7%	17.4%	52.2%	26.1%	4.3%	25.0%	52.4%	15.5%	7.1%	15.2%	27.8%	40.5%	16.5%			
b12	48.7%	35.8%	11.7%	3.8%	42.4%	50.5%	6.0%	1.1%	67.4%	21.7%	4.3%	6.5%	63.5%	17.6%	<b>12.9%</b>	5.9%	36.7%	29.1%	27.8%	6.3%			
b13	59.5%	26.2%	10.4%	3.8%	62.5%	28.3%	7.6%	1.6%	63.0%	23.9%	8.7%	4.3%	66.7%	16.7%	9.5%	7.1%	43.0%	32.9%	19.0%	5.1%			
b14	42.3%	32.1%	18.6%	6.9%	45.4%	30.1%	17.5%	7.1%	<b>39.1%</b>	43.5%	<b>13.0%</b>	4.3%	44.0%	31.0%	17.9%	7.1%	35.4%	31.6%	25.3%	7.6%			
b15	64.6%	22.1%	9.7%	3.6%	75.0%	20.1%	4.9%	0.0%	56.5%	26.1%	<b>13.0%</b>	4.3%	<b>63.1%</b>	20.2%	<b>10.7%</b>	6.0%	46.8%	26.6%	17.7%	8.9%			

%The yellow color indicates the field with the highest percentage of answers for each question and for each institution.

Table 12: Distribution of the responses to the fifteen observed claims









CONCLUSION: The analysis of the student's response indicates that the claims in this group can be clustered into three groups. The first group of claims are those for which the students to a large extent (over 70%) have declared that the claim applies to all or almost all teachers. This group includes only two claims: b3 and b6 (b3 - Teachers set test results, give assignments, and share other useful information with students online and b6 - In class teachers use electronic material (presentations, animations / films, etc.)) as teaching material.) The second group of statements are the claims for which the students have indicated (over 70%) that they are not used by any or several of the teachers. This group consists of b2, b4, b9, b10, b11, b12, b14, b13 and b15, to which more than 50% of students stated that a NO teacher does not practice. The third group of questions are other questions b1, b5, b7, b8.

In your opinion, what ratio (in percent) should be between teaching and learning in education to make education the most successful? To this question,





	5	SRB		BG		KG		NIS		NS			
	SRB	SRB%	BGD	BGD%	KG	KG%	NIS	NIS%	NS	NS%			
0% - 100%	8	2.03%	3	1.63%	0	0.00%	4	4.71%	1	1.25%			
25% - 75%	48	12.15%	28	15.22%	5	10.87%	8	9.41%	7	8.75%			
50% - 50%	262	66.33%	118	64.13%	26	56.52%	65	76.47%	53	66.25%			
75% - 25%	73	18.48%	33	17.93%	15	32.61%	8	9.41%	17	21.25%			
100% - 0%	<b>100% - 0% 4 1.01% 2 1.09% 0 0.00% 0 0.00% 2 2.50%</b>												
				Ta	able 13								



Figure 12

Conclusion: The two thirds of the students choose the option of 50% - 50%, which agrees with the teachers' answers. However, the dominant choice of this option may indicate that neither teachers nor students understand what is meant by teaching and what is meant by learning.

Have you ever attended a course in one of the fo	ollowing	disciplines	during	your prev	lous sch	ool educa	tion?	

.. . ..

. ..

course	SRB	SRB%	BGD	BGD%	KG	KG%	NIS	NIS%	NS	NS%
Pedagogy	108	28.27%	25	13.81%	13	28.89%	29	35.37%	41	55.41%
Psychology	104	27.30%	25	13.89%	13	28.89%	35	42.68%	31	41.89%
Teaching methodology	53	14.10%	14	7.91%	9	20.00%	10	12.20%	20	27.78%
Application of new technologies in teaching	68	18.28%	15	8.47%	9	20.45%	15	18.52%	29	41.43%
English language	235	60.72%	76	41.99%	44	95.65%	50	60.24%	65	84.42%
You have not learned any of these disciplines	69	20.97%	54	33.54%	2	5.88%	9	12.86%	4	6.25%

Conclusion: The answer to the attendance of the English course is very variable according to the university. In BG, only 42% of students stated that they had attended a course in English !? while in KG this percentage reaches 95%. Students may not understand this group of questions.

Have you ever given feedback and participated in the evaluation of your study programs and in assessing the quality of teaching in your institution?



SRB

270

125

YES

NO

SRB%

68.35%

31.65%

BGD

127

57

BGD%

69.02%

30.98%

KG

31

15

KG%

67.39%

32.61%

Table 14

NIS

49

36





Figure 15

Conclusion: Regardless of the fact that students participate in evaluating the teaching process by completing a survey which is mandatory in most higher education institutions, it is surprising that only 2/3 indicated that they participated in the evaluation of the study program.

NIS%

57.65%

42.35%

NS

63

17

NS%

78.75%

21.25%

## Application of educational strategies

The students assessed for how many teachers the next groups of statements are true, using the phrases: none of the teachers, a few teachers, majority of teachers, and all the teachers.

#### **Teaching strategies involving students**

notation	statements
c1	You receive feedback from your teachers about test solutions, tasks, and ongoing work.
c2	You get clear information on how to evaluate the course you are attending.
c3	You get clear instructions from your teacher how to prepare for the next lesson
c4	Teachers give you homework, short-term assignments, an obligation to read something or some other form of preparation for the next lesson.

	SRB BG								К	G			N	IS			NS			
	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers
c1	6.91%	27.62%	35.81%	29.67%	10.99%	32.97%	35.71%	20.33%	4.35%	30.43%	41.30%	<b>23.91%</b>	4.76%	<b>17.86%</b>	30.95%	46.43%	1.27%	24.05%	37.97%	36.71%
c2	2.29%	8.91%	35.37%	53.44%	2.75%	7.14%	41.76%	48.35%	2.17%	17.39%	32.61%	47.83%	3.53%	8.24%	18.82%	69.41%	0.00%	8.75%	40.00%	51.25%
c3	10.18%	31.04%	38.68%	20.10%	8.79%	30.77%	42.31%	18.13%	<b>15.22%</b>	34.78%	34.78%	15.22%	<b>15.29%</b>	25.88%	<b>27.06%</b>	31.76%	5.00%	35.00%	45.00%	15.00%
c4	8.91%	49.62%	30.28%	11.20%	7.14%	51.10%	31.87%	9.89%	15.22%	54.35%	21.74%	8.70%	11.76%	42.35%	29.41%	16.47%	6.25%	51.25%	32.50%	10.00%









#### Intellectual engagement and impact on learning

notation	statement
d1	You are motivated and encouraged to develop new ideas and find creative solutions to the problems during learning.
d2	During classes, you look for more solutions to the same problem and compare them.
d3	During classes, you usually discuss complex issues.
d4	Teachers ask you to explain your ideas.

		SI	RB			BG				KG				NIS				NS			
	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	
d1	14.58%	51.15%	27.37%	6.91%	18.13%	64.84%	12.64%	4.40%	21.74%	45.65%	28.26%	4.35%	<b>13.10%</b>	33.33%	39.29%	<b>14.29%</b>	3.80%	41.77%	48.10%	6.33%	
d2	18.93%	52.69%	21.99%	6.39%	27.07%	59.67%	9.94%	3.31%	15.22%	50.00%	30.43%	4.35%	11.76%	44.71%	30.59%	<b>12.94%</b>	10.13%	46.84%	35.44%	7.59%	
d3	14.32%	45.01%	28.64%	12.02%	22.10%	52.49%	17.68%	7.73%	13.04%	34.78%	41.30%	<b>10.87%</b>	7.06%	37.65%	38.82%	16.47%	5.06%	41.77%	35.44%	17.72%	
d4	13.55%	45.01%	27.88%	13.55%	18.23%	54.70%	19.89%	7.18%	10.87%	30.43%	39.13%	19.57%	10.59%	35.29%	34.12%	20.00%	7.59%	41.77%	32.91%	17.72%	





Conclusion: In this group of claims, as can be seen from Table 16 and Figure 17, the majority answers are *A few teachers*. This indicates that there is a significant area for improving the teaching process through stronger motivation for students to actively participate.



#### **Relationship: teacher - student**

notation	statement
e1	You can communicate with teachers openly and freely
e2	You can communicate with teachers via social networks (Facebook, Twitter, etc.).
e3	Teachers come to you with respect.
e4	Teachers greet you with a smile and friendly tone.

		SI	RB			BG				KG				NIS				NS			
	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	
e1	3.83%	33.16%	43.37%	19.64%	6.01%	42.08%	39.89%	12.02%	2.17%	32.61%	43.48%	21.74%	2.35%	22.35%	47.06%	28.24%	1.28%	24.36%	47.44%	26.92%	
e2	47.83%	34.78%	12.79%	4.60%	64.84%	30.77%	3.85%	0.55%	39.13%	47.83%	<b>8.70%</b>	4.35%	33.33%	25.00%	29.76%	<b>11.90%</b>	29.11%	46.84%	17.72%	6.33%	
e3	1.53%	14.76%	43.00%	40.71%	1.09%	19.67%	50.27%	28.96%	4.35%	15.22%	36.96%	43.48%	1.18%	8.24%	40.00%	<b>50.59%</b>	1.27%	10.13%	32.91%	55.70%	
e4	3.56%	30.79%	48.85%	16.79%	4.92%	38.25%	48.63%	8.20%	2.17%	36.96%	36.96%	23.91%	2.35%	20.00%	57.65%	20.00%	2.53%	21.52%	46.84%	29.11%	







#### Cooperation

notation	statement
f1	Often group assignments are assigned to you that you need to realize at class or at home.
f2	Students are motivated and stimulated to share their knowledge and help other students during classes or during the preparation of the exam.
f3	Teachers expect you to use collaborative software to communicate with them and other students (Google Docs, Wikis, etc.).
f4	Teachers expect you to get involved by expressing your opinion.

	SRB BG								К	G		NIS				NS				
	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers
f1	17.48%	62.21%	17.99%	2.31%	17.68%	67.96%	13.81%	0.55%	22.22%	57.78%	20.00%	0.00%	25.00%	51.19%	16.67%	7.14%	6.33%	63.29%	27.85%	2.53%
f2	17.18%	46.41%	26.92%	9.49%	23.20%	52.49%	18.23%	6.08%	17.39%	47.83%	30.43%	4.35%	13.10%	32.14%	39.29%	15.48%	7.59%	46.84%	31.65%	13.92%
f3	39.23%	39.74%	15.90%	5.13%	42.54%	39.23%	13.26%	4.97%	45.65%	36.96%	13.04%	4.35%	35.71%	42.86%	16.67%	4.76%	31.65%	39.24%	22.78%	6.33%
f4	9.74%	44.36%	34.62%	11.28%	11.54%	55.49%	24.73%	8.24%	19.57%	28.26%	36.96%	15.22%	4.71%	29.41%	49.41%	16.47%	5.19%	44.16%	40.26%	10.39%





Conclusion: Based on the students' responses, there is a significant opportunity to improve the teaching process through strengthening cooperation and encouraging students to get involved in group work, as well as to share their knowledge.



## Student-centered teaching and learning

notation	statement
g1	Teachers show flexibility as far as the content or methods of their course are concerned, in order to adapt it to the needs of students.
g2	You can freely choose the themes of individual tasks in accordance with your preferences, interests and priorities.
g3	Teachers try to link the contents of their courses with your knowledge and experience gained through the subjects you have previously listened to.
g4	Teachers show interest in students' opinions.

	SRB						G		KG				NIS				NS			
	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers
g1	13.66%	45.88%	32.47%	7.99%	18.23%	50.83%	26.52%	4.42%	<b>23.91%</b>	32.61%	36.96%	6.52%	2.35%	44.71%	38.82%	14.12%	9.21%	43.42%	36.84%	10.53%
g2	19.28%	47.81%	24.68%	8.23%	24.86%	53.04%	17.68%	4.42%	<b>23.91%</b>	50.00%	26.09%	0.00%	<b>10.71%</b>	45.24%	28.57%	15.48%	12.82%	37.18%	35.90%	14.10%
g3	11.05%	34.45%	41.13%	13.37%	12.15%	44.20%	34.25%	9.39%	15.56%	20.00%	53.33%	11.11%	7.06%	23.53%	49.41%	20.00%	10.26%	32.05%	41.03%	16.67%
g4	7.77%	41.45%	34.72%	16.06%	8.38%	54.75%	24.58%	12.29%	17.78%	24.44%	37.78%	20.00%	5.95%	<b>26.19%</b>	47.62%	20.24%	2.56%	37.18%	42.31%	17.95%

Table 19







#### Enthusiasm and way of teaching

notation	statement
h1	Teachers maintain student interest by changing teaching methods and methods of work
	from time to time.
h2	Teachers use electronic books, presentations, video clips, movies, etc. at their classes.
h3	Teachers organize work in pairs, group work, workshops, etc. to improve interaction
	among students on lessons.
h4	Teachers stimulate students to seek additional learning resources, in addition to
	compulsory materials, critically assessing their reliability.





	SRB BG									к	G	NIS					NS			
	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers
h1	23.45%	54.64%	17.78%	4.12%	30.94%	59.67%	6.63%	2.76%	22.22%	53.33%	22.22%	2.22%	<b>19.05%</b>	40.48%	32.14%	8.33%	11.54%	58.97%	25.64%	3.85%
h2	5.15%	38.92%	39.95%	15.98%	4.42%	37.57%	43.09%	14.92%	20.00%	37.78%	28.89%	13.33%	2.38%	<b>39.29%</b>	<b>39.29%</b>	<b>19.05%</b>	1.28%	42.31%	39.74%	16.67%
h3	23.58%	55.44%	17.10%	3.89%	26.67%	60.00%	11.11%	2.22%	36.36%	43.18%	20.45%	0.00%	<b>23.81%</b>	<b>46.43%</b>	21.43%	8.33%	8.97%	61.54%	24.36%	5.13%
h4	15.54%	46.11%	28.50%	9.84%	16.11%	53.89%	22.22%	7.78%	31.82%	25.00%	29.55%	13.64%	14.29%	39.29%	32.14%	14.29%	6.41%	47.44%	38.46%	7.69%

Table 20



Structure	
notation	statement
j1	During classes, teachers summarize the material and highlight the most important parts.
j2	Teachers adjust the time of instruction and do well time management.
j3	Teaching materials are well structured and organized.
j4	Classes are well organized.





	SRB BG							KG				NIS				NS				
	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers	No one of teachers	A few teachers	Majority of teachers	All teachers
j1	5.66%	38.82%	43.96%	11.57%	6.04%	43.96%	41.76%	8.24%	8.89%	31.11%	42.22%	17.78%	1.19%	32.14%	50.00%	16.67%	7.69%	38.46%	43.59%	10.26%
j2	5.14%	28.28%	47.81%	18.77%	6.04%	37.36%	41.76%	14.84%	11.11%	15.56%	51.11%	22.22%	3.57%	20.24%	48.81%	27.38%	1.28%	23.08%	58.97%	16.67%
j3	5.67%	36.60%	44.85%	12.89%	9.34%	44.51%	38.46%	7.69%	8.89%	22.22%	55.56%	13.33%	<b>1.20%</b>	34.94%	40.96%	22.89%	0.00%	28.21%	57.69%	14.10%
j4	3.61%	35.05%	48.20%	13.14%	4.42%	48.62%	38.12%	8.84%	10.87%	21.74%	54.35%	13.04%	1.20%	28.92%	48.19%	21.69%	0.00%	17.95%	67.95%	14.10%

Table 21







# **University in Albania**

## Structure of the sample

The questionnaire consisted of 79 questions. Respondents who answered less than 35 questions (in total 5 respondents) were excluded from the sample. The total number of questionnaires that were considered was 344. The survey was conducted electronically in April and May 2019.

Note: The average number of responses per questionnaire is 76.4. Due to the small number of missing data, no filling was done, but the analysis was based directly on the answers given by students.

The questionnaire was filled out by students of two state universities: 121 students (making 34.67% of the sample) from the University of Gjirokastra, 228 students (65.33% of the sample) from the University of Korca.

Note: The results in the reports are presented collectively for both universities and the abbreviation (ALB) is used for these results. The cases when the student did not prefer to answer the respective question are marked with N/R (No response) or N/A (No answer).

The structure of the sample is based on gender, area of study, level of studies and year of studies is given in Tables 1-4. The charts are given for the whole sample, i.e., for ALB.

Gender	ALB	ALB%
Male	104	30.23%
Female	240	69.77%
Total	344	100%
Table 4	· Canalan	

Table 1: Gender





## Strengthening Teaching Competences in Higher Education in Natural and Mathematical Sciences



Area	ALB	ALB%
Biology&Chemistry	64	18.60%
Biology&Ecology	12	3.49%
Physics	21	6.10%
Geography	25	7.27%
Chemistry	11	3.20%
Mathematics	112	32.56%
Math&Physics	18	5.23%
Computer science	81	23.55%

Table 2: Areas of studies





Level	ALB	ALB%
Bachelor	249	72.38%
Master	95	27.62%
PhD	0	0.00%

Table 3: Level of studies





Year		ALB	ALB%						
1st		56	16.28%						
2nd		73	21.22%						
3rd		171	49.71%						
4th		32	9.30%						
5th		12	3.49%						
Table 4: Year of studies									



## Evaluation of weekly engagement

	ALB	
Activity	average hours	SD1
Presence at classes (lectures and exercises)	18.07	7.90
Creating homework and other activities	8.90	7.10
Self-study	8.24	6.71
Work (learning) with other students	2.54	3.27
Other activities that are realized at the faculty	1.35	2.26
Total	38.79	20.28

<sup>1</sup> SD – standard deviation

Table 5: distribution of weekly engagement







CONCLUSION: Looking at the total engagement of students, we notice that they have estimated their load at about 38 hours, which is slightly less than the anticipated load of 40 hours. However, a standard deviation of 20.28 hours indicates that student self-assessment is in a wide range (Figure 6). About half of students (53.5%) estimated their weekly workload in the very wide range of 20 to 50 hours. The two activities taking most of the time are Presence at classes (lectures and exercises) and Self-study (Table 5 and Figure 5).

## Courses in methodology

		ALB		ALB %			
course	YES	NO	N/R	YES	NO	N/R	
Electronic learning methodology	65	275	14	18.90%	79.94%	4.07%	
Teaching methods	102	241	1	29.65%	70.06%	0.29%	

Table 6: Absolute frequency of students who listened (or not) two courses in the methodology









CONCLUSION: The answers to this question showed that the courses attended for traditional teaching methods that are part of the curriculum in the fields of study with teaching profile are more frequented than the courses attended for e-teaching methods. But in both cases, only about a quarter of the students who preferred to answer this question were able to attend at least one methodology course.

## Types of disciplines of e-learning methodologies (which you had the opportunity to study at the studies)

		ALB			ALB %	
area	YES	NO	N/R	YES	NO	N/R
Electronic publishing (Latex, HTML, XML, PDF, and so on)	134	167	43	38.95%	48.55%	12.50%
Online Technology in Teaching	101	204	39	29.36%	59.30%	11.34%
Open-source software (MOODLE, Python, GeoGebra, MOOC, and so on)	41	259	44	11.92%	75.29%	12.79%
I've never heard of any of these disciplines	112	195	37	32.56%	56.69%	10.76%

Table 7: Absolute frequency of students









CONCLUSION: The answers to this question depend mainly on the field of study. Thus, students in the field of informatics mainly answered these questions with YES, while students in other fields mainly answered NO. But it is noticed that there is a considerable number of students who have answered with YES the question "I have never heard of any of these disciplines (32.56%)







CONCLUSION: The data show that students had very little experience in attending classes in English. About of 1/3 said they attended a lecture in English, and in most cases, it was one time only. Even more unfavorable situation is in attending a course on an electronic platform. This experience had less than 1/8. Among students who have had the opportunity to attend online courses are mostly students of computer science.

## *New technologies - electronic materials (presentations), animations / films, online learning platforms, web conferences*

#### Attitudes about the use of new technologies in teaching

Respondents answered how much the following claims are true for them on the five-level Lihter scale (1- It's not true at all; 2 - It's not true in general; 3- Equally true and not true; 4 - Generally true; 5. - Totally true).

notation	statements
a1	Using new technologies in teaching motivates students to get involved more actively in the learning process.
a2	The use of new technologies in teaching helps students to acquire new knowledge more effectively.
a3	Using modern technologies in higher education allows students to be more creative and imaginative.
a4	The use of new technologies in teaching promotes the development of students' interpersonal skills (i.e., the ability to talk and work with others).
a5	The use of modern technologies increases students' self-confidence to be more active at lessons.





a6	Using the online platform allows students easier and faster access to relevant information.
a7	Using the online learning platform contributes to the realization of the individualization of teaching.
a8	The use of new technologies in teaching and learning is the essence of preparing students to live and work in the 21st century.
a9	Students are more respected by teachers who use modern teaching technologies.
a10	It is very important that teachers are open to communicating with students through social networks (Facebook, Twitter, etc.).
a11	Using the online learning platform reduces the amount of stress and nervousness of students.
a12	The use of modern teaching technologies makes students less interested in the content of lessons.

		a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12
ALB	Average	4.09	4.10	4.19	4.06	3.68	4.07	3.78	4.19	3.23	3.40	2.63	3.31
	Median	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	3.00	4.00	3.00	3.00
	Mode	4.00	4.00	5.00	4.00	4.00	5.00	4.00	5.00	3.00	4.00	3.00	4.00
	STD	0.97	0.97	0.85	0.97	1.02	0.96	0.98	0.96	1.22	1.22	1.25	1.17



Table 10: Mean response values of the respondents

Figure 10

		a1	a2	a3	a4	a5	a6	a7	a8	a9	a10	a11	a12
	1	12	9	5	12	8	5	8	6	46	36	84	30
	2	13	18	6	7	27	20	23	15	33	34	72	49
6	3	35	37	49	60	99	55	81	49	111	100	105	97
A	4	156	145	141	135	130	129	147	110	100	102	52	115
	5	127	134	142	129	76	134	79	163	51	70	30	51
	N/R	1	1	1	1	4	1	6	1	3	2	1	2

Table 11: Distribution of the responses to the twelve observed claims





CONCLUSION: The students had the highest agreement (the average grade above 4) in relation to the claims a3 (Using modern technologies in higher education allows students to be more creative and imaginative.) and a8 (The use of new technologies in teaching and learning is the essence of preparing the students to live and work in the 21st century.) The least agreement (the average score more than 2.5 but below 3) was shown by students in relation to the claim a11 (Using the online learning platform reduces the amount of stress and nervousness of students.) Students showed relatively low agreement (average grade was more than score 3 but below than 3.5) with claims a9 (Students are more respected by teachers who use modern teaching technologies), a10 (It is very important that teachers are open to communicating with students through social networks (Facebook, Twitter, etc.) and a12 (The use of modern teaching technologies makes students less interested in the content of lessons).

The second group of consisted of statements about the use of modern technologies by teachers. The students assessed for how many teachers the statement is true, using the phrases: none of the teachers, a few teachers, majority of teachers, and all the teachers.

notation	statement
b1	Students can communicate with teachers via forums or other forms of online communication.
b2	Teachers are open to communicating with students via social networks (Facebook, Twitter, etc.).
b3	Teachers set test results, give assignments, and share other useful information with students online.
b4	Teachers use electronic test systems to test students.
b5	Teachers share with students electronic textbooks and use multimedia software and learning platforms (Moodle for example).
b6	In the classes teachers use electronic material (presentations, animations / films, etc.) as teaching material.
b7	Teachers encourage us to use electronic books, electronic textbooks, and other online educational materials.
b8	Teachers encourage students to use online courses as educational materials.
b9	Teachers use online learning platforms at their classes.
b10	Teachers encourage students to work in teams, form groups, and discussion forums.
b11	Students are given instructions on how to use online tools, learning platforms, and other electronic resources to help them complete their tasks more easily.
b12	Teachers create online tests to ease student self-examination and enable them to check their own knowledge.
b13	Students get ready answers to questions from tests through online communication tools.
b14	Teachers expect students to use collaborative software to communicate with them and other students (Google Docs, Wikis, etc.).
b15	During classes, teachers use web conferences as teaching materials.

		b1	b2	b3	b4	b5	b6	b7	b8	b9	b10	b11	b12	b13	b14	b15
e,	No one of teachers	9.30%	<mark>21.22%</mark>	24.13%	<mark>63.37%</mark>	<mark>24.71%</mark>	17.44%	9.59%	<mark>35.17%</mark>	<mark>35.47%</mark>	<mark>34.01%</mark>	<mark>23.55%</mark>	<mark>54.65%</mark>	<mark>30.81%</mark>	<mark>42.44%</mark>	<mark>29.36%</mark>
AI	A few teachers	31.10%	<mark>36.05%</mark>	22.67%	<mark>18.31%</mark>	<mark>30.23%</mark>	26.45%	28.78%	<mark>27.33%</mark>	<mark>35.76%</mark>	<mark>27.62%</mark>	<mark>31.69%</mark>	<mark>24.13%</mark>	<mark>31.69%</mark>	<mark>29.94%</mark>	<mark>35.76%</mark>





Majority of teachers	41.86%	28.20%	21.80%	10.76%	31.40%	34.88%	35.76%	25.00%	18.60%	23.84%	25.29%	12.21%	23.26%	18.90%	22.38%
All teachers	16.28%	13.37%	30.52%	6.10%	12.50%	19.77%	24.13%	10.47%	6.69%	13.37%	18.02%	6.10%	12.21%	6.69%	10.47%
N/R	1.45%	1.16%	0.87%	1.45%	1.16%	1.45%	1.74%	2.03%	3.49%	1.16%	1.45%	2.91%	2.03%	2.03%	2.03%

%The yellow color indicates the field with the highest percentage of answers for each question and for each institution.



#### Table 12: Distribution of the responses to the fifteen observed claims



CONCLUSION: The analysis of the student response shows that the claims in this group can be grouped into three groups. The first set of claims are those for which students to a large extent (over 50%) have stated that the claim applies to all or almost all teachers. This group includes the following claims: b1, b3, b6 and b7 (b1- Students can communicate with teachers via forums or other forms of online communication; b3 - Teachers post test results, assign assignments and share other useful information with students in internet; b6 - In the classroom teachers use electronic materials (presentations, animations / movies, etc.) as teaching material and b7- Teachers encourage us to use electronic books, electronic textbooks, and other online educational materials.) The second group of statements are claims that students have indicated (over 50%) that they have not been used by any or some of the teachers. This group consists of b2, b8, b10, b11, b13, and b15, of whom more than 50% of students but less than 70%





of them stated that a NO teacher practices. The third set of questions are the other questions b4, b9, b12, b14 that students have indicated (more than 70% of students) have not been used by any or some of the teachers.

## In your opinion, what ratio (in percent) should be between teaching and learning in education to make education the most successful? To this question,





Figure 12

Conclusion: About the two thirds of the students choose the option of 50% - 50%, which agrees with the teachers' answers. However, the dominant choice of this option may indicate that neither teachers nor students understand what is meant by teaching and what is meant by learning.

Have you ever attended a course in one of the following disciplines during your previous school education?



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course	ALB	ALB%
Pedagogy	35	10.17 %
Psychology	50	14.53 %
Teaching methodology	48	13.95 %
Application of new technologies in teaching	66	19.19 %
English language	239	69.48 %
You have not learned any of these disciplines	53	15.41 %



Conclusion: The study programs of the students included in the selected sample are mainly study programs in the field of teaching. For this reason, all listed disciplines, with the exception of "English language", are developed in Master studies, therefore the number of students who answered positively to these questions, correlates with the number of students who have stated that they are conducting Master studies . Regarding the "English Language", the courses for this discipline are extended throughout the Bachelor and Master studies and consequently it is expected that the number of students who declared positively, would be high in number and percentage.



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#### Have you ever given feedback and participated in the evaluation of your study programs and in assessing the quality of teaching in your institution?





Figure 15

Conclusion: The policies of development and functioning of public universities in Albania clearly oblige these institutions to involve students in the process of evaluating the quality of teaching. The almost equal reaction regarding the inclusion or not of their participation in this process, of the students who preferred to answer this question, really shows how many of them actually participate in this periodic process for Albanian universities.

## Application of educational strategies

The students assessed for how many teachers the next groups of statements are true, using the phrases: none of the teachers, a few teachers, majority of teachers, and all the teachers.

#### **Teaching strategies involving students**

notation	statements
c1	You receive feedback from your teachers about test solutions, tasks, and ongoing work.
c2	You get clear information on how to evaluate the course you are attending.
c3	You get clear instructions from your teacher how to prepare for the next lesson
c4	Teachers give you homework, short-term assignments, an obligation to read something or some other form of preparation for the next lesson.





		<b>c1</b>	c1%	c2	c2%	с3	c3%	c4	c4%
	No one of teachers	29	8.43%	22	6.40%	16	4.65%	17	4.94%
	A few teachers	69	20.06%	52	15.12%	68	19.77%	76	22.09%
ALB	Majority of teachers	93	<mark>27.03%</mark>	102	29.65%	102	29.65%	132	38.37%
	All teachers	148	<mark>43.02%</mark>	160	46.51%	148	43.02%	113	32.85%
	N/R	5	1.45%	8	2.33%	10	2.91%	6	1.74%



Conclusion: The students with the highest mark evaluated the claim c2, i.e., close to 75% students claim that the majority or almost all teachers give clear information about the assessment and attendance of the course. The least mark ( about 70%) is given to the question c1 (You receive feedback from your teachers about test solutions, tasks, and ongoing work.)



#### Intellectual engagement and impact on learning

notation	statement
d1	You are motivated and encouraged to develop new ideas and find creative solutions to the problems during learning.
d2	During classes, you look for more solutions to the same problem and compare them.
d3	During classes, you usually discuss complex issues.
d4	Teachers ask you to explain your ideas.





		d1	d1%	d2	d2%	d3	d3%	d4	d4%
ALB	No one of teachers	24	6.98%	23	6.69%	28	8.14%	17	4.94%
	A few teachers	94	27.33%	98	28.49%	100	29.07%	68	19.77%
	Majority of teachers	126	36.63%	128	37.21%	121	35.17%	91	26.45%
	All teachers	92	26.74%	85	24.71%	84	24.42%	160	46.51%
	N/R	8	2.33%	10	2.91%	11	3.20%	8	2.33%

Table 16

Conclusion: The students with the highest mark evaluated the claim d4, i.e., close to 70% students claim that the majority or almost all teachers ask the students to explain their ideas. Regarding the other three questions, d1, d2, d3, the reaction of the students to all teachers or most of them, was at the same levels (about 60%)



#### **Relationship: teacher - student**

notation	statement
e1	You can communicate with teachers openly and freely



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e2	You can communicate with teachers via social networks (Facebook, Twitter, etc.).
e3	Teachers come to you with respect.
e4	Teachers greet you with a smile and friendly tone.

		e1	e1%	e2	e2%	e3	e3%	e4	e4%
ALB	No one of teachers	17	4.94%	92	26.74%	10	2.91%	8	2.33%
	A few teachers	86	25.00%	114	33.14%	30	8.72%	53	15.41%
	Majority of teachers	119	34.59%	83	<mark>24.13%</mark>	83	24.13%	114	33.14%
	All teachers	116	33.72%	45	<mark>13.08%</mark>	214	62.21%	162	47.09%
	N/R	6	1.74%	10	2.91%	7	2.03%	7	2.03%

Table 17

Conclusion: Students' response to questions e1, e3 and e4 is positively above 70% for all their teachers or most of their teachers. Regarding the use of social networks for teacher-student communication, the positive response regarding all teachers or most of them, was relatively low (about 37%). The use of social networks is still very weak in teaching process. For the remaining three claims that describe the attitude of teachers toward students, students emphasize that they are valid for most or all the teachers.







#### Cooperation

notation	statement
f1	Often group assignments are assigned to you that you need to realize at class or at home.
f2	Students are motivated and stimulated to share their knowledge and help other students during classes or during the preparation of the exam.
f3	Teachers expect you to use collaborative software to communicate with them and other students (Google Docs, Wikis, etc.).
f4	Teachers expect you to get involved by expressing your opinion.

			f1		f2		f3		f4
ALB	No one of teachers	16	4.65%	36	10.47%	89	25.87%	20	5.81%
	A few teachers	72	20.93%	95	27.62%	108	31.40%	66	19.19%
	Majority of teachers	122	35.47%	129	37.50%	86	25.00%	125	36.34%
	All teachers	126	36.63%	75	21.80%	51	14.83%	121	35.17%
	N/R	8	2.33%	9	2.62%	10	2.91%	12	3.49%









## Student-centered teaching and learning

notation	statement
g1	Teachers show flexibility as far as the content or methods of their course are concerned, in order to adapt it to the needs of students.
g2	You can freely choose the themes of individual tasks in accordance with your preferences, interests and priorities.
g3	Teachers try to link the contents of their courses with your knowledge and experience gained through the subjects you have previously listened to.
g4	Teachers show interest in students' opinions.

		g1	g1%	g2	g2%	g3	g3%	g4	g4%
	No one of teachers	26	7.56%	32	9.30%	26	7.56%	13	3.78%
	A few teachers	73	21.22%	103	29.94%	69	20.06%	60	17.44%
ALB	Majority of teachers	122	35.47%	121	<mark>35.17%</mark>	129	37.50%	113	32.85%
	All teachers	113	32.85%	76	<mark>22.09%</mark>	110	31.98%	145	42.15%
	N/R	10	2.91%	12	3.49%	10	2.91%	13	3.78%

Table 19



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Conclusion: Students indicated that they are generally satisfied with Student-

centered teaching and learning. They expressed positively to the extent of

over 60% regarding three of the factors that determine "Student-centered

dominance (about 57%) for all teachers or most of them, was the reaction of

teaching and learning", g1, g3 and g4. Below 60%, but also in positive

students for g2 (You can freely choose the themes of individual tasks in

accordance with your preferences, interests and priorities.



100% 90% 80% 70% 60% **g**4 50% **g**3 40% ∎ g2 30% **g**1 20% 10% 0% No one of A few teachers Majority of All teachers N/R teachers teachers Figure 20

# Enthusiasm and way of teaching

notation	statement
h1	Teachers maintain student interest by changing teaching methods and methods of work
	from time to time.
h2	Teachers use electronic books, presentations, video clips, movies, etc. at their classes.
h3	Teachers organize work in pairs, group work, workshops, etc. to improve interaction
	among students on lessons.
h4	Teachers stimulate students to seek additional learning resources, in addition to
	compulsory materials, critically assessing their reliability.

		h1	h1%	h2	h2%	h3	h3%	h4	h4%
LB	No one of teachers	25	7.27%	36	10.47%	59	17.15%	32	9.30%
A	A few teachers	100	29.07%	93	27.03%	100	29.07%	94	27.33%



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Majority of teachers	128	37.21%	108	31.40%	108	31.40%	126	36.63%
All teachers	81	23.55%	94	27.33%	68	19.77%	81	23.55%
N/R	10	2.91%	13	3.78%	9	2.62%	11	3.20%

Table 20



#### Structure

notation	statement
j1	During classes, teachers summarize the material and highlight the most important parts.
j2	Teachers adjust the time of instruction and do well time management.
j3	Teaching materials are well structured and organized.
j4	Classes are well organized.





			j1		j2		j3		j4
ALB	No one of teachers	11	3.20%	4	1.16%	16	4.65%	15	4.36%
	A few teachers	55	<mark>15.99%</mark>	46	<mark>13.37%</mark>	58	<mark>16.86%</mark>	51	<mark>14.83%</mark>
	Majority of teachers	122	35.47%	111	32.27%	132	38.37%	129	37.50%
	All teachers	147	42.73%	174	50.58%	129	37.50%	140	40.70%
	N/R	9	2.62%	9	2.62%	9	2.62%	9	2.62%

Table 21

Conclusion: As far as the structure of the class is concerned, students have chosen to a large extent the answer that all teachers practice the activities mentioned in the statement (more than 40%). Nevertheless, a significant number of students have chosen the option A few teachers (about 15%) which indicates that there is space for improving pedagogical for a large number of teachers.

