

# INCREASE OF USER MOTIVATION IN TEACHING REALIZED THROUGH DISTANCE LEARNING

PARDANJAC, M.; ELEVEN, E. & KARUOVIC, D.

**Abstract:** *This paper deals with the motivation of students as one of the problems in the implementation of Distance learning method. Also attention will be paid on the questions of students' ability to organize time for learning as well as possession of appropriate personal life habits, as each of the important factors of a successful student's motivation for the use of Distance learning method.*

*The research in this paper includes both empirical and theoretic character, conducted with questionnaire survey on a representative sample. It should provide answers about the impact and importance of user motivation during class organized with Distance learning method, in relation to teaching realized in the traditional way.*

**Keywords:** *distance learning, student's motivation, high school, education, traditional teaching*



**Authors' data:** PhD. **Pardanjac**, M[arjana]; MsC. **Eleven**, E[rika], PhD. **Kaurovic**, D[ijana]; University of Novi Sad, Technical Faculty "Mihajlo Pupin", Djure Djakovica BB, Zrenjanin, Serbia, marjana.pardanjac@tfzr.rs, erika.eleven@tfzr.rs, aruena@tfzr.uns.ac.rs

**This Publication has to be referred as:** Pardanjac, M[arjana]; Eleven, E[rika] & Kaurovic, D[ijana] (2014). Increase of User Motivation in Teaching Realized Through Distance Learning, Chapter 10 in DAAAM International Scientific Book 2014, pp.131-144, B. Katalinic (Ed.), Published by DAAAM International, ISBN 978-3-901509-98-8, ISSN 1726-9687, Vienna, Austria  
DOI: 10.2507/daaam.scibook.2014.10

## 1. Introduction

The phenomenon of motivation is of great importance for the developments and outcomes of teaching and can affect the action of other factors that are essential in the teaching process. The level of development of some abilities can be obtained at a higher level if there is a good motivation. Some of the specific abilities of the individual may be at a high level of development, but if he is not motivated enough, then these skills are brought into question or are minimized. In order that learning process achieves its goal, the student must have a motive to learn and work. Learning occurs as response to internal or external motivation. All psychologists agree that motivation in learning process is a very important factor, although it has a different role in learning and varying in degree of severity.

For example, some theories claim that people or students are motivated by material rewards, desire to increase their power and prestige in the world, interesting work, enriched environments, recognition, or being respected as an individual (Williams & Williams, 2011).

The relation between teachers and students has been changed in the course of time depending on social conditions and the way teachers have perceived students and vice versa (Tasic et al, 2012). In the learning process realized through the distance learning (in the rest of the text DL) teacher has no direct contact with students and has to find some way to motivate students for work. Also, persistence of students is very essential. Increased persistence is itself an important outcome and persistence is a sign of increased motivation and can lead to greater academic success (Andrews & Debus, 1978).

Studies show that DL has a great effect on the student's success because presented material is easier to learn and all students have access to the same technologies. Additional advantages that DL brings are:

- it meets the individual needs of all students in terms of preferences, motivation, skills, interest, speed, prior knowledge and experience, as well as other individual characteristics
- a more positive attitude toward the material in DL than in traditional education
- upgrading and updating teaching material is very easy
- test success is much higher among students who work through the DL - than those who work in the traditional way
- students bring with them their own learning experiences that have an impact on their success in DL
- students voluntarily seeking further education
- students also gain a goal after secondary education and expectations for higher education
- students are highly motivated and self-disciplined
- presented materials demands from teachers comprehensive planning, organization and evaluation of materials
- teachers must be properly trained to use equipment and provide efficiency in DL environment

The reasons for which DL, in some countries, is still not applied in higher volume are:

- until recent the obtainment of the information technology and the accompanied equipment was unattainable for the individual, as well as for schools
- in most schools, the hardware is outdated and unable to support the new applications
- the teachers have very little time to experiment with the new computer technologies and to share their experiences with other instructors

The investment in training of teachers is significantly lower in comparison to the investment in hardware and software. Today, the training of teachers in the use and application of computer technologies is primarily focused on the mechanical use of the equipment, without the integration of such technologies in the curriculum or the selection of the proper software.

Computer integration has many faces and forms: from internet, mobile phone, computer integrated manufacturing, e-technologies and many many others (Katalinic, 2010).

## **2. Literature review**

### *2.1 Distance learning*

Educational activity is one of the most complex human activities with responsibilities involving human personality, training and development (Mazilescu et al, 2010). Distance learning provides changing of traditional roles for teachers and students.

In traditional teaching, teachers communicate directly with students. They prepare content to be taught, supporting materials, notes, tasks, and they manage the entire teaching process in the classroom. Otherwise, in DL, teachers are not in direct contacts with their students during the educational process, but teachers have a passive role, while students take an active role.

Communication is accomplished by means of the media; the students will determine by themselves the order of material, method, speed and level of work. Therefore, universities are beginning to offer courses of DL based on information technology and the Internet, which in the last ten years have risen sharply, becoming widely used in universities around the world (Jara & Mellar, 2007).

The attendance and non attendance, as well as the ideas about the use of learning times, individual work capacity and group learner capacity, information structuring and teacher's new working methods are qualities that DL brings about to teaching-learning processes (Fenollera & Goicoechea, 2011).

Due to the fact that in DL the students have an active role in learning, teachers should enable students to accept this new role and expand their ability to cooperate and organize learning. Open online courses and other online lifelong learning educational sites are great for efficiently distributing information. (Buchmeister et al, 2013).

As DL can be a source of increased participation and interest of student learning,

teachers are motivated to spare more time and energy in their own training for DL implementation in the educational process. It is shown that DL techniques improve not only the teaching but the teacher himself (Herceg et al, 2010). DL presents many interesting opportunities for instructors who are interested in exploring new educational tools and resources in teaching (Shudayfat et al, 2012).

Research shows following characteristics of the DL:

- students better work independently
- the contents are adapted to students individual needs
- more complex activities are presented
- less time is devoted to teaching, due to communication with teachers and other students

The opportunities offered by DL are:

- access to a wider range of students
- engagement of external specialists and trainers who would not otherwise be available
- connect students from different social, cultural, economic and religious backgrounds
- providing learning opportunities to students who are unable to attend campus and classroom teaching

The most important benefit of using DL is to provide more learning options than the normal face-to face classes such as using discussion boards, instant messaging, or email (Shudayfat et al, 2012).

Successful creating of the DL program starts with careful planning, focus finding and understanding of the course requirements and student needs. Internet undoubtedly provides a variety of communication methods, searching options and transmission of education data. Web sites that are created daily also are adapted to the specific student needs, especially for those who would prefer to choose where and when to be educated, instead of spending 1-5 years sitting in a classroom for 45 minutes twice a week, 30 weeks per year (Poteet, 1986). This is especially true in the digital age when students must be computer literate and able to use different types of media to effectively study (Sirkemaa, 2006). Also, students need guidance and support during their studies.

To make DL successful the students has a short time to become familiar with the new way of teaching and learning at a distance. Therefore, we need to adapt the system of DL, to motivate students and to meet their needs, not only in terms of content but also in terms of preferred learning styles.

According to this following should be taken into consideration:

- students should be closer with technologies and prepared for solving technical problems they will come upon
- enable and train them to use new ways of communication
- learn more about the knowledge and experience that students possess; it is also important to know knowledge and interests of teachers

- have a sense of the different styles of communication (different speech areas) and cultural background
- students must have an active role in DL and self taking responsibility for their own learning

The results show that, for students who have chosen DL, more important is to control tempo and learning quantity; while for students who chose courses “face to face” interaction with other students and instructors is the most important (Jara & Mellar, 2007). The results also show that the students are more likely to engage in discussions in a DL than they would be in a face-to-face class (Shudayfat et al, 2012).

## *2.2 The concept of motivation*

Motivation can be defined as a process of triggering, directing and maintaining one’s behavior towards a certain goal. There are three processes forming the basis of motivation: **need, motion and reward**.

Need is the state of lack or philosophical or psychological misbalance. Motion is the action undertaken by a man in order to eliminate this lack, while this lack removal or neutralizing of tension is, in fact, the reward.

Furthermore, three dimensions of motivation are important for understanding its influence on students’ work capabilities: direction, intensity and constancy.

In order for a student to be properly motivated, his motivation has to have certain direction. Next, motivation intensity is in fact the amount of effort that one will use in a time unit so as to fulfill their needs. Finally, motivation constancy is the time of making a certain level of effort in a certain direction.

There are numerous motivation theories, which try to explain what motivates students or other people to work, as well as the way the motivation process is taking place. These theories can be split into two groups: content theories and process theories. Content theories try to give the answers to the question **what** triggers human activity, while process theories try to identify a process which motivates people for undertaking certain activities, i.e. **how** the human behavior is triggered.

## *2.3 Motivation in teaching process*

Because it is justified to conclude that we are living in a 'knowledge-based society' (Tekic et al, 2009), student motivation is an essential element that is necessary for quality knowledge gaining. In the traditional class teacher has a lot of indicators that can determine whether students are interested in learning or not. They pay attention, they begin working on tasks immediately, they ask questions and volunteer answers, and they appear to be happy and eager (Palmer, 2007). Basically, very little if any learning can occur unless students are motivated on a consistent basis (Williams & Williams, 2011).

Different authors give different approaches and theories about the motivation of student. So there is self-determination theory (Deci et al., 1991), which applied to the realm of education, is concerned primarily with promoting in students an interest in learning, a valuing of education, and a confidence in their own capacities and attributes.

Some of these studies have shown that students who had more self-determined forms of motivation for doing schoolwork were more likely to stay in school than students who had less self-determined motivation. (Deci et al., 1991)

Some other authors supports theory that works in small groups can significantly provide the increase in motivation. School is an inherently recursive environment in which early outcomes affect later outcomes (Heckman, 2006). Understanding the processes that affect young children's motivation and learning may suggest novel interventions that could improve children's academic outcomes long into the future (Master & Walton, 2013).

In any case, the success of DL depends on compliance and participation of the following five factors:

- engagement of teachers,
- interest and motivation of students,
- properly selected and presented teaching syllabus,
- methods and processes which presents teaching materials,
- students environment.

In this paper, the emphasis would be given to the characteristics of the student in order to establish if the student possesses developed personal habits and ability to organize time needed for learning through DL.

### 2.3.1 *Personal life habits*

The primary role and task of the student is to learn. Under the best of circumstances, this task requires proper motivation, planning, ability to analyze and learn received information. In DL, the learning process is much more complex than the traditional learning for several reasons:

- Many students of DL are older, employees, or even have a family. Therefore, they must harmonize the different areas of their lives - family, work, leisure time and study - which mutually influence each other.
- In DL the student is usually isolated and motivational factor that grows through contact or competition with other students, which exists in classical learning, here is omitted. The student also lacks the immediate support of teachers who would be present and able to motivate, support the current needs and solve the problems they encounter during learning.
- Student and teacher often have very few common points in origin and living experiences, and they need a lot more to establish and develop a student - teacher relationship. Without direct contact "face to face" and with no feeling that they have personal instructor may result with uncomfortable feel in that position.
- Students use this type of learning for different reasons: some are interested in receiving a degree in order to qualify for a better job, while others just want to expand their knowledge with no interest in obtaining a diploma.

- In DL technology is used for transmission of information and communication, and until teachers and students do not become close with the system of delivery, the communication will have difficulties.

For this reason, when it comes to adjusting personal habits, DL primarily refers to the student's ability to:

- be able to set aside a certain time for a course by DL,
- to plan and coordinate all of its obligations related to work through the DL with other responsibilities,
- to plan learning and obligations connected with the course,
- overcome lack of interaction "face to face" without a problem.

If a student manages to respond to these demands, it can be considered that the degree of his motivation for this type of learning is very high.

### 2.3.2 *Abilities to organize learning*

Users-beginners can face difficulties in identifying the course requirements, since they have no immediate contact with their group, a secure approach to the instructor or are not versed enough in using the technologies needed for DL. This is the reason why they can be self-insecure in learning and exactly the reason why they have to resist to and overcome various challenges before starting to learn from distance, like:

- **Becoming and staying self-responsible** – in order to finish the distance course, a high motivation is necessary, since the everyday contact with the instructor and other users is omitted. The teacher can motivate students by providing continuous and timely feedback, encouraging discussion between the students, doing good preparation for class, and encourage and reinforce effective student learning habits
- **Having capabilities, ambitions, knowledge and needs** – users have to identify their capabilities and flaws, and understand their goals and leans. The instructor can help students to explore their abilities (flaws) and goals (aspirations) accepting supporting role in the learning process. Allowing them the opportunity to share their goals and aspirations in learning with others, helping them to learn with even greater significance and increased motivation.
- **Maintain and enhance self-esteem** - students may be unsure of their own abilities in terms of the course: coordinating many responsibilities, such as employment and raising children, often their participation in DL is not known to work colleagues and ignored by the family. Student's ability to learn increases if he secures time for learning, if he has family support for his academic education. The instructor can increase students' confidence by offering them timely feedback. It is very important that the instructor answers to his questions, tasks and interests, both personally and in a pleasant way, using appropriate technology such as mobile phone or computer.
- **Relationships with others** - students often learn much more effectively when they have the ability to take contact with other students. The interaction between students typically leads to group problem solving.

When students are not able to meet together, appropriate interactive technology such as e – mail or social networks should encourage work in small groups and individually. The tasks in which students work together and then presents their work back in class encourages communication among students.

- **Clarify what is taught** - students remotely have to think about what they learn. They need to examine existing knowledge in their minds and how they it will be changed with new information. Exams, written papers and presentations in class provide opportunities for students and teachers to evaluate their knowledge. Although, even less formal methods for knowledge evaluating will also help students and teachers to determine what the students have learned.
- **Redefine what legitimate knowledge is** - older students may feel that their own experiences and thoughts are legitimate knowledge. If the teacher takes the role of supporter rather than authoritative role, students will consider that their experiences are valuable and important for further learning.
- **Work with learning contents** - students learn better if the contents of learning are associated with examples. To make DL more effective instructors must find examples that are relevant to students. Also, students should be encouraged to find or develop examples that are relevant to them and their environment.

In order to be able to successfully finish the course by DL student must:

- have good learning strategies
- be accurate in evaluating his learning needs and to know when he understood the offered material
- take responsibility to get the necessary assistance if it is required for the course, both with other students or teachers

### 3. Theoretical approaches of researching

#### 3.1 Problem and subject of research

Improving teaching through the DL is focused on two aspects of teaching: the ability of teachers to recognize how DL improves teaching process and to recognize the progress of the class as a result of the application of the DL. Many teachers believe that DL can help improve students' learning and motivation, providing them with different learning styles, the wide variety of information and the use of new learning techniques.

Based on these findings, the research problem is whether DL has a statistically significant effect on increasing student motivation and the quality of the teaching process as compared to traditional teaching. At the same time it also needs to answer if:

- Possession of a properly developed life habits has statistically significant effect on increasing work motivation through DL;
- Student's ability to organize learning time has statistically important effect on increasing work motivation using DL

### *3.2 The aim of the research*

The aim of the research is to determine whether students are motivated to study through the system of DL, with both adjustment of life habits and adapting their skills to organize learning.

### *3.3 Hypotheses of the research*

The main hypothesis that is set in this research:

H0 – studying based on DL has significant statistical effect on increasing student motivation in the teaching process.

Two sub hypothesis set in this research are:

H1 - possession of properly developed student life habits has statistically significant effect on increasing the motivation to work through DL;

H2 - the student's ability to organize time needed to learn has a statistically significant influence on increasing motivation to work through DL.

### *3.4 Sample and instruments of research*

The researches, which this paper included, have empirical and theoretical character. Research was conducted at the Technical Faculty “*Mihajlo Pupin*” located in the town of Zrenjanin, Serbia, on a sample of 243 students.

Questionnaire that is used as research instrument, which should determine DL student motives, is standardized measuring instrument of the Department of Psychology, Faculty of Philosophy at Novi Sad University. Also another survey was used to determine possession degree of personal life habits and student's ability to organize learning time.

Both questionnaires consist of questions with the responses in the form of Lickert Scale, where the respondent answers is given by the level of their agreement or disagreement with the content of the questions. The values are as follows:

A = I absolutely agree,

B = I agree,

C = No opinion,

D = I disagree,

E = I absolutely disagree,

F = No response.

## **4. Research results and comments**

Based on the research results, it has been found how much students are motivated to learn through DL, as well as how can they adapt their personal life habits to new way of learning, as if they possess abilities for organizing learning process.

### *4.1 Results of personal life habits research*

The statement “I am able to set aside 7 to 10 hours weekly for DL course” gained the following results (Figure 1) which shows that the majority of students agree with this statement 53%, while the number of students who are not able to set aside that time is 31%, the number of students who gave the ‘no opinion’ answer equals 16%, while the number of students that did not response was insignificant.

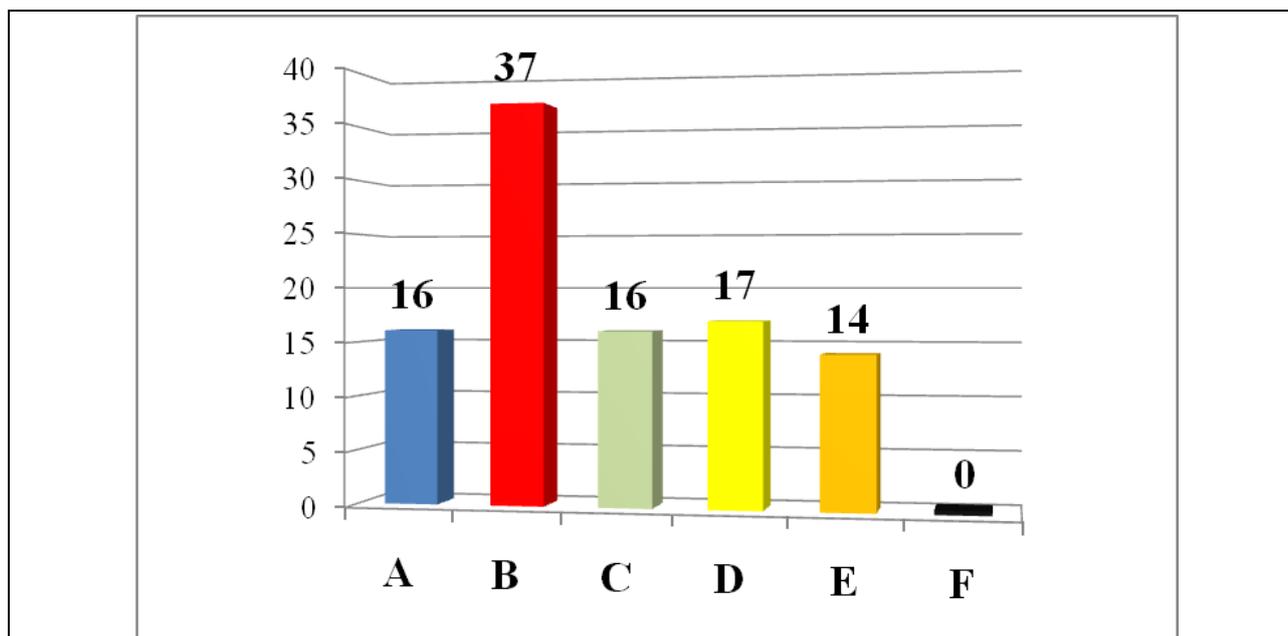


Fig. 1. The ability of students to set aside 7 to 10 hours weekly for DL work

The statement: ‘My schedule is predictable enough for me to plan my learning and course obligations in advance’ got the following answers (Figure 2): the vast majority of respondents chose the ‘I agree’ response (58%), while other respondents had the answers as follows: ‘I disagree’ (25%), ‘No opinion’ (17%) and ‘No response’ (0%).

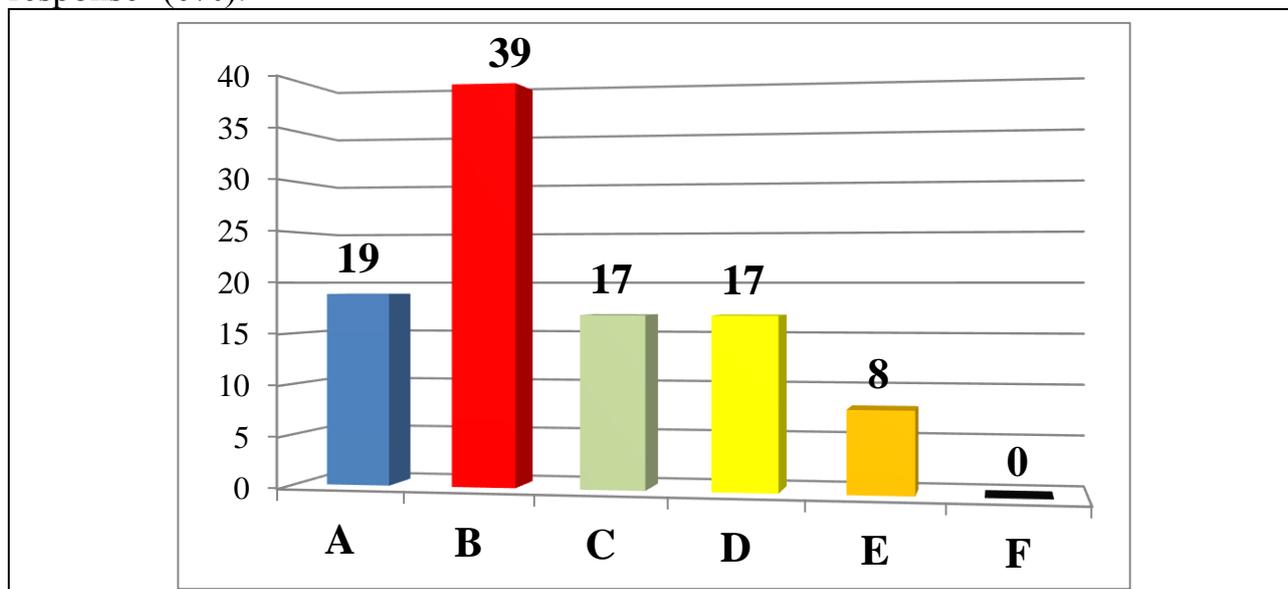


Fig. 2. Students' ability to plan learning and course obligations in advance

The following statement was ‘I am able to organize my own time in order to coordinate my school and other obligations.’ The responses obtained here (Figure 3) show that the vast majority of students are able to organize their time, which is utterly important in the case of distance learning – 88% absolutely agreed or just agreed to this statement. The numbers of respondents who disagreed or absolutely disagreed are 6%, while 6% gave the ‘No opinion’ answer.

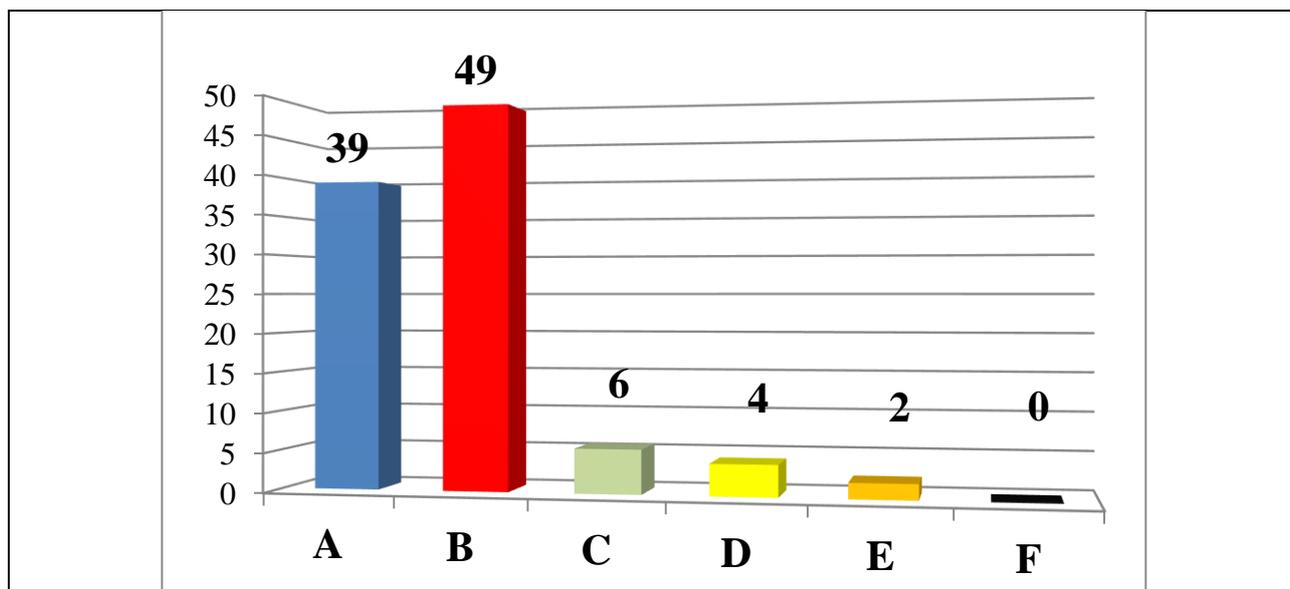


Fig. 3. Students' ability to coordinate the school and other obligations

Statement 4 was: 'Interaction 'face to face' not important to me'. Although distance learning involves the separation of students and teachers, respondents gave the following answers: for 54% it is not a problem. The number of students who do mind is 31%, while 12% have no opinion about it, and 3% of the students submitted unanswered.

The obtained results show that the students are able to predict and set aside sufficient time for distance learning course, that they are able to plan their study-related obligations and course-related obligations. The fact that they are unable to directly interact with the teacher does not disturb them in working with the material presented in distance learning course. All this factors influences student interest for work and therefore increases their motivation to work with this learning system (DL).

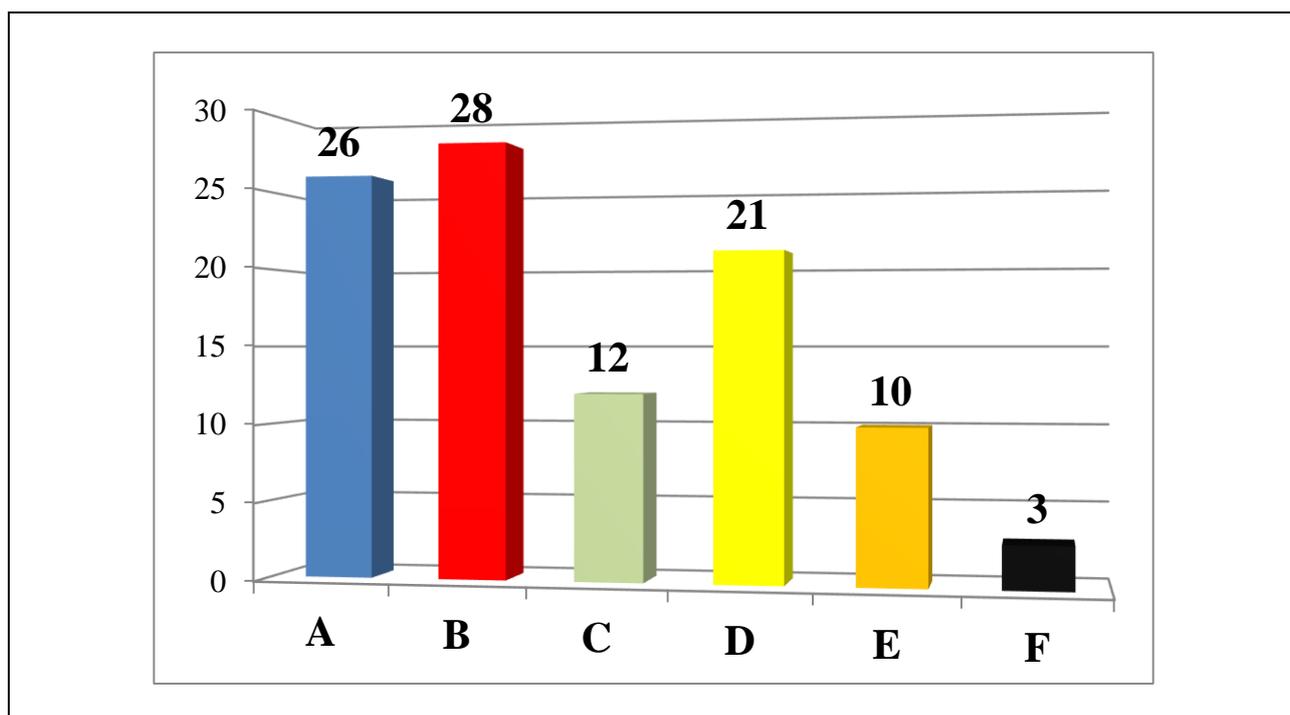


Fig. 4. The importance of 'face-to-face' interaction for students

#### 4.2 Results of the ability to organize learning

Degrees of acceptance	Statement (%)			
	S1	S2	S3	S4
I absolutely agree	25	34	25	30
I agree	47	48	43	46
No opinion	13	10	11	9
I don't agree	11	5	12	10
I absolutely don't agree	3	3	8	3
No answer	1	0	1	2

Tab. 1. Results of the ability to organize learning

Legend for table 1:

S1 - I have good learning strategies

S2 - I'm usually accurate in evaluating the need to learn and I am aware if I understood the material.

S3 - I am organized, motivated and self-disciplined student.

S4 - I am able to take the responsibility to getting the necessary help by asking questions

Based on these results, it is concluded that the students are organized, motivated and self-disciplined, and accurate in assessing their needs.

#### 4.3 Comments of research

The results of research show that students have motivation to work through the DL, which confirmed the main hypothesis, and also show that today's educational process cannot be imagined without the use of computers and technologies.

The obtained results show that more of 60% students are able to schedule and harmonize their personal life habits, according to DL requests, in order to achieve success in learning. That fact confirmed first sub hypothesis.

Second sub hypothesis was confirmed based on the results that have been obtained from next survey, showing that students is very self-disciplined, organized and motivated. Also students are very precise and accurate in assessment of their needs in terms of assistance in work with the DL system.

Either some students has lack of experience in working with DL system, based on their personal life habits, their ability to organize learning, as well as the possession and use of information technology, we can draw a general conclusion that the students are willing and ready to accept and practice teaching through DL system.

### 5. Conclusion

The aim of this study was to analyze the problem of students' motivation to work through the system DL, as well as possession of properly developed personal habits and student abilities to comply their obligations and study time with other commitments.

It can be concluded that students ability to set aside time for learning through DL exists, and it should be increased through development of adequate school habits in previous education levels. Valuable for DL process is that students have developed habits in terms of planning and coordinating their obligations related to learning through DL, with other life commitments. Those students' characteristics are essential for their motivation to learn through DL.

Well-developed learning strategies, ability to be organized and self-disciplined are significant preconditions for students' motivation to work with DL, on which the accurate assessment of what needs to be learned and the ability to understand the presented material has important role.

Students are able to work without teachers' presence, however teachers must be trained and ready to provide fast and adequate short time feedback in order to avoid a decline of students' motivation for learning through DL. To be capable of such obligation, it is necessary for teachers to actively participate in various courses and seminars which will raise the level of their competence for DL use. Students should be encouraged to interact among themselves and with teachers, with the aim to achieve higher degree of learning motivation through this process.

The general conclusion that could be drawn is that students' motivation to work with DL is subject to a various number of factors. Some of those factors are: planning and allocating time for learning, learning strategies, understand of materials, personal life habits, organization and self-discipline, interaction with other participants of DL process. Increasing each of them individually, as shown in the previous section of this study, leads to a significant increase of total student motivation to work with DL, which directly results with fulfilling the primary educational goal - increase of knowledge acquisition level.

## 6. Reference

- Andrews, G. R. & Debus, R. L. (1978). Persistence and the causal perception of failure: Modifying causal attributions. *Journal of Educational Psychology*, Vol. 70 No. 2, (April, 1978), (154-166) ISSN: 0022-0663, eISSN: 1939-2176
- Buchmeister, B.; Leber, M.; Palcic, I. & Vujica Hercog, N. (2013). Future Development Trends and Challenges in Production and Social Systems, *Chapter 04 in DAAAM International Scientific Book 2013*, pp(111-132), Published by DAAAM International, ISBN 978-3-901509-94-0, ISSN 1726-9687, Vienna, Austria
- Deci, E. L.; Vallerand, R. J.; Pelletier, L. G. & Ryan, R. M. (1991). Motivation and Education: The Self-Determination Perspective, *Educational Psychologist*, Vol. 26 No. 3 & 4, (Jun, 1991), (325-346), ISSN 0046-1520, eISSN 1532-6985
- Fenollera, M. & Goicoechea, I. (2011). Education Based on Competences: Project - Based Learning and Virtual Platform, *Chapter 14 in DAAAM International Scientific Book 2011*, pp. (165-180), Published by DAAAM International, ISBN 978-3-901509-84-1, ISSN 1726-9687, Vienna, Austria

- Heckman, J. J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science*, Vol. 312, No. 578, (June, 2006), (1900-1902), ISSN 0036-8075
- Jara, M. & Mellar, H. (2007). *Exploring the mechanisms for assuring quality of e-learning courses in UK higher education institutions*, Available from: [http://www.eurodl.org/materials/contrib/2007/Jara\\_Mellar.htm](http://www.eurodl.org/materials/contrib/2007/Jara_Mellar.htm): 2008-07-15
- Katalinic, B., (2010). Engineers For Knowledge Based Society, *Annals of DAAAM for 2010 & Proceedings of the 21st International DAAAM Symposium*, Katalinic, B. (Ed.), ISSN 1726-9679, Vienna, Austria, EU, 2010, Volume 21, No. 1, Published by DAAAM International
- Master, A. & Walton, G. M. (2013). Membership in a minimal group increases motivation and learning in young children. *Child Development*, Vol. 84, (Mart - April 2013), (737-751), ISSN 1467-8624
- Mazilescu, C. A.; Popescu Mitroi, M. M.; Draghici, A.; Mihartescu, A. A. & Pop, M. C. (2010), Representation of teaching competency to students and teachers, *Annals of DAAAM for 2010 & Proceedings of the 21st International DAAAM Symposium*, Katalinic, B. (Ed.), ISSN 1726-9679, ISBN 978-3-901509-73-5, Vienna, Austria, EU, 2010, Volume 21, No. 1, Published by DAAAM International
- Palmer, D. (2007). What Is the Best Way to Motivate Students in Science?, *Teaching Science-The Journal of the Australian Science Teachers Association*, Vol. 53, No.1, (autumn, 2007), (38-42), ISSN: 1449-6313
- Poteet, G. H. (1986). *We Succeeded through Home Study*, National Home Study Council, ISBN 0937471003, Washington
- Shudayfat, E.; Moldoveanu, F. & Moldoveanu, A. D. B. (2012). A 3D virtual learning environment for teaching chemistry in high school, *Annals of DAAAM for 2012 & Proceedings of the 23rd International DAAAM Symposium*, Katalinic, B. (Ed.), ISSN 2304-1382, ISBN 978-3-901509-91-9, Vienna, Austria, EU, 2012, Volume 23, No.1, Published by DAAAM International
- Sirkemaa, S. (2006). Information technology in developing a meta-learning environment, *Accessed: 2014-07-15, Available from:*
- Tasic, I.; Karuovic, D. & Glusac, D., (2012). School Work Quality - School ETOS, *Chapter 33 in DAAAM International Scientific Book 2012*, pp. 389-400, ISBN 978-3-901509-86-5
- Tekic, Z.; Katalinic, B. & Cosic, I., (2009). Key characteristics of knowledge, *Annals of DAAAM for 2009 & Proceedings of the 20th International DAAAM Symposium*, Katalinic, B., (Ed.), pp. 1747-1748, ISBN: 978-3-901509-70-4 Vienna, Austria, EU, (Nov., 2009)
- Williams, K. C. & Williams, C. C. (2011). Five key ingredients for improving student motivation, *Research in Higher Education Journal*, Volume 12, (August, 2011), <http://www.aabri.com/rhej.html> ISBN 2327-7092, eISSN1941-3432