ANALYSIS OF STUDENTS' READINESS AND MOTIVATION FOR COMPUTER-AIDED LEARNING

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According to the authors one of the main problems of the universities in Bulgaria is setting up a practice for out-of-class preparation of the students. The paper analyzes the results from an investigation conducted among 2nd year students and concerning their readiness for computer-aided learning in their out-of-class preparation. The investigation shows that most of the students consider that the computers will improve the quality of education but at the same time few of them have experience in computer-aided learning which is a serious obstacle for achieving efficient results in their out-of-class preparation.

The labour market today demands for continuously changing set of knowledge, skills and competence. Now the access to the newest information and the motivation for using it for public and personal benefits makes workers more competitive and adaptable [1]. This requires new skills – to get used to the enormous information flow, to be able to get acquainted with it and to adjust to the changes.

To answer the demands and the new requirements people must be able to use scientific literature, catalogues and Internet as sources of information as well as to learn continuously, to take decisions and resolve problems independently.

The development of these skills is directly connected to the individual motivation for learning. This actually means that education must be harmonized with the demands of the students.

According to "A Memorandum on lifelong learning" of Commision of the European Communities (EC) [1] everyone must be able to choose how to take advantage of the open educational perspectives not to follow someone's instructions. This approach puts the learner in the center of the educational process [2].

It is expected from the educational system to provide opportunities for developing self-training, on one hand, and quick adaptation of the methods of teaching to the different interests of the students, on the other hand.

In the context of The Memorandum an investigation was conducted among 130 2nd year students, studying "Computer technologies"(KT), "Communications and technologies"(K&T) and "Electronics"(E). The aim of the investigation was to analyze the desire, the readiness and the motivation of the students for out-of-classes preparation and learning independently.

The students were given a questionnaire with 23 questions and statements. The investigated students expressed their opinion for every question by 5-staged scale

(Lickert scale) [3]: 5 - strongly agree; 4 - agree; 3 - undecided; 2 - disagree; 1 - strongly disagree.

The questions in the questionnaire can be divided into three main groups.

The first group of statements in the questionnaire concerns the opinion of the students about the opportunity to choose the content of the studied subjects, the way they are taught and the final skills.

59% of the students agree with the statement "Teaching should match the individual way people learn", 12% do not agree with this and 29% do not express any definite opinion (fig. 1).

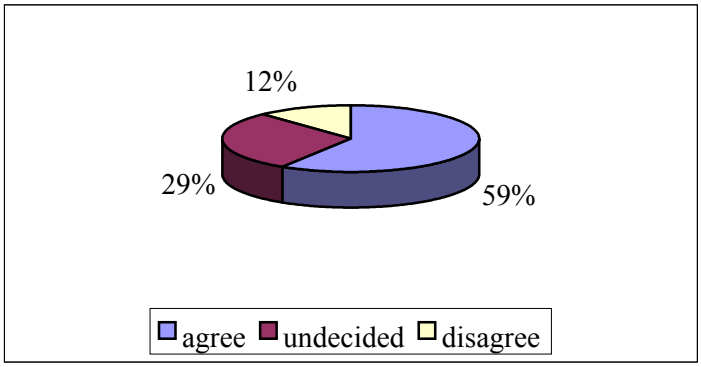

Fig.1. Teaching should match the individual way people learn

68% of the students prefer to choose themselves the content of the studied subjects, 10% do not prefer it and the rest cannot assess.

To the question "Do you prefer to choose the way of learning a subject" 83% of the students answer "yes", 12% don't give any definite opinion and only 5% say "no".

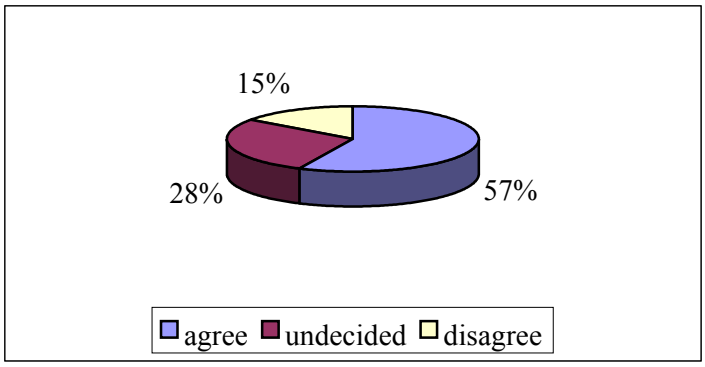

Fig2. I feel comfortable in a learning situation where what and how to study about a particular subject matter is strictly prescribed

We have got similar results for the statement "I prefer to study particular subject matter as being able to select type of learning outcome to deliver" – 82% say "yes", 14% hesitate and only 4% say "no". At the same time the statement "Learn better

following procedures and guidelines" is supported by 60% of the students, 24% hesitate and only 16% do not agree with it. The results show that more than the half of the students are not ready for out-of class preparation. This is confirmed also by the answers to the statement "I feel comfortable in a learning situation where what and how to study about a particular subject matter is strictly prescribed" (fig. 2) – here 57% of the students agree, 28% – undecided, and only 15% do not agree.

The next group of questions refers to the preference of the students to select both the content of the subjects and the way the studied subjects to be taught.

Most of the students – 91% - learn better when looking at examples and demos.

The next statement from this group is: "Learn better deciding problems and practicing" – here 66% of the students agree with the statement, 10% disagree and 24% have no opinion (fig. 3).

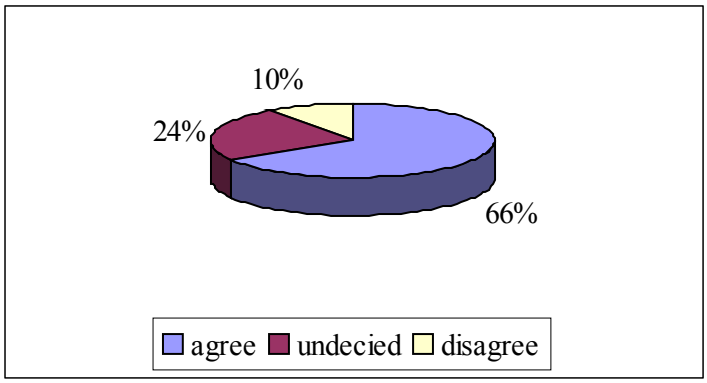

Fig3. Learn better deciding problems and practicing

"Learn better studying theories and explanations," think 48% of the students 25% of them do not prefer this method and the rest cannot decide. These results show that more than the half of the students understand the subject matter by studying examples and solving practical problems.

Taking into account that the out-of-class learning requires use of computers, the

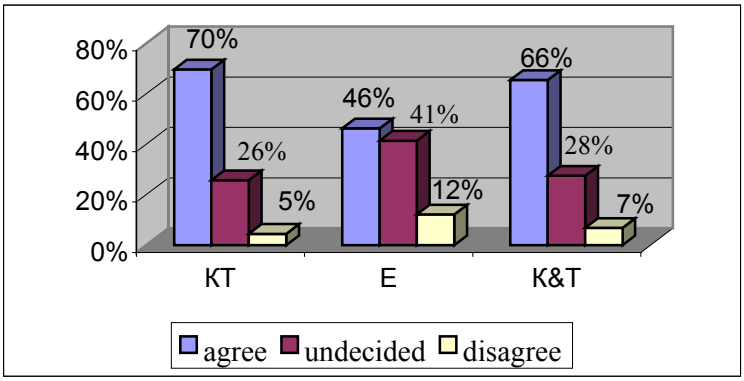

Fig4. Computer-based studying creates better opportunities for learning than traditional methods

questionnaire includes a group of questions and statements concerning the wish and experience of the 2nd year students to use computers for training.

61% of them think that the computer-based studying creates better opportunities for learning than traditional methods, 32% cannot decide and only 7% do not agree with this statement (fig. 4). These answers show that still great part of the students (39%) is not ready to apply the new methods of learning. It is obvious also from the results that the opinion of the students in Electronics differs from the opinion of the other students. Only 46% of them support the new methods while the percentage of support among the other students is around 70.

Comparatively small part of the students – 34% thinks they have rich experience in using computers for educational purposes. The rest either cannot decide or say that they have no experience. This can be considered as a weak point of the Bulgarian educational system.

Although most of the students are not prepared and have little experience in using computers 84% of them think that computer-aided learning will enhance the quality of learning (fig. 5).

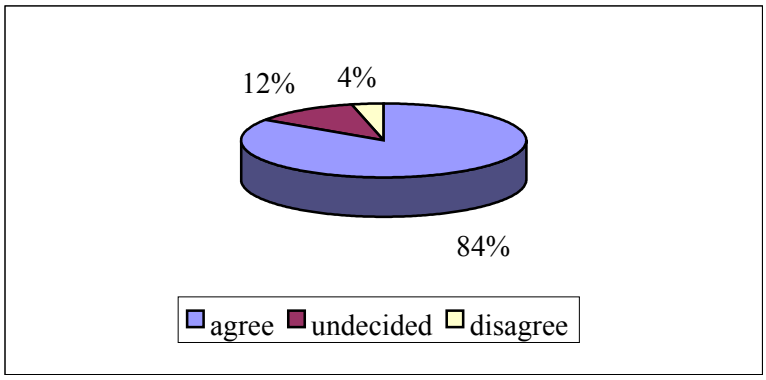

Fig5. Computer-aided learning will enhance the quality of learning

The following conclusions come from the discussed questionnaire:

Most of the students accept the idea for out-of-class studies according to their individuality. A great part of them (84%) prefer to choose the learning methods and the knowledge and skills they will benefit. The preference of the students corresponds to the recommendations of the EC for adaptation of the educational system to the individual needs and demands of the people. For this purpose the subject programs must be more flexible.

It is obvious from the results that the students prefer to study by examining examples and solving practical problems; theoretical explanations are quite difficult for them and this must be taken into account in the preparation of lectures and other materials for every subject.

Although the students declare their wish to choose the content of the subject matter and the way to be taught which involves self-dependence in learning, in fact

they are not ready for this – 57% of the students feel comfortable when they are strictly instructed what and how to study.

Most of the students appreciate the big opportunities offered by the computer-aided learning but only one third of them have some experience in using computers.

These results show that our educational system is seriously behind the European and the USA systems.

As a whole it is obvious that the Universities in Bulgaria have to work seriously on the methods of teaching as well as on providing access to computers for the students all day long (for example from 7am to 9pm) in order to help them in preparing their out-of-class tasks and self-training.

2. REFERENCES

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