

# COMPUTER KNOWLEDGE and SKILLS of DENTAL MECHANICS STUDENTS from MEDICAL UNIVERSITY - VARNA

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**Abstract-** *Having skills in information technologies is a necessary condition for a professional realization in the contemporary society. The aim of the present article is to research the computer skills of students in Dental Mechanics from the Medical College belonging to the Medical University - Varna. The survey was carried out for three subsequent years after the graduation of Orthodontics and for two years after education in New Technologies in Orthodontics. The target of the research is 117 students from the second and third year of their Dental Mechanics education. It has been established that almost all of the interviewees work with a computer (94,81%) and 55,77% of the respondents can use all of the programs mentioned in the questionnaire form – Word, Excel and PowerPoint. Less than one third of the respondents cannot use PowerPoint, which posed a considerable obstacle to the performance of the assigned task to prepare a multimedia presentation.*

**Keywords** - computer skills, dental mechanics students, research

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## I. INTRODUCTION

In the contemporary society the usage and mastery in information and communication technologies (ICT) are essential elements of everyone's literacy and a necessary condition for one's personal and professional accomplishment. In the last years the implementation of ICT is being a research target to educators and methodists and is a subject of numerous acting international and national projects [1, 2, 3, 4]. Students' adaptation to the challenges of digital society and the newest educational practices require more effective ways to be defined in the direction of attracting, encouraging and motivating students so as to obtain quality theoretical and practically-applied knowledge and skills in working with information and communication technologies (ICT) [6].

Technology innovations are entering the educational sphere at quick pace which leads to the development and application of new methods and techniques in the process of education. The styles of teaching and learning are being significantly changed [8, 7]. The education in Informatics of students in Dental Mechanics from the Medical College belonging to the Medical University – Varna is fulfilled in accordance to the United Governmental Requirements (UGR) and the educational plan of the fourth semester includes 10 class periods of theory and 20 practice classes [5].

## II. AIM

Research computer knowledge and skills in working with MS Office programs of the students in Dental Mechanics from the Medical College belonging to the Medical University – Varna.

## III. MATERIALS AND METHODS

The survey was carried out for three subsequent scholar years (2011/2012, 2012/2013 and 2013/2014) after the ending of the Orthodontics education which happens during the third semester and in two subsequent scholar years (2014/2015 and 2015/2016) after education in New Technologies in Orthodontics (an optional school discipline during the fourth semester) due to the usage of a new approach in the theoretical tuition requiring good computer skills among the trainees. The established results are presented separately for both disciplines because the research has been completed after the ending of the Orthodontics education but before the Informatics course and the research regarding the New Technologies in Orthodontics education has been conducted after the completion of the course in Informatics.

The questionnaire has been formed personally by us and besides searching for students' opinion upon the innovative approaches; it tends to examine their computer skills.

The target of the research is 117 students from the second and third year of their Dental Mechanics education from the Medical College belonging to the Medical University – Varna.

Data has been processed through a statistics program SPSS.17.0.

## IV. RESULTS AND DISCUSSION

Dental mechanic is a rapidly developing profession in which computer technologies are more and more inflowing and in order to work with them, aiming a better performance at the labour market, for the young professionals appears to be of an extreme importance to show good computer skills.

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So as to stimulate this process and the students' interest as well as to enrich knowledge, facilitate the preparation, improve the results in acquiring knowledge during Orthodontics and New Technologies in Orthodontics tuition, a self-preparation task has been initiated: to work out and present a multimedia presentation on a topic, chosen from the educational program.

Students work individually or in small groups (two persons) receiving guidance from their tutor but in order to fulfill their task well they have to use MS Word and PowerPoint.

During the conduct of the questionnaires in the ongoing research we established that the share of the female respondents (54.70%) is higher than that of the male ones (45.30%).

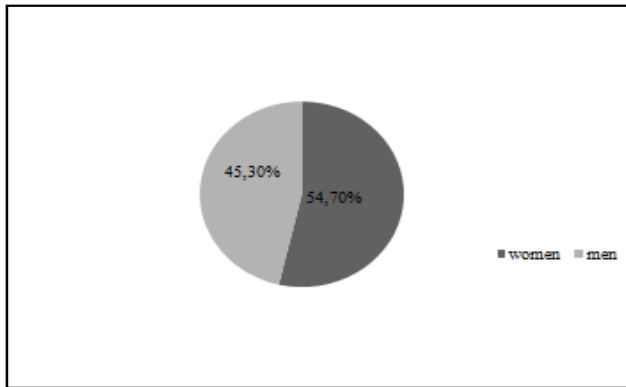


Fig. 1 Distribution of the interviewees by gender

The bigger share of women is due to their desire to participate and cooperate with the research.

The bigger part of the students is up to 25 years old (63, 50%) which implies acquired a certain level of knowledge during their high school education and good computer skills regarding different MS office programs.

We have examined students' skills to work with a computer before and after their Informatics studies course. The received data is presented in Figure2.

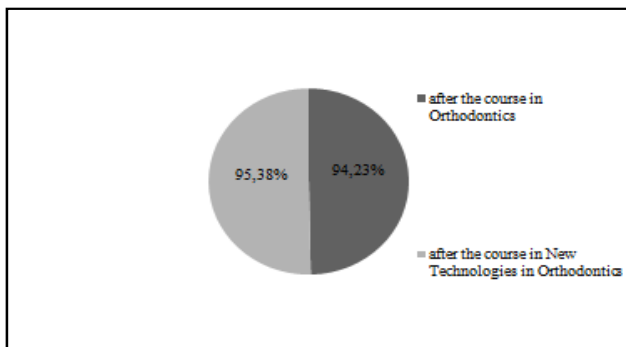


Fig. 2 Work with a computer

Our conclusion was that there was not a significant difference in the so stated results. Almost all of the students are able to work with a computer. We suppose that showing such confidence is due to the fact that they use social networks for an Internet communication.

We also checked what MS Office programs the students in Dental Mechanics were able to work with after the end of their Orthodontics tuition (Figure 3.)

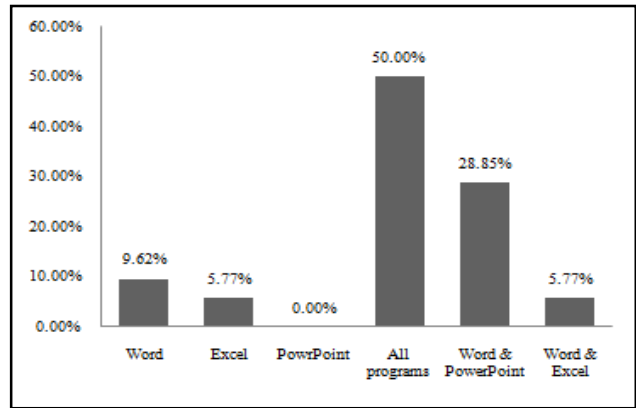


Fig. 3 Computer skills of the students in Dental Mechanics after the end of their Orthodontics tuition

We have ascertained that the respondents use MS Office programs to varying degrees, and some of them do not even cognize certain programs. A very big share of them have stated they work with a computer (94, 23%) but only half of them declare their ability to work with all of the particular MS Office programs- Word, Excel and PowerPoint simultaneously(50%). About one fifth of the interviewees have not pointed PowerPoint in the scope of their computer skills (21,16%), which significantly complicates the completion of a task for preparing a multimedia presentation.

The intriguing fact is that about two thirds of the students have not stated any problems in working out their presentations (68, 60%) but at the same time 65, 40 % have demanded some kind of help. In the preparation process they search for help mainly from a tutor (70, 40%) and from their colleagues(29,60%)( some of those they have worked in a small group with). Mostly students received help from tutors about literary sources and for the proper structuring of the required for the presentation content [8].

Because of the students' approval on the innovative method used in the Orthodontics course (86, 54%) [8] we decided to apply it also to the course of the optional scholar discipline in New Technologies in Orthodontics which is studied during the fourth semester( up until the 2016/2017 scholar year) along with the Informatics tuition. Data is presented in Figure 4.

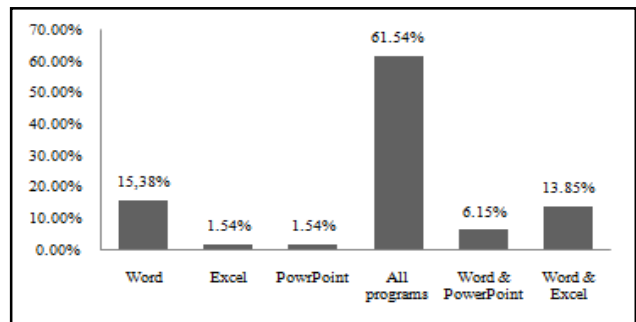


Fig. 4 Computer skills of the students in Dental Mechanics after the end of their New Technologies in Orthodontics tuition

It has been registered that the number of students having the ability to work with all of the three programs (stated in the questionnaire) has increased and it is up to 61, 54%. This undoubtedly proves the positive role of the Informatics educational discipline to the integral education of the students in Dental Mechanics and more specifically to their preparation for the tuition courses in Orthodontics and New Technologies in Orthodontics. Unfortunately, the share of those declaring of not being able to work with PowerPoint (30, 77%) has increased. However, they have completed their assignment. According to our opinion this is an evidence of the students' willingness to acquire new knowledge and skills.

While summarizing the results of the research we have established that almost all of the respondents are able to work with a computer. More than a half of them have declared skills of working with the particular MS Office programs – Word, Excel and PowerPoint, all at the same time. Less than half of them do not cognize The PowerPoint program.

The conducted research, the data processing and the established results allow us to make the following conclusions:

1. We have established that almost all of the interviewees work with a computer (94, 81%) and 55, 77% of the respondents is able to work with the particular MS Office programs- Word, Excel and PowerPoint, all at once.
2. About 25,97% of the respondents have not mentioned PowerPoint amongst their skills which poses a considerable obstacle to the performance of the assigned task to prepare a multimedia presentation.
3. The number of the students who use all three MS Office programs has increased from 50% to 61, 54% after their Informatics educational course which proves the role of this scholar discipline to the integral education of the students in Dental Mechanics.

That's why we would allow ourselves to recommend implementation of some changes in the program in Informatics tuition in order to reduce the share of the students who cannot handle PowerPoint or any other MS Office programs.

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