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Ethical Use of Information Technology in High Education

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Abstract

Ethics as a branch of philosophy is dealing continuously with the fundamental values of inner-human relations, studies the quality and the basis of the act or behavior which by moral perspective are good, bad, appropriate or wrong. Moreover in the last years we have witnessed that the world is facing new challenges and crisis in perception, conditioned by the fast development of science and new advanced technologies (Dika & Hamiti, 2010). In this instance, we in particular need to mention the information technology, which has become an integral part of our daily life. Again the role of ethics is consistent in suggesting the proper use of technologies and in determining the right direction for human society development. Technologies and computers continue to integrate in to the educational process and increasingly are becoming an integral part of the education system. This trend has begun to be extended to primary and secondary education, but currently it is expressed at the university level. Medical faculties are also not excluded by this trend. Therefore, how and in what measure the students that study medicine use the information technology in their daily life and in education, are some of the answers which we look for within this paper. These are the answers which are going to reflect the real perception of students studying medicine towards the actual trend of the use of information technologies and in the same time it will identify the ethical dilemmas and will generate conclusions related to the ethical use of information technologies while conducting the profession of a doctor. The case study is realized in the Medical Faculty within the State University of Republic of Macedonia.

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1. Introduction

The term information technology (IT) refers to an entire industry. In actuality, information technology is the use of computers and software to manage information. This means: storing information, protecting information, processing the information, transmitting the information as necessary, and later retrieving information as necessary.

In the last years, all of us either as citizens or as professionals of different fields are monitoring the rapid development of science and the advancement of new technologies (Collins & Halverson, 2009). At the same time, we are witnessing that the world is facing new challenges and perception crisis (Pajaziti et al., 2008). Lifestyle is changing gradually, conditioned by the use of current technologies.

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As an illustration, it's enough to mention that only in the last 10 years the internet and the mobile technology influenced the majority of businesses and services to move online, such as transport, health, energy and environment, oil and gas, banking, entertainment, etc. Also, these technologies allow us to conduct many personal and professional daily activities, which are an inseparable part of contemporary society.

This is proved by projections of the European Commission, according to which the number of internet users from the current 2.2 billion, in a few years, once the Internet has become genuinely mobile, over 4 billion users and billions more devices and objects are going to be connected anywhere and anytime.

So the conclusion is that the IT has revolutionized our social and business habits. It has evolved from a network of computers and information into a network of people. And change is far from over.

2. IT and Education

It is understandable that beside integration trend of the modern information technologies in all areas of human activities, the process of education could not be avoided. In this context we can say that, in recent years the integration of technologies and computers in the educational process is increasingly becoming an integral part of the education system (Moutlana, 2007)(Pajaziti et al., 2008)(Ismaili et al., 2008). This trend has begun to be extended to primary and secondary education, but currently it is more expressed at the university level (Hamiti & Reka, 2012).

This does not mean that learning in general, as a social process that is realized through communication between the learner, teacher and others, can be effectively replaced by technology. But instead, the technology can enhance the education process in many ways (Walsh, 2009)! Research, presentation, communication, collaboration, problem-solving and creativity, all are now under the influence of today's computers and other technologies that have become an important part of our daily lives. Therefore it is equally important to integrate the same technologies in the education process.

Nevertheless, the ethics should not be neglected in any way, as a study of how to know what's right and what's wrong, and as a mechanism that need to be used conscientiously and continuously for maintaining the direction, stability and human society equilibrium. Beside the advantages and benefits that the human society has from the IT, there is always the possibility that the IT can be abused by various users. In this context the role and importance of ethics is undeniable. In particular, in advising and suggesting users to use the IT resources correctly and fair.

3. Use of IT in Medical Faculties

Based on the fact that the Medicine faculties are not excluded from the mentioned trend of integrating technology on University level (Hamiti, 2010), in the context of this paper, a case study is conducted by "Macedonian Unit of the International Network of the UNESCO Chair in Bioethics", in the State University of Tetova, in Macedonia. The object of treatment was the Faculty of Medicine Sciences.

It is a relatively new faculty, established in year 2000, with only 10 year of experience, whereas the studies are developing based on the European Credit Transfer System (ECTS) in three departments: General Medicine, Dentistry and Pharmacy.

The primary purpose of the research was to find the real state regarding the ethical perceptions of medical students on using IT, and extracting conclusions for further cooperation in support of ethical use of IT in Medical Faculties.

Overall 225 students, containing proportionally 75 students from each department, were included in the research, which represents 10% of the total number of students within the Faculty of Medical Sciences. So, the number of students involved is within social reasonable scientific parameters. Survey, Statistical and analytical methods were used in this study project. Apart from the academic staff, students as active members of Bioethics Unit also gave their contribution to the realization of this project, by distributing and collecting the questionnaires, technically processing the data, and in identifying the ethical dilemmas, which actually included them in the research process itself and introduced them to a vital problem in our everyday life. In this paper we only present some of the most characteristic findings from this research.

3.1. How important is the Internet in your life?

When asked about the importance of the Internet as a component of your life, the majority of students (91%) answered that the internet is very important or important enough. There were also written comments saying that “how can one live without internet”. Besides that, only a small number of students, about 2%, answered that the internet is not an important factor in their life, as well as 7 % stated that they are less dependent on the use of internet. Certainly each of the respective groups also have their explanations, but this was not required as part of the survey!

3.2. How much you are informed about internet ethics?

Surprising were the responses to the question on how much the students are informed about internet ethics? The difference between those who claim to have enough knowledge about online ethics and those who have little or no knowledge about internet ethics was relatively small. Expressed in percentage, 53% to 47%. This indicates that nearly half of the students which were declared as massive users of the Internet, do not have enough knowledge about the ethical use of the Internet, which means that this issue must be considered more seriously within the Faculty of Medicine.

3.3. Do you use any social networks?

When asked whether they use any of the social networks, 85% of students state that they are users of Facebook, 13% prefer twitter, while only 2% use other networks or they do not use social networks at all. This 2% consists with the number of students stated in the diagram (Fig. 1) that are not Internet users.

3.4. How often do you use social networking sites?

In order to precise how expressed is the impact of the social networks on students, they were asked how often log on in these networks? From the chart we can see that 50% of students login every day in the social networks. It is concerning the fact that 27% of students, which is not a small number, login several times during the day and we can probably conclude that they have developed chronic dependency on social networks! Others that login less are 21% and again, the ones that never login compose the remaining 2%.

3.5. Do you prefer the use of social networks for private purposes only or for studying medicine as well?

It is interesting to view the answer received on the question whether students prefer the use of social networks for private purposes only or for studying medicine as well. Here in fact we are dealing with ethical dilemma! Student responses are separated with 51% declaring that such networks should be used only for private purposes. The other 49% believe that there is room these networks to be used for professional medicine studies.

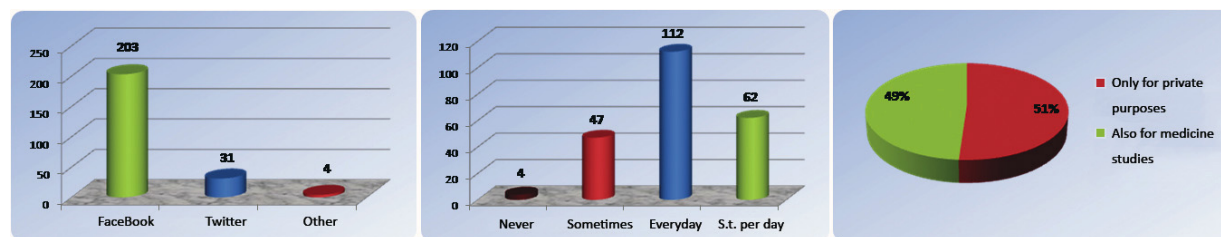


Figure 1. The use of social networks

We personally do not communicate with students through social networks and I think that these networks should not be integrated into the educational process, in this case in studying medicine, because there are quite other much more professionalized applications for course management and learning process! But this can also remain an open topic for discussion.

3.6. The use of IT in teaching and learning

If we compare the received answers on the questions:

- How many courses use information technology in teaching (computers, projectors, internet, etc.) and
- Do you use IT in learning professional courses?

It can be concluded that, in general, the teachers use the IT more in teaching than the students in learning professional courses (Fig. 2). This difference can be considered reasonable because students do not need projectors and power point presentations for studying the given courses, however maybe there is a need to consider the possibility of increasing students' presentation skills, through the stimulation of the use of IT.

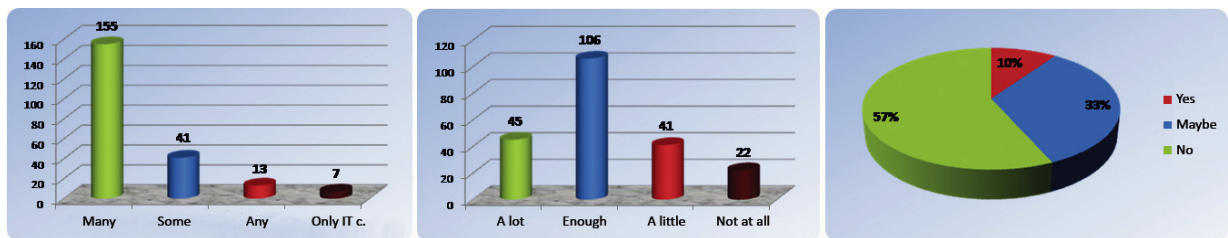


Figure 2. The use of IT in teaching and learning

However, on the question if we can study medicine in the current conditions, without the use of IT, most of the students 57% declare that this is impossible, 33% were indifferent, while only 10% still think that medicine can be studied without the use of IT! From the answer obtained we can conclude that the IT integration trend within medicine studies is reasonable, therefore we may continue with this tendency because students demand it and they are familiar with the use of the IT.

3.7. Do you think the patient privacy will be guaranteed through the electronic health cards?

Since in Macedonia this year has started the project of equipping the citizens with electronic health cards, students were asked questions from this area also.

In the question, if the electronic health cards will improve the health situation in R. Macedonia, student's opinion is divided. Approximately half of them, about 52% are optimistic, while the rest remain indifferent, and only 5% stated that this has nothing to do with improving the health conditions!

However, in the question if the patient privacy will be guaranteed through these electronic cards, only a third (32%) of students say yes, while others are not sure that there will be no unauthorized access to personal medical data and patients diagnoses, as well as 9% of them declared that this will eventually lose the patients privacy because the access to records will be made through the internet!

3.8. As future doctors, do you think that through online consultations you can determine the patient's diagnosis?

It was characteristic the received answer on the question. Only 7% of students think that this can happen in specific cases, while others are positioned in two equal groups with opposite opinions (Fig. 3). Those who think that

in future this will be possible and those who think that the traditional medical way should be preserved on how to determine the patient's diagnosis!

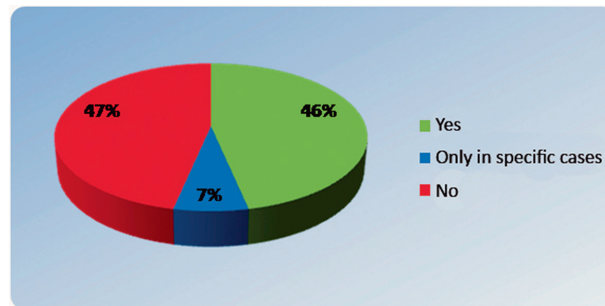


Figure 3. Online determination of the patient's diagnosis!

Regarding this dilemma, we personally think that there can be online communication with the patients, but not at the level of determining the diagnosis. Not that we oppose the opinion of the new generation of the doctors with IT, but at first we doubt on the IT equipment (camera, microphone, transmission, etc.) that may considerably affect the real perception of the patient's situation! Let this just remain as our personal opinion!

4. Conclusions

It is understandable (worth mentioning) that the results of this case study have a local character, because they were conducted only in one medical faculty. Therefore, they cannot be generalized for medical sciences as a whole. But, they can remain as conclusions to be addressed, analyzed and can be further debated and distinguished:

- The Internet is used significantly, but the knowledge about the internet ethics are not enough! (Based on the results of the survey)
- It cannot be accurately determined, if the social networks should be used only for private matters or can be used for studying within the medicine faculties!
- It is evident the doubt about the patients privacy, through the health electronic cards!
- It will remain enigmatic the determination of patients diagnoses, through online consultation!
- Construction of a model of teaching and learning through technology deserves to be considered as an important need...

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