



EDUCATION IN THE DOCTORAL PROGRAM IN INFORMATICS THROUGH THE PRISM OF THE PHD STUDENTS¹

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ABSTRACT: *The following article is based on an empirical study completed at the Faculty of Mathematics and Informatics focusing on the evaluation which the PhD students of Informatics within the period 2012-2017 give to the doctoral program they have been enrolled in. This evaluation concerns the quality of education provided by the Shumen University. The study aims to investigate the attitude of PhD students towards enrolling in programs at the Shumen University and to determine the level of their satisfaction with the quality of the process of education.*

KEY WORDS: *quality of higher education; the education of PhD students*

In the present world of ever growing global economical, informational, technological, educational and cultural cooperation the problems of the quality of education have particular priority and importance. Education is at the basis of the growing role of the human capital and social cohesion. [1]

The quality of education at Shumen University is the responsibility of all members of the academic community - the academic staff, the administration, the students, the PhD students - towards the aspects of the process of education which their professional profile entails. In this sense, it is defined not as a work obligation and the responsibility of a particular organizational institution, but rather as a common responsibility of the academic management body, the academic staff, the university administration and the structures of student autonomy. [2]

With their personal qualities, motivation and efforts, the PhD student is part of the system which creates the quality of the product of education. This is the reason for studying the opinion of part of the PhD students at Shumen University, namely those enrolled in the doctoral program in Informatics, regarding the education process within the program.

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The survey includes the PhD students enrolled in the doctoral program in Informatics during the entire period of accreditation between 2012 and 2017. Eight PhD students were surveyed. The majority of the surveyed are male, accounting for 63% of the total number, whereas females account for 37%. For the most part the surveyed are of mature age. 63% of the surveyed are between the ages of 36 and 45, while 37% are aged 26 to 35. The age structure of the PhD students presupposes a more mature attitude towards education, whereby it is approached not only as another challenge, but rather as a conscious need for professional and personal growth.

Among the surveyed there are no PhD students enrolled in the full-time form of the doctoral program. Each of the forms has its advantages. Full-time PhD students can dedicate their time entirely to research, they can concentrate their efforts on the problems of their study and in case they work diligently, they can prepare and defend their thesis more quickly. Within the studied doctoral program, 13% have chosen the individual form, an 87% - the part-time form of doctoral program. These two categories of persons are in more difficult circumstances. They need to combine their study and research work with their professional duties. This can be explained by the fact that the students work within the field of their research and would like to combine the practical realization with academic prominence and professional growth. This proposition is supported also by the age structure. The majority of the PhD students are middle-aged individuals who have families and the money provided by the scholarship for full-time PhD students is entirely insufficient. The fact should not be neglected that more than a third of the surveyed are women whose main social role is the raising and upbringing of children, as well as providing care for the family as a whole. It must be taken into consideration that this is an additional burden for the students. The need for combining multiple functions sometimes slows down, holds back or even discontinues their PhD studies.

The surveyed are at different stages of their doctoral education. 50% have completed their doctoral education successfully and the defense of their thesis is pending, 25% are second-year PhD students, another 25% - third year. They all have experience as PhD students for at least a year and their impressions reflected in the survey are objective.

The PhD students' motives for choosing a particular topic for their dissertation are various and are often a combination of several different ones. Thus on the basis of the most preferred reasons a rating scale of incentives is formed. The leading incentive, chosen by 11 participants in the survey, is "my personal interests". In second place, with an equal relative share of 38% are "the interests of my supervisor" and "the need for specialists in the respective field". The aforementioned data show that in their choice of topic for their thesis PhD students are led by intrinsic rather than by instrumental values.

Most of the surveyed evaluate the curriculum of their doctoral program as well balanced - 87%. There is a relatively small portion who are undecided - 13%. It is a positive fact that there are no negative opinions. None of the surveyed believes the curriculum is “unnecessarily overloaded” or “easy and lacking in depth”.

The assessment the PhD students give regarding their participation in the academic life of the department with which they are enrolled is also interesting. More than a half - 63% - believe that it is “active and fruitful”. A group of 25% claim that they are “engaged in activities which are unrelated to their PhD studies”. It is a concerning fact that 12% admit to a lack of such participation. It is advisable that the efforts of the Faculty management body be directed towards improving the level of awareness and the inclusion of PhD students in all activities of the department which administers their education. It is also advisable that the opinion of the department be considered regarding the degree to which the doctoral students are actively and fruitfully involved in the life of the department. Regardless of what an opinion is, it needs to be supported with proof - with what, when and in what way.

At the moment of the survey all of the surveyed have passed their doctoral exams. More or less they all believe that their knowledge was assessed objectively. 75% answer they “strongly agree”, and 25% “moderately agree”. Similar is the opinion regarding the grade they received from their PhD student attestation. 87% strongly agree that it was objective and 13% evasively claim they “moderately agree” with the objectivity of the grade. It should be noted that there are no negative attitudes among the PhD students.

This is not the case with the evaluation of the introductory information for the newly-enrolled PhD students received at University level from the staff member responsible for the scientific development of the academic staff. Opinions on this matter vary. Although the majority (63%) consider the introductory information to be sufficiently full and have given a positive grade, there is a number of surveyed of a different opinion. 12% are undecided. About a quarter, however, give a negative grade - 12% answer “strongly disagree”, 12% “moderately disagree”. This variation in the opinions can be explained with the fact that the PhD students have high expectations and demands towards the administrative staff. It is advisable that an instructional seminar be organized where information is given regarding the extent of the responsibilities of the staff member, to what extent she is responsible for the administrative support of the students and to what extent - the department is. Otherwise the responsibilities become fuzzy and shifting and as a result hamper the process of education in the doctoral program.

It is obvious that the introductory information is received mainly from the respective department. 88% of the surveyed support this claim. 63% agree, 25% moderately agree. Regarding this indicator there is a category of unsatisfied,

who make up 12% of the surveyed and moderately disagree. The conclusion can be drawn that the feedback in the process of communication is ineffective and needs work.

The surveyed demonstrate optimism and confidence in their abilities. The majority claim that they are able to complete on their own tasks related to the doctorate - 50% agree, 35% moderately agree. This determination and conviction that the tasks correspond to their abilities is important for the systematic laying of quite a bit of effort, the diligent pursuit of goals, for good concentration and maximum mobilization, which determine the successful defense of the dissertation. It is a worrying fact that 13% are undecided regarding this question. The lack of opinion has to do not only with the PhD student being disoriented, but also with an inability to judge their own actions, or to invest systematic effort and pursue their goals, which could influence negatively the quality of the research and scientific work and eventually, the successful defense of the doctoral dissertation.

The difficulties which the surveyed encountered during their work on writing the dissertation are various. In first place with 75% they point out "being excessively busy with activities not related to the dissertation". In second and third place with parity in their percentage are "lack of sufficient materials" or "lack of time". 13% of the surveyed gave no answer. This question correlates with a previous one regarding the active and productive participation in the academic life of the department. Could this participation be so large and all-consuming that it exhausts the young people? More likely not. A tendency can be observed for PhD students wanting to be ensured working comfort and not being required to do anything else. This way the consumerist attitude towards the process of education becomes visible, whereby students demand rights without fulfilling their share of responsibilities.

The intensity of the contact between the PhD students and their doctoral advisors varies. Under the guidance of their doctoral advisor, half of the surveyed have participated in 2 scientific projects, 12% in 3 and 26% - in 4 or more projects, It is worrying that 12% of the surveyed have not participated in a single project. Similar variation can be observed in the participation in scientific research under the guidance of the doctoral advisor. 12% have participated in one, 50% in 2, 12% in 3 and 26% in 4 or more. The data from the final two indicators are commensurable and show that the percentage of PhD students in projects and research under the guidance of their doctoral advisor is the same. It should however be treated not only as the responsibility of the advisor, but also as an initiative and responsibility for the PhD student during the process of education.

It should be noted that most of the surveyed do their best to fulfill their obligations successfully. From the moment of their enrollment up to the time the survey was made, half of the PhD students have 4 or more published articles.

26% have 3, 12% have 2 and another 12% have one. There are no students who have not published an article, but some thought could be given to whether a single published article is enough during the second year in the doctoral program.

When publishing, most of the surveyed have used the University and Faculty editions (75%). A quarter have not taken advantage of this opportunity.

In general, the surveyed are supported financially in their research work. 87% claim that they receive support with the processing and publishing of the results of their research. The percentage of those who received support for participation in scientific forums is much lower - 63%. It is advisable to inquire into the reasons why 37% of the surveyed have not received at least partial financial support.

The majority are of the opinion that the PhD students receive competent scientific and methodological guidance from their doctoral advisors. 50% strongly agree and 37% moderately agree. Here, too, 13% are undecided.

The doctoral advisor's help is various. The largest percentage of 87% is formed by the statement "critical notes on the work". Second place with 75% take the answers "in structuring and composing the dissertation". Third place with 63% take the items "sharing personal experience and original ideas" and "ensuring opportunities for testing the results".

The overall administrative service is evaluated positively by the PhD students. 76% give a very good grade, 12% - a good grade and 12% a satisfactory grade. Although the predominant evaluation is positive, it is worrying that there are "satisfactory" grades. This is a signal that there is a problem which needs to become the object of clarification and resolving. There is also a need that the reasons for the grade in question to be found and analyzed.

Less positive is the evaluation of the available book-stock of the University library. Although 38% give a very good grade, and 25% a good grade, another 25% give claim it is unsatisfactory. Combined with the 12% of the representative sample who give a satisfactory grade, there forms a group of 37% of the surveyed who are not especially satisfied with the available library resources. This is debatable. In evaluating the available library resources within a specific professional field there must be considered not only the paper-based resources, but also the possibilities made available by the library through the use of the shared inter-library borrowing service and the licensed access to international databases, such as www.ebscohost.com; www.sciencedirect.com; www.scopus.com; www.isiknowledge.com; <http://incites.isiknowledge.com>. There are detailed instructions regarding the use of these databases on the Library website. In addition, the University library is part of two library consortia: the Bulgarian Information Consortium (BIC) and the National Academic Library Information System (NALIS). The ambiguous evaluation of

the library resources given by the PhD students could suggest that they might not be well informed about the possibilities which the Library offers. For that purpose there could be created a separate module as part of the School for PhD students at the university.

There is more to be desired in terms of the participation by the PhD students in collective forms of education. As few as 50% of the surveyed have taken part in such. Those usually concern foreign-language education and courses on the methodology of scientific research.

The analysis of the data shows that in their majority, the PhD students work productively and with commitment. However, there can be observed a worrying phenomenon which needs to be reduced and eliminated. According to the presented information, 12% of the PhD students do not participate actively in the academic life of the department. An equal number have not participated in a single research project. The situation is made worse by the fact that an equal number of the surveyed cannot evaluate the curriculum of the PhD program they are enrolled in. The same is the number of surveyed who have no opinion on the question if the introductory information for the newly-enrolled PhD students is sufficient or not. The same percentage corresponds to those who do not know whether they are able to fulfill tasks related to the PhD program on their own. The same number cannot determine if they have difficulties preparing their dissertation and what kind. The same number yet have no opinion if they are receiving competent scientific and methodical guidance by their doctoral advisor. If all these five categories correspond to the same surveyed individuals, ought there be an answer to the question of their place within the doctoral program?

The data show that the opinion of the PhD students must be analyzed. It should be compared to the point of view of the doctoral advisors and the academic staff. The discussion should make it clear if the surveyed's statements are well grounded. Before this has been done, it can be said that there is a need for improving the communication within the department, enhancing the level of informedness of the PhD students, so that there is a uniform understanding of the rights and obligations within the PhD program. The management of the department needs to direct their efforts towards changing the attitude of the surveyed regarding their responsibilities, as well as towards enhancing their sense of commitment to the academic life of the Faculty in general. Otherwise, instead of being a constructive force leading to success, the high self-esteem of the young people would turn into indiscriminating presumptuousness.

References:

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