

The Eurasia Proceedings of Educational & Social Sciences (EPESS), 2018

Volume 10, Pages 57-60

ICRES 2018: International Conference on Research in Education and Science

Humanization in the Educational Process at the Slovak University of Technology

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Abstract: The complicated reality of the human society life of the last two or three decades is for the needs analyse of humanization of the current technical or natural sciences not only in university study branches the same as what were in the Middle Ages, Nicholas Copernicus or Galileo Galilei for the formation of heliocentric model of the solar system. Humanisation of university technical education is perceived in the perspective of future graduates of technical university as one of the means of their professional adaptation in relation to the social context of their work. The contribution seeks the answer to the question of meaningful humanisation of the teaching process at the Slovak University of Technology in Bratislava. It identifies the factors that students perceive as positive incentives in the development of their own professionalism. It specifies the findings that may be helpful in the process of humanization not only for teachers of humanities, but especially for teachers of vocational technical subjects.

Keywords: Humanisation, Teacher, Student, Interaction

Introduction

In the flow of time enhanced by rational epistemology naturally comes to the gradual revealing of the truth. On the one hand, the truth of science, which is revealed by inexhaustible, admirable human creativity and the justified belief in the above-mentioned rational epistemology. On the other hand, the truth revealing the "ordinary, everyday" coordinates of our being, so closely linked with the culture and ethical (or moral) dimension of the people around us.

In search of the answer to the question for the need of humanization of technical and natural university study branches, the acknowledged truth has given us an explicitly clear answer. The history of the 20th century is for the analysing of the need for the humanization of the current technical or natural sciences (not only) university study branches, the same as were in the Middle Ages Nicholas Copernicus or Galileo Galilei for forming a heliocentric model of the solar system. The 20th century gave to the world a new, unidentified face of a human being. This, in the history of the unprecedented image of a man, can be attributed to the victims of more than hundreds of millions.

About a return to the search for the essence of mankind, even in seemingly remote technical or natural sciences, should therefore be unnecessary to discuss. The used conditional, however, reflects the reality of the present, in which still dominates the technocratic model of thinking with an ambivalent attitude towards the need of humanization of teaching in general, resulting to the negative attitude towards the need to introduce humanities into the curricula of future technological study branches.

Humanities in the Master of Science Education

The model of the professional training of future engineers (Masters of Science) oriented exclusively on technical or natural sciences gradually recedes the model that involves the teaching of humanities and social science disciplines. The features of this philosophy of technical education will enable future Masters of Science to better adapt professionally to the social contexts of their work. Based on the study of many sources from research projects abroad (Germany, France, and USA), four areas or directions are being sought in order to answer the question of how to humanize it:

- 1 Historical analysis of technological development - its social, economic and political backgrounds analysed through the angle of development of the specific science discipline
- 2 The interaction between technological development and conditions that are important for the preservation of life in the most general form
- 3 The relationship between technology and culture in a particular geographic subdivision in the wide world's boundaries
- 4 The policy of security, international information flow, ecological and environmental planning taking into account the long-term and sustainable perspectives of mankind

The purpose of the questionnaire survey described in this contribution was to look for and explore the ways of such humanization of education that has meaningful learning value for students.

171 students of the first and second year of engineering studies from all faculties of STU in Bratislava, with a fairly even representation, participated in the survey of humanization in education. The questionnaire consisted of 15 items, twelve closed and three opened. The main objective of the survey was reflected in the following sub-objectives:

- to find out the views of students on the importance of humanizing of teaching process via existing humanity subjects
- to find out the views of the students on the importance of the quality of interaction between the teacher and the student in terms of the impact on the resulting effect of humanisation of the learning process
- to analyse the teacher-student relation from the point of view of socio cognitive models of learning in the didactic context
- to identify students' views on the degree of dominance of the process orientation versus the orientation towards the finality in the learning process.

The Results of the Survey

- 1) 57% of students consider the relationship between the university teacher and the student to be a factor that significantly influences the overall effect and the course of teaching process in terms of the formation of professional competences, 25% of the students stated that the relationship between teacher and student influences quality only to a certain extent, 18% of students do not consider the impact of this factor as significant.

Similarly, the item of the questionnaire detecting the resulting effect only through the angle of humanization view, had a different proportional representation – 90% of the students consider the relationship between the university teacher and the student as a factor that significantly influences the overall effect and the teaching process in terms of forming social and communication competencies, 8% of the students stated that the relationship between teacher and student influences this area only in a certain extent and only 2 % of respondents do not consider the impact of this factor to be significant.

- 2) The students' statements show that the majority of students – 42% – consider relations of teachers to students as formal, which do not contribute in a positive way to the humanization of the teaching process. Significantly different attitudes are shown by students of the Faculty of Electrical Engineering and Informatics of STU in Bratislava, with up to 72% of students reporting positive relations between teachers of vocational subjects and their students.
- 3) 63% of students stated that they agree with the claim that the character of the teacher-student relationship influences the learning outcomes.

- 4) 76% of students' report that the quality of teacher-student relationship significantly affects the activity at lessons or seminars. Students are of the opinion that the quality of the relationship is a predictor of the willingness to discuss, to communicate when solving the problem. A proportionate positive relationship between teacher and student increases the activity of students. Students realize that the teacher will appreciate and support their activity and effort, which is according to the students' statements highly motivating.
- 5) 71% of students stated that they prefer to prepare for the subjects which are taught by teachers to whom they have a positive relationship as to the subjects taught by unpopular teachers.
- 6) In the opinion of the students of the degree of dominance on the orientation towards the process versus the orientation towards the finality in the teaching process, the finality of the teaching process is clearly superior. The teaching process on the lectures is schematically perceived by the students, according to a predetermined procedure or instructions with almost zero feedback on the part of the teachers. Seminars and exercises are evaluated more positively, but overall also negative.
- 7) 45% of students are choosing an optional humanity subject through the attitude of "the least resistance" e.g. they choose the humanity subject which they consider as easiest one. They usually find out the conditions of course from older classmates. Only 21% of students report subjectively motivated motifs for choosing humanity subjects.
- 8) The open items were aimed at identifying factors that according to the students contribute most to the model of adequate humanization of the education process in the positive and also in the negative way. Students expect especially the teacher's friendly attitude, mutual acceptance of opinions, openness of the teacher, his interest in the subject, his ability to build a natural respect for pupils; they appreciate personal characteristics of teacher such as credibility, justice, humanity and sense of humour.

Students negatively evaluate disinterest about a student as a personality, indifferent anonymity, and unwillingness to communicate unpreparedness to teaching, irresponsibility of a teacher, lack of understanding of student learning, preference for "chosen", obliquity, humiliation, and unnecessary stress. Students would welcome the improvement of the quality of mutual communication, more and more clearly appreciate the activity of students and significantly more motivation.

A positive and appreciating attitude was expressed by students towards creating mind maps. Mind maps or mental mapping allow students to understand the relationship of terms in human subjects, especially in foreign languages and subjects whose content is the social aspect of a man. These subjects are distant from the students of technology not only with content but also with the way of thinking. Here the students of technology need to abstract from their dominant analytical thinking. Mind maps allow them to holistic generalization while they become a meaningful means of critical thinking in humanitarian subjects.

- 9) During evaluating humanitarian subjects, the students of the six faculties took an opinion on the subjects necessary and meaningful in the range of 42 – 51%, *very necessary* only 12%. Up to 82% of students of the Faculty of Electrical Engineering of the Slovak University of Technology (FEI STU) have included the humanitarian subjects into the category *unnecessary and demotivating*.

Conclusion

The introduction to the paper clearly indicated that we are not looking for the answer to humanitarian solutions, if yes. This is clear and straightforward. Rather unclear is the answer to the question "How to humanize". How to teach humanitarian subjects so that the students of technology will not perceive them as a necessary evil or as a means to get credit easily. How to motivate not only students, but also colleagues or management of faculties, to the urgent need of these often-mentioned as non-popular subjects.

The way where to go, we allow to outline by the following quotation: „ The program has its rationale in the conviction, that maybe for the first time expressed Claude Levi-Strauss: the 21st century will be the century of science about human - or it will not be ... The goal of science must be to minimize human suffering and optimization of human material and spiritual well-being "[1].

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