



QUALITY OF AVIATION EDUCATION AT THE FACULTY OF AERONAUTICS

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Summary. Aeronautics and aviation technologies are a significant factor of transport, constantly developing, improving and requiring well-trained and educated people. Didactics, i.e. the theory of education, teaching and learning of aeronautical subjects, has not yet been researched. In this area, research is very important because of the new aeronautical study program Aeronautical and Aerospace Technology and its related subjects at the Faculty of Aeronautics. The article deals with partial research of the attitude of the faculty students to learning of aeronautical subjects for exams and credits. The result of the research is the confirmation of the hypothesis that the students approach the study with awareness of the responsibility and quality of knowledge for subsequent safety of their future aviation profession.

Keywords: didactics, education, aeronautics, teaching, exams and credits

1. INTRODUCTION

Theory is when nothing works, but everyone knows why practice is when everything Works, but no one knows why. We want students of the Faculty of Aeronautics to have positive attitude to learning aviation subjects so we have started the research in didactics of aviation subjects. Didactics or methodology - as a teaching and learning theory, is now understood as a pedagogical science discipline that examines the teaching process as a unity of teacher's activity (teaching) and student's activities (learning).

2. GENERAL DIDACTICS

General didactics deals with the issues of the teaching process in general, regardless of the subject. In addition to general didactics, there are scientific disciplines that deal with the specific patterns of teaching and learning in individual subjects, and hence professional subjects, specifically technical ones, in our case, aeronautical subjects.

2.1. Didactics of technical subjects

Although the literature names for didactics as a scientific discipline are not uniform, we meet with methodology, special didactics, subject didactics, didactics of technical subjects. Didactics is further specified in didactics of individual subjects. Experience and researches have been reached in didactics of English language, didactics of mathematics, physics, geography and others. Didactics of aeronautical subjects and specifically an aeronautical subject has not been researched, so we will use the term didactics of specialized subjects, didactics of technical vocational subjects or simply didactics of technical subjects.

3. DEVELOPMENT OF DIDACTICS OF TECHNICAL SUBJECTS

The need for the creation of didactics of individual subjects was related to the process of gradual exclusion and differentiation of individual scientific disciplines from human knowledge (from philosophy). Thus, in the 19th century, there were the first indications of earmarking of teaching methodology for individual subjects in pedagogy, as well as attempts to define them. Individual subjects have their particularities given by the structure of the subject, the content and scope of the subject, the number of specific facts, abstract concepts, theories, relationships, methodological procedures and the like. This requires a teacher's specific approach to teaching and learning to students, and thus the need for separate teaching theories for individual subjects or groups of subjects. Their role is to thoroughly examine the subject's teaching [1].

3.1. Development of didactics of technical subjects

The development of didactics of technical vocational subjects lagged behind the development of didactics of general-educational but also science subjects and was more empirical than scientific, based on teachers' experience. They developed spontaneously and practically, although the teaching of technical subjects had a long tradition.

A more significant shift occurred in the 1950s and 1960s, when efforts were made to lay the didactics of vocational subjects on a scientific basis, and the first published didactics or methodologies of specialized subjects were also created. Methodological issues of didactics of vocational subjects were the topic of a scientific conference held at the Faculty of Education in 1956 in Prague and in 1965 the didactics of vocational subjects was recognized as a scientific discipline and entered into the nomenclature of scientific disciplines such as Theory of Teaching Subjects of General Education and Professional Nature. Later, his specialization the theory of teaching technical vocational subjects arose.

3.2. Teacher of technical subjects

Nevertheless, it can be stated that the technical subjects didactics is not sufficiently sophisticated even today. The reason is the extremely high requirements for didactics who have to have profound professional and pedagogical education, experience in professional and pedagogical practice, permanently monitor the development of both these areas of knowledge, the possibility of experimenting in a real, not always friendly school environment, knowing a large number of technical subjects in theory and practice, which requires a great deal of enthusiasm.

Teachers of technical subjects are mostly engineers with technical university education without pedagogical and didactic background [2].

3.3. Engineering Pedagogy

At the Technical University, teachers have the opportunity and duty to complete this education by studying engineering pedagogy. The courses are organized under the auspices of the International Society for Engineering Pedagogy (IGIP), which was founded in 1972 at the University of Klagenfurt (Austria). IGIP's goals include:

- Improve the teaching of technical subjects.
- Develop emerging curricula that meet the needs of both students and employers.
- Strengthen the use of media in teaching.
- Integrate languages and humanities into technical education.
- Promote the inclusion of management skills training in engineer education.
- Contribute to the formation of environmental awareness.
- Support engineering education.

Engineers - technicians who are teaching at an accredited organization are entitled to apply for entry in the International Register of Qualified Teachers of Technical Subjects and use the title ING-PAED IGIP. The existence of the register and the ING-PAED IGIP generally have a positive impact on the social status of technical subjects teachers. In countries where IGIP operates (currently more than 70 countries, including most EU countries), this is a qualification to teach technical subjects [3].

3.4. The Subject of technical vocational didactics

The subject of didactics is the student, the teacher and the knowledge that make up the didactic triangle, and all that touches these three words. This includes the attitude to the subject, the relationship between teachers and students, the strategies and styles of learning and teaching, the technical resources, the curriculum, and under what conditions and with what curriculum and methods and media we reach the desired graduate profile.

Didactics of technical subjects examines the possibilities of transforming the knowledge of technical scientific disciplines into educational content, didactic systems, teaching projects and into the pupil's knowledge. It sets the objectives of education and training, selects theoretical and practical knowledge and organizes them into a system, processes them, interprets and communicates with them, develops the knowledge and skills, etc. Thus its subject is didactic interpretation and didactic communication of technical knowledge. In other words: the subject of didactics of technical vocational subjects is to explore the process of creating educational content of individual subjects (technical) and the possibilities of making them available in the process of teaching and learning in school and other forms of education.

Didactics of technical subjects is based on general didactics and is related to other scientific disciplines, pedagogy, psychological disciplines, technical disciplines and other scientific disciplines.

Teaching vocational subjects is a very complex phenomenon and process that integrates the knowledge of many disciplines: technology, pedagogy, psychology, philosophy, sociology, cybernetics, information theory, mathematics, statistics, logic, and so on. That is why the didactics of technical subjects has an interdisciplinary character, we can consider it as a boundary pedagogical discipline [4].

3.5. Personality of Technical Subjects Teacher

Being an engineer in the field of technology and at the same time an engineer of human souls is a challenge.

The teacher's personality is one of the most important factors in the teaching process, which decisively influences its quality and the quality of its results. Therefore, the teacher must be properly prepared for this activity and manifested in

- Knowledge
- Decisions
- Activities

Managing the teaching process for the future or new teachers therefore requires certain professional competencies, which are not only professional knowledge, but also include didactic, pedagogical and socio-psychological knowledge and their consolidation and development in practice.

The student's personality is also important for the teacher, quality education, school level as well. The teacher should know the student, have an overview of his / her results and the relation to the subject of teaching. At the Faculty of Aeronautics, we have been developing the research into the relationship of students to aeronautical subjects, since their relationship to the subject

depends on the quality of their knowledge, collaboration with the teacher, and preparation for their future profession, where knowledge is the way to safe air travel.

The basic prerequisite for successful research is the study of didactics in general, experiments that can be adjusted, applied or interesting to learn [5].

3.6. Research information

At present, the trend of university education institutions is to limit the direct teaching process in the classroom and let students work independently on projects, seeking information and knowledge, which should motivate students to have their own approach and build the positive attitude to the subject. Their relation to the autonomy in the study and the relation to the content of the subject is very related to each other. We are looking for ways and methods for students to improve the teaching process of students, their study results at the Faculty of Aeronautics.

We focused our research on a number of areas, including the student's personality, the approach to subjects, the relationship to aviation and aeronautical subjects, the difficulty of the aviation technical issues, the problems with exams, the learning styles, the attitude to the exams and the study problems with aviation issues.

4. CONCLUSION

The motivating goal for our research is to support the quality of education at the faculty and to recognize that aviation is the transport of the present and future, where we want to have highly qualified professionals - our students and help them, but they also have to show their enthusiasm.

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