

Názov práce: **Komparatívna analýza a validácia edukačného procesu riadiacich letovej prevádzky**

Autor: **Ing. Matej Antoško, PhD., Ing.-Paed.IGIP**

Odbor habilitačného konania *doprava*

Akad. rok: *2021/2022*

a inauguračného konania:

Oponent: **Prof. dr hab.pil.inž. Jaroslav Kozuba,**

Pracovisko oponenta: *Faculty of Transport and Aviation Engineering*

KOMENTÁR OPONENTA HABILITAČNEJ PRÁCE

AKTUÁLNOSŤ ZVOLENEJ TÉMY HABILITAČNEJ PRÁCE:

The quality of the aviation personnel training is one of the basic elements influencing the safety of the implementation of aviation tasks, or the development of the aviation industry. Despite the fact that these training, regardless of the group of people - i.e. pilots, aircraft mechanics, or air traffic personnel, are described in detail in relevant international and national normative documents - developed by ICAO and EASA and the national aviation authority, the contents, and principles of the implementation of the programs are subject to systematic more or less dynamic changes. The above state of affairs is influenced by such factors as the development of aviation technologies, the introduction of new materials to component structures, or the development of sciences related to such safety factors as: man, technology, management, aviation tasks and the environment for the implementation of aviation tasks. Taking into account the above, it should be considered that any research work related to this area, including those relating to basic training and its further stages, aimed at the candidate's achievement of professional competencies to perform aviation tasks independently, should be considered as desirable and up-to-date. Therefore, taking into account the purpose of the work presented by the author: "Development of the concept of aviation education of civil and military air traffic controllers, taking into account the psychological and pedagogical aspects of education/training of air traffic controllers in the context of a comprehensive, adaptive system for the development of their competences, (...)", the topic the habilitation thesis submitted for evaluation should be considered up-to-date, and the achieved research results like that one which meet the expectations of the aviation community.

METÓDY SPRACOVANIA HABILITAČNEJ PRÁCE:

The structure of the habilitation thesis, the sequence of chapters and their content in terms of methodology do not raise any objections. The author adopts the methodology typical for this type of scientific work. He presented a scientific work consisting of 123 pages, containing 37 drawings / charts, 21 tables, a list of abbreviations and definitions, the first - methodological chapter, in which the Author defined the main goal of the work, partial goals; in the second chapter - theoretical, the author has made an in-depth analysis of the national systems of training / education of air traffic services personnel, with particular emphasis on training organizations and legal acts specifying the principles, content of education, training base and training goals; the third chapter - is a kind of continuation of the first chapter, it defines the methods used by the author in the process of theoretical research; chapter four - research, in which, based on the results of the author's research, alternative methods of training / education of air traffic controllers and a proposal to create an air traffic controller training center; Chapter five presents methods to monitor the workload of the trainee / air traffic controller. The methods and techniques of theoretical and practical research used by the author they seem to be adequate to the researched areas and do not raise any objections. Their application allowed the author to achieve the assumed main goal and partial goals set out in chapter I and III of the study.

DOSIAHNUTÉ VÝSLEDKY HABILITAČNEJ PRÁCE A NOVÉ POZNATKY:

The use of the most modern simulation techniques and knowledge in the field of pedagogical sciences allowed the author to present new solutions/approaches to the training/education of air traffic controllers. The changes to this refer both to the training process itself and the tools used in this process, and what seems to be particularly important, a significant tool for examining the total workload of the trainees was proposed. It seems to be particularly important from the point of view of achieving the assumed training goals, as well as maintaining the desired level of safety in the implementation of aviation tasks by the trainees. Particular attention should also be paid to alternative training models of military air traffic controllers, taking into account the provisions of international and national aviation law and the specific requirements of the Armed Forces of the Slovak Republic. The above elements should be considered from the point of view of scientific achievements, including those being a kind of novelty.

PRÍNOS PRE ĎALŠÍ ROZVOJ VEDY A TECHNIKY (UMENIA):

Research results and their translation into practical application in the theoretical training process and practical air traffic controllers are the next stage of their improvement under the influence of dynamic changes taking place in the environment of performing aviation tasks. They are also undoubtedly a valuable contribution to the further development of pedagogical sciences in areas related to aviation training. On the other hand, the use of modern simulation and visualization technologies and those enabling the monitoring of the training load are a valuable contribution to the areas of development of technical systems and tools used in the processes of training air traffic controllers.

PRIPOMIENKY A POZNÁMKY K HABILITAČNEJ PRÁCI:

The work presented for evaluation is an interesting analysis of the current state of training of civilian and military air traffic controllers. The proposed changes to the training program are based on the results of the author's research and the proposed method of measuring the fatigue of the trainee at various stages of the training. However, I would like to make a few remarks related to its layout and content, i.e.

- taking into account the content of chapters 1 and 3, they should be combined into one methodological sub-chapter and be the second chapter of the study, after the chapter based on theoretical research - a description of the air traffic controller training system in the Slovak Republic;
- too little space has been devoted to the work requirements of this type of training / education programs in international aviation regulations;
- it also lacks a description of this type of training in other, representative European countries. I believe that expanding the thesis with these elements would significantly enrich its substantive content, as well as possibly have an impact on its final results.

However, I would like to emphasize that these comments do not affect the final evaluation of the work.

OTÁZKY K RIEŠENEJ PROBLEMATIKE:

1. Please specify, from the methodological point of view, what research techniques and methods were used by the author in the conducted research?
2. Please specify to what extent is the degree of compliance of the proposed air traffic controller training concept with applicable aviation rules?
3. Please indicate, what the role and importance of the aviation training organization for the quality of the aviation training at the university?

SPLNENIE SLEDOVANÝCH CIEĽOV HABILITAČNEJ PRÁCE:

In-depth analyzes of the results of the research conducted as part of the assessed dissertation allowed the Author to achieve the assumed main goal:

- "Development of the concept of aviation education of civil and military air traffic controllers, taking into account the psychological and pedagogical aspects of education/training of air traffic controllers in the context of a comprehensive, adaptive system for the development of their competencies, (...)" - the content of chapter 4 of the dissertation;

and sub-goals defined on page 22 - contents of chapters 2, 4, and 5 of the dissertation.

CELKOVÉ ZHODNOTENIE HABILITAČNEJ PRÁCE A ZÁVER:

The habilitation dissertation submitted by Eng. Matej ANTOSKO, Ph.D., fulfilled the requirements of §76, odst. 6, zákona č.131/2002 (Higher Education Law).

I recommend the habilitation dissertation to be defended and, after the successful process, I recommend to the habilitation commission that Eng. Matej ANTOSKO, Ph.D., should be awarded by the Scientific Council of the Faculty of Aeronautics, Technical University Kosice the title: docent (in abbreviation „doc.“).

Predloženú habilitačnú prácu na základe predchádzajúceho hodnotenia

ODPORÚČAM prijať k obhajobe

a po jej obhájení navrhujem udeliť vedecko-pedagogický titul "docent (doc.)"

Podpisom na tomto posudku zároveň súhlasím s licenčnými podmienkami obsiahnutými v licenčnej zmluve na použitie posudku záverečnej práce, ktorá je súčasťou tohto posudku.

Dátum: 08.12.2021

podpis autora posudku