

CONSIDERATIONS REGARDING THE EVALUATION OF AERONAUTICAL PERSONNEL

Mihaela GURANDA

“Henri Coandă” Air Force Academy, Brasov, Romania (mihaela.guranda@afahc.ro)

DOI: 10.19062/2247-3173.2024.25.14

***Abstract:** In the dynamic landscape of the aeronautical environment an efficient management of human resources is required. Aeronautical personnel must meet a number of requirements and harness a multitude of skills. Their assessment is a complex process with precise standards. The paper explores the process of evaluating aeronautical personnel, especially pilots, an essential part of human resource management in the aviation sector. The research aims to highlight the various strategies used in the evaluation process in the aeronautical environment and their effects in achieving performance in professional activities.*

***Keywords:** the evaluation process, aeronautical personnel, evaluation strategies*

1. INTRODUCTION

The existing literature highlights the impact of the assessment on the operational performance in the aeronautical environment. Scientific discoveries about the evaluation process make a significant contribution both at the academic level and in the area of practical implications. In the aeronautical environment, decision-makers strive to optimize the use of human capital in achieving excellence. A well-organized and competent workforce is essential to meet the challenges of the aeronautical environment, from strict safety regulations to the dynamics of aviation personnel. The aviation workforce encompasses a wide range of roles, from pilots and air traffic controllers to ground crew, meteorologists, non-avigants, aviation engineers and other personnel (Turnbull, Harvey, 2020).

The organization of this work is designed to provide a structured and comprehensive exploration of the evaluation process in general and in particular of aeronautical personnel. The paper begins with a literature review section that summarizes studies related to evaluation and concludes with the presentation of optimal evaluation strategies for achieving performance in the aeronautical environment. Following the review of the literature, the paper concludes by addressing the challenges and future trends of the evaluation in the aeronautical environment (Mizrak, 2023).

2. LITERATURE REVIEW

The literature review in this study aims to provide a comprehensive exploration of the evaluation process. By synthesizing studies on theoretical frameworks, models, key challenges and unique characteristics of the assessment process, this review will add value to the identification of aeronautical personnel evaluation strategies.

In addition, the analyzed and synthesized perspectives will enhance the comprehensiveness of this research and provide a consolidated overview of the existing body of knowledge.

Therefore, the analysis of important aspects of the assessment of aeronautical personnel is based on aspects related to the definitions, functions, methods and types of assessment, implicitly the standards by which the assessment should be made (Nevo, 2018).

The first definitions of evaluation were issued by Ralph Tyler (1950) who perceived it as a process of determination in the effective achievement of educational goals. Another widely accepted definition was to provide varied information in decision-making (Cronbach, 1963; Alkin, 1969; Stufflebeam, 1971). The following definitions of valuation, as a way of ascertaining a value or merit, were those of Eisner (1979), House (1980), Guba, Lincoln, (1981). Definitions of evaluation were also addressed as: An end point in a sequence of events (Ausubel, Robinson, 1981), factors influencing the learning process (Harris, McCann, 1988), a relationship between content and objectives, a complex psycho-pedagogical process for determining the value of some processes, behaviors (Radu, 2000; Stan, 2000), a way of improving the activity (Nicola, 2001), procedures for measuring and evaluating results by referring to criteria such as content, group, person, objectives (Cerghit, 2003) or qualitative, temporal criteria, relative to a model, (Florea, 2005) or to traditional evaluation methods, alternative methods (Bocoș, Jucan 2007), or at skills (Manolescu, 2010).

The current studies (2010-2024) related to the evaluation claim that this process represents a system of concepts, principles and techniques regarding the measurement and evaluation of the school results and the educational process as a whole. Mușata Bocoș and Dana Jucan (2017) claim that the evaluation consists in knowing the effects of the educational activity carried out, the school performance, respectively the achieved performances. Assessment is a challenge for problem-oriented research that uses inter- and transdisciplinary approaches and intervenes in complex systems. Instead, theory-based assessment can be applied to identify and test causal processes (Belcher, 2019). The evaluation can also be approached as a managerial action proper to the socio-human systems that require the reporting of the results obtained in a given activity to a set of criteria specific to the field in order to make an optimal decision (Ambiyar, Muharika, 2019). The decisions obtained from the evaluation aim to improve the activity and achieve performance (Bungai, Arthur, 2021).

The evaluation performs a number of functions, of which we highlight: the ascertained function (knowledge of the state of affairs and its assessment based on the established criteria), the diagnostic function (revealing the triggers of the evaluated situation), the predictive function (elimination of gaps, adjustment and improvement of the situation) and the motivational function (stimulation of efforts to fulfill the tasks). The methods specific to the evaluation process are oral (dialog, debate), written (test, paper, exam, project, report) and practice (test, exercise, laboratory work, workshop).

The literature highlights the following types of evaluation: Initial, continuous (formative), final (summation). All these and many other aspects about the evaluation, currently addressed, contribute to the awareness of people, implicitly of the aeronautical staff, the target group of this study, of the importance and consequences of the professional activity.

3. THE STUDY OF THE EVALUATION PROCESS

To support the synthesis of studies related to theoretical frameworks, the models, key challenges and unique characteristics of the evaluation process bring to your attention a descriptive study using a method of systematic review of literature (Kurnia, Hardi Purba, 2021, Escolar et al., 2023) (**Fig.1**).

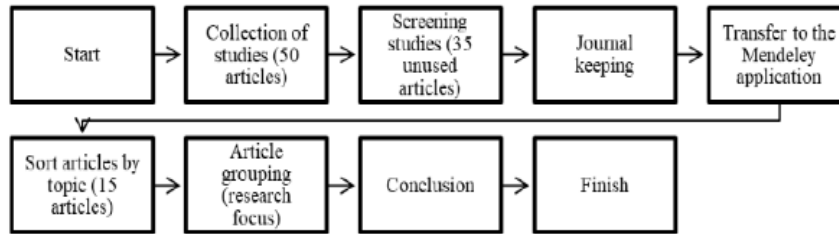


FIG.1 Steps of the method of systematic review of literature (Endah Sri Wahyuni, Riyan Arthur, Soeprijanto, 2023)

The first step of the method is to use the public application for the last 10 years and for everything that evaluation means - field work practices. The data collection from the identified studies is carried out in the second step with the help of Microsoft Excel. The third step is to filter the articles about what evaluation means in the field of expertise. The fourth stage of the systematic review method of literature facilitates the preservation of articles suitable for the request. In the next step, the obtained items are stored in a special folder and entered into Mendeley software and grouped according to the type of program evaluation model and recorded in a separate file. Then, select the items to check that they follow the desired theme. The final step is to review the article to obtain information about the researcher, the year of publication, the type of evaluation model, the place/topic of the research, the type of research and the results of the research. Although it seems to us a complex, time-consuming and patient method, it is a technique of analyzing data by compiling the entire literature obtained to reach the final target, namely the current issue of evaluation (Sumartiningsih, Prasetyo, 2019; Kurnia, 2021).

In the future, I will use this method to make a complete X-ray of everything that is assessment in the aeronautical environment. By using such a method or others that facilitate the most up-to-date and representative information about the evaluation, we identify the following aspects:

- evaluation is a process of gathering valid and valuable information about a program, event or person on which decisions about their effectiveness and effectiveness will be made;
- evaluation is the process of measurement and assessment that requires a valid judgment to be made regarding the adjustment, transformation, continuation, suspension or interruption of a program, activities or persons (Mensah Prince Osiesi, 2020).

The aeronautical staff, the target group of this study (consisting of aeronautical aircrew and non-aeronautical personnel) shall be assessed from the time of the choice of this career until retirement. Aeronautical personnel shall conduct their duties in a dignified manner, exercise discipline, acquire a thorough professional training, so that aeronautical activities are carried out safely for the performance of their missions in times of peace, crisis and war, in accordance with national legislation and aeronautical regulations. The category of aeronautical personnel includes military personnel, soldiers and volunteer graders, students from military aviation educational institutions, military in term, reservists.

Each of these categories has its own assessment system, standardized and in relation to current requirements and regulations. Aviation is a complex working environment, and improvements in human performance and behavior must include good health, flying skills, analytical, observation and decision-making capacity, communication skills, leadership and crew coordination qualities (Dobre, 2013).

The objective evaluation of all these aspects gives us the state of fact and asks us to identify the optimal ways of improving the activity of the aeronautical staff, implicitly of the evaluation strategies that bring added value.

4. CONCLUSIONS

Regarding the deepening of the evaluation process of the aeronautical personnel in Romania, with a few exceptions, Marian Popa (aeronautical psychology) and Mihai Aniței (the psychology of the aviator's personality), there are no studies that use various evaluation strategies in detailed psycho-pedagogical analyzes of the aviators' personality, all the more a double-perspective analysis of the person who pilots the aircraft and who is part of a military-type structure. Therefore, as a future perspective, a full profile of the pilot approached from all the perspectives of the presented assessment can be outlined, capitalized on through various strategies such as portfolio, systematic observation of behavior, investigation, self-assessment, docimological test, introduction to complex situations to which it must respond effectively, in a very short time, create scenarios to stimulate all skills to assess limits and performance level.

As far as literature is concerned abroad, we identify American and British researchers, who pay particular attention to studies of military pilots, such as those of Theodore Lyster, Henmon, Thorndike, Alkov, Gaynor and Borowsky, Retzlaff and Gibertini, Riemann, Angleitner. All of these studies are based on the multi-axial personality inventory model, or other tools that start with the Big five personality model. Pilots are within the limits of human endurance and the acceptable performance limit. Any crossing of these limits means danger, because it is a matter of strong demands such as hypoxia, accelerations, vibrations and extreme sensory loads. This is why it is necessary to take the evaluation process seriously from the moment of selection.

One of the aspects that can be improved at the level of the studies presented above is the one that relates to training performance (i.e. the determination of performance potential in the selection of future pilots) and not to operational performance (pilot performance), with little correlation between tests and performance. Thus, a continuous evaluation is necessary, with a permanent record of the pilot's evolution, as well as anticipating its evolution according to the requirements of the environment in which it works. Currently, in Romania, pilots are evaluated with methods that do not give details about the profile of personality traits specific to a specific type of mission. It is thus necessary, as a future perspective, to adapt the evaluation and to the characteristics of the mission. The intention to make a forecast of the chances for the pilot to meet the requirements of later is, only the evaluation process should be permanently adapted to the quality of professional adaptation (performance, satisfaction and motivation), quality of life at the professional level (relationship with bosses and colleagues, working conditions), quality of family life (stability, health) (Cretu, 2010; Carretta, Ree, Barto, King, 2014; Enea, Dafinoiu, 2017).

The professional development of aeronautical personnel is crucial for improving the quality of the field and for promoting effective assessment practices. In the future, other evaluation strategies will be identified by providing a comprehensive understanding of the current landscape.

The purpose of this study was to synthesize the results of the research of various specialists in order to identify the key elements that would improve the evaluation process. Currently, effective evaluation strategies are those complemented by innovative technologies, with augmented systems, with virtual workshops, which increase the accessibility and involvement of the evaluated staff. Specialists strive to identify the most real evaluation strategies, using modern technique, with huge results and high degree of objectivity. It is a start in all, which will contribute to the evolution of the assessment of aviation personnel, and beyond, and will bring satisfaction to those involved in the process.

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