Araştırma Makalesi/Research Article

Personnel Licencing in Aviation Authorities: An Implementation in Faculty of Aeronautics and Astronautics of Eskisehir Technical University

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Abstract

The aviation industry, which is the newest of the types of transportation, has had to deal with structural problems as it develops and grows. These problems tried to be solved with international, regional, and national aviation authorities by rule makers. One of the problems of the aviation industry is qualified human resources. Air transportation cannot be carried out without air and ground personnel in today's conditions. The execution of efficient and safe flight operations depends on the competence, abilities and training of its personnel. Special trainings are required to work in the aviation industry. These trainings are determined and regulated by aviation authorities. Airlines, higher education institutions, aviation schools, etc. are conducts trainings to meet the needs of qualified personnel. However, most of the higher education institutions do not prepare their curricula according to the regulations of the authorities. In this research, aviation authorities and personnel licensing, higher education institutions and authorization topics were examined; The requirements for authorization of the Faculty of Aeronautics and Astronautics of Eskisehir Technical University under SHY-UHU and SHT-EGITIM/HAD have been established and compared with the current situation; and suggestions to Eskisehir Technical University on authorization were made.

Keywords: Aviation, Higher education, Training, Authorisation, Personnel Licencing

1. Introductıon

Aviation sector needs to aeronautical authorities to ensure the continuity of industry regulation, development and continuity so that getting a solution to many of the political and technical problems growing aviation industry has got. For that reason, international aviation organizations as International Civil Aviation Organization (ICAO and International Air Transport Association

(IATA), regional aviation authorities as European Aviation Safety Agency (EASA) and Federal Aviation Administration (FAA), and national aviation authorities as General Directorate of Civil Aviation (DCGA) has emerged. There have been many problems accrued with the aviation sector has grown above the world average in Turkey. One of these problems is the need for qualified staff.

Qualified personnel are an important need for sectors where experience and knowledge needs are high, such as the aviation sector. In order to work in the aviation sector, it is necessary to take special trainings in the sector. These trainings have been determined by aviation authorities and various regulations related to this subject have been established.

In the last 10 years, as a result of the growth of aviation sector, the number of higher education institutions that are offering education in aviation has increased in Turkey. However, most of the higher education institutions do not prepare their educational curricula according to the regulations of national and international authorities. Therefore, the higher education institutions are not authorized by DGCA. Even if, these students graduate from higher education institutions, which are not authorized by the civil aviation authority, students cannot do their job because they haven't got a certificate or license in the field of aviation.

In the first and second part of the study, aviation authorities and aviation education in higher education were given by literature review. In the third part of the study, the authorities granted by aviation organizations, the higher education institutions authorized by aviation organizations and the fields authorized by them were revealed by secondary data analysis. As a result of the research, Eskisehir Technical University Faculty of Aeronautics and Astronautics, which is determined as an example in the light of the data, has been evaluated by taking advantage of opportunities for aviation management.

2. Literature Review

2.1. Personnel Licencing in Aviation Authorities

Definition of authority is that the right of to have the right to order, to obey, to rule, to prohibit, to enforce sanctions of a person or an institution [1].

To be a solution to many political and technical problems facing the growing aviation industry; there is a need for aeronautical authorities to ensure the continuity, regulation and development of the industry. For this reason, international such as ICAO (International Civil Aviation Organisation) and IATA (International Air Transportation Association), regional such as EASA (European Aviation Safety Agency) and FAA (Federal Aviation Administration) and national aviation authorities and institutions such as DGCA (Directorate General of Civil Aviation) and DHMİ (General Directorate of State Airports Authority have emerged.

- *EASA (European Aviation Safety Agency):* EASA is an agency of the European Union established in 2002 by Regulation (EC) No 216/2008 of the European Parliament and the Council in order to ensure a high and uniform level of safety in civil aviation, by the implementation of common safety rules and measures. EASA has taken over the responsibilities of the former Joint Aviation Authorities (JAA) system which ceased on 30 June 2009 [5].

- *FAA (Federal Aviation Administration):* FAA of the United States is a national authority with powers to regulate all aspects of civil aviation. These include the construction and operation of airports, air traffic management, the certification of personnel and aircraft, and the protection of U.S. assets during the launch or re-entry of commercial space vehicles [6].

- *EUROCONTROL (European Organisation for the Safety of Air Navigation):* Eurocontrol, is an international organization working to achieve safe and seamless air traffic management across Europe [7]. Over 1,900 highly qualified professionals spread over four European countries work at EUROCONTROL, deploying their expertise to address ATM challenges [8].

- *DGCA (Directorate General of Civil Aviation):* "Civil Aviation Department", which was founded within the organization of the Ministry of Transport in 1954 in order to protect our national interests and to carry out and supervise our international relations on regular basis upon the rapid development of World Civil Aviation and the significant progress in the technology,

was reorganized as "Directorate General of Civil Aviation" in 1987 in accordance with the then current conditions. The Directorate General of Civil Aviation, the Main Service Division of the Ministry of Transport until November 18, 2005, achieved its autonomy financially through the Law Nr. 5431 on Organization and Duties of the Directorate General of Civil Aviation, coming into effect on the mentioned date, and reached its current managerial structure. Today, the aviation operations, performed in our country, are carried out in accordance with the Turkish Civil Aviation Act Nr.2920 and the Administrative and Technical Regulations issued accordingly and the Aviation Instructions [9].

Personnel licensing can be described as a system of standards, processes and procedures aimed to ensure that personnel undertaking safety related tasks in civil aviation (pilots, air traffic controllers, aircraft maintenance engineers, etc.) are competent to perform their tasks to the prescribed standard [10].

As long as air travel cannot do without pilots and other air and ground personnel, their competence, skills and training will remain the essential guarantee for efficient and safe operations. Adequate personnel training and licensing also instill confidence between States, leading to international recognition and acceptance of personnel qualifications and licences and greater trust in aviation on the part of the traveller [11].

When ICAO legislation on personnel licensing is examined, Annex-1 Personnel Licensing is used as the basic document. Just like Annex-1, ICAO has published SARPs (Standards and Recommended Practices) documents in various areas, including personnel licensing.

ICAO SARPS are applicable to all applicants for, and holders of, licences, however, the assessment and examination of the knowledge, experience and proficiency of individual applicants for and holders of a licence, and the issue of the licence, is left to the discretion of Contracting States [10].

International SARPS are established for licensing the following personnel:

- Pilot
- Flight Navigator
- Flight Engineer
- Aircraft Maintenance Engineer / Technician / Mechanic
- Air traffic controller
- Flight Operations Officer / Flight Dispatcher
- Aeronautical Station Operator

Some States have decided to require licensing for other categories of personnel in their national regulatory scheme, such as Air Traffic Flow Managers, Flight Information Service Officers, Cabin Crew, etc. Of note is that some States have decided not to licence Flight Dispatchers and other Flight Operations support staff [10].

Other documents related to ICAO's personnel licensing are other documents cited in Annex-1. These documents include ICAO Doc 9379 - Manual of Procedures for Establishment/Management Personnel Licensing System, ICAO Doc 8984 Manual of Civil Aviation Medicine, and ICAO Doc 7192 - Training Manual.

National aviation authorities prepare their regulation based on the SARPs set by ICAO for the regulation on personnel licensing. Standards set out in these regulations may be different from SARPs but never lower than those in SARPs. DGCA published its regulation accordingly, based on reference documents published by ICAO, JAA, EASA, ECAC, etc.

The legislation related to personnel licensing issued by DGCA in this direction is exemplified by the legislation such as "SHY-1 Pilot License Regulation", "SHT-3 Aviation Medicine Directive ", "SHY 65-01 Air Traffic Control Service Personnel Licencing and Rating Directive", "SHT-EGITIM/HAD Airport Department Training Directive", "SHY-66 Aircraft Maintenance Personnel Licencing Directive", "SHY-UHU Flight Dispatcher Licencing Directive", "SHY-65-07 Aeronautical Information Management Personnel Licencing and Rating Directive", etc.

2.2. Higher Education Institutions and Authorization

When aviation training in Turkey examined, aviation training organizations that can be grouped

into three main groups. The first group contains higher education institutions (universities, vocational schools, etc.), the second group contains private companies (airlines, ground handling companies, FTOs, etc.) and the last group contains authorities, DGCA and DHMİ.

The number of higher education institutions providing aviation training has shown a great increase especially in the last 10 years. When examining the 2017 Student Selection and Placement System (ÖSYS) Guide to Higher Education Programs and Quotas, civil aviation education is conducted in 53 different higher education institutions and 10 different departments in these institutions (associate degree, bachelor's

degree, open education system programs). These 10 different departments can be grouped into five main groups, Department of Air Traffic Control, Department of Flight Training, Maintenance Services Departments, Cabin Services Departments and Department of Ground Operations and Business Management Services.

According to the quota guide issued by OSYM (Student Selection and Placement Centre) for 2015, 2016 and 2017, there has been a great increase in the quotas[1] of higher education institutions that have been providing aviation education especially in recent years. When the 5 main groups are examined, the result in the anticipatory Figure-1 appears.
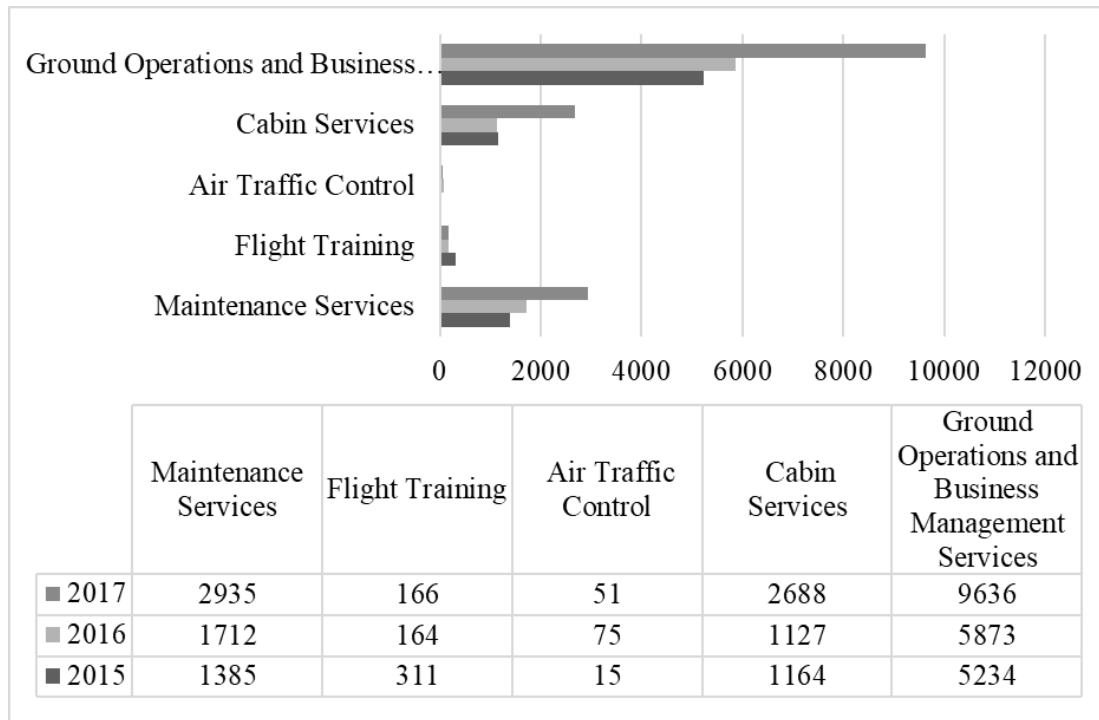

	Maintenance Services	Flight Training	Air Traffic Control	Cabin Services	Ground Operations and Business Management Services
2017	2935	166	51	2688	9636
2016	1712	164	75	1127	5873
2015	1385	311	15	1164	5234

Figure 1. Quota Information of Higher Education Institutions Providing Aeronautical Education in 2015-2016-2017

The biggest increase has shown in Department of Ground Operations and Business Management Services. The main reason of this increase is the increase of the quotas of this group in the open education faculties.

ICAO set the standards and recommended practices about personnel licencing. However, the

final decision on personnel licensing has been left to national authorities. Any aviation authority cannot apply any standard lower than ICAO's standards. Because of this reason aviation authorities are seeking to exceed the standards set by ICAO. In this part of this research, regulations published by DGCA was examined.

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[1]Other quota types such as school's top student pass, horizontal pass, etc. have not been included in quota numbers.

Table 1. The Higher Education Institutions Authorized by DGCA

Higher Education Institutions	Authorization Regulations
Eskisehir Technical University Faculty of Aeronautics and Astronautics	SHY-147, SHT-1A, SHY 65-01 (ESARR-5), SHT-EGITIM/(HAD), Terminal Management
İlke Eğitim ve Sağlık Vakfı Kapadokya Vocational School	SHY-147, SHY-UHU, SHT-1A, Circular on the Issuance of Basic Safety Training for Cabin Crew, SHT-EGITIM/(HAD), Terminal Management
Türk Hava Kurumu University	SHT-1A, Circular on the Issuance of Basic Safety Training for Cabin Crew, SHT-EGITIM/(HAD), SHT-17.2
Samsun University	SHY-147, SHT-1A, SHT-EGITIM/(HAD)
Maltepe University Vocational School	SHY-147 Accepted School, Circular on the Issuance of Basic Safety Training for Cabin Crew, SHT-EGITIM/(HAD)
Ankara Yıldırım Beyazıt University	Circular on the Issuance of Basic Safety Training
Beykoz Logistic MYO	Circular on the Issuance of Basic Safety Training
Hasan Kalyoncu University	Circular on the Issuance of Basic Safety Training for Cabin Crew, SHT-17.2
İstanbul Gelişim University	SHY-147 Accepted School, SHY-UHU
İstanbul Arel University Vocational School	SHT-EGITIM/(HAD)
İstanbul Aydın University	SHY-147 Accepted School
Uşak University	SHY-147 Accepted School
Ege University	SHY-147 Accepted School
Fırat University	SHY-147 Accepted School
Fatih Sultan Mehmet Vakıf University	Circular on the Issuance of Basic Safety Training for Cabin Crew
İstanbul University	SHY-147 Accepted School
Erciyes University Civil Aviation Vocational School	SHY-147
Girne University	SHT-1A
Antalya Bilim University	SHT-1A
Istanbul Rumeli University	SHT-1A
Bahcesehir University	SHT-1A
Atılım University	SHY-147, SHT-1A
Gaziantep University	SHT-1A
Okan University	SHT-1A
Özyeğin University	SHT-1A

Higher education institutions are authorized by DGCA according to regulations such as Aircraft Maintenance Training Institutions Regulation (SHY-147), Flight Training Organization (FTO) and Authorization Principles Instruction (SHT-1A), Flight Dispatcher Licence Directive (SHY-UHU), Air Traffic Control Service Personnel Licencing and Rating Directive (SHY 65-01), SHT-EGITIM/HAD Airport Department Training Directive, SHT-EGITIM/HUD Air Transportation Department Training Directive, Circular on the Issuance of Basic Safety Training for Cabin Crew, Civil Aviation Security Training and Certification Directive (SHT-17.2). In addition to these regulations, there are various authorization regulations that are not directly related to basic aviation activities, such as the Language Adequacy Service Provider Authorization Instruction (SHT-1L-HS), and these regulations are not included in the research. The higher education institutions authorized by DGCA in 2017 and the regulations authorized by these higher education institutions can be seen in Table 1. According to the results obtained from this table, 25 of the 53 different higher education institutions are authorized [13].

3. Purpose of The Research

Along with the Turkish Civil Aviation Law, which was published in 1983, a number of aviation companies were established daily from 1983 with the steps to liberalize Turkish Aviation. Especially in the last 10 years, the need for qualified personnel (authorized, licenced) as has increased as a result of growth. To meet this need, many higher education institutions have been started civil aviation training since 1986. Trainings are ongoing in Department of Air Traffic Control, Department of Flight Training, Maintenance Services Departments, Cabin Services Departments and Department of Ground Operations and Business Management Services. Today, approximately 25000-30000 students continue their education in higher education institutions providing aviation education. In 2017, a quota for approximately 16000 persons has been opened in aviation departments of higher education institutions.

The purpose of this research, evaluate the opportunities for obtaining authorization for the Eskisehir Technical University Faculty of Aeronautics and Astronautics at the end of the research and to make suggestions. Eskisehir Technical University Faculty of Aeronautics and Astronautics has been chosen as the application area of the research. The main reason of this choice is the fact that the aviation training in this faculty continues from 1986 and the faculty has a systematic for trainings. Another reason is that there is no license and / or certification process for Aviation Management students. The limitations in this research are the regulations issued by DGCA and higher education institutions. Aeronautical schools (high schools) are not included because they are secondary education institutions.

4. Method of Research

In order to reach the purpose of the research, literature search was performed first. The data collection method used in the application part of the research is document review. The collected data in the research, directives, circulars, guidelines, etc. secondary sources. The collected data were analysed by secondary data analysis and supported by observations and interviews. Descriptive analysis has been used as a data analysis method in order to reveal the results obtained in the research in an organized and interpreted way.

5. Findings and Analysis

As a result of the research, Eskisehir Technical University Faculty of Aeronautics and Astronautics authorized by DGCA for SHY-147, SHT-1A, SHY65.01 (ESARR-5), SHT-EGITIM/HAD regulations. Department of Aviation Management of the faculty has not been authorized for any regulation but Department of Aviation Management can be authorized for SHY-UHU and SHT-EGITIM/HAD regulations.

According to DGCA's regulations, the personnel and students of Eskisehir Technical University Faculty of Aeronautics and Astronautics can obtain the License of Flight Dispatcher within the scope of SHY-UHU and the ground handling certificates of SHT-EGITIM/HAD by three different methods [13] [14].

- Authorization of Department of Aviation Management (Accreditation of the Department): This method aims at matching the course content of the Department of Aviation Management with the course content specified in the related regulation. Students can obtain a license / certificate as soon as they complete the courses in the department's catalogue without additional training.

- Authorization of the Faculty: In this method, the faculty can start the training as a separate course for students and staff, like a private training institution. One of the benefits of this method is the way the lead can reach the aviation sector and the third party. This method can be provided additional income to the faculty and this income can be used to ensure the continuity and development of the education program.

- Agreement with Private Institutions or Organizations: In this method, the faculty agrees with private institutions or organizations which are authorized by DGCA, for certification or licencing the students of Department of Aviation Management and staff. The protocol can include training of students, provision of training facilities and materials. There are disadvantages such as additional costs.

6. Implementation

6.1. Authorization of Eskisehir Technical University Faculty of Aeronautics and Astronautics in SHY-UHU

The personnel and students of Eskisehir Technical University Faculty of Aeronautics and Astronautics can obtain the License of Flight Dispatcher within the scope of SHY-UHU by three different methods. These methods are Authorization of Department of Aviation Management (Accreditation of the Department), Authorization of the Faculty, Agreement with Private Institutions or Organizations.

Authorization of Department of Aviation Management (Accreditation of the Department)

The main purpose of this method is to provide Aviation Management Department students with

the necessary training in order to obtain a License of Flight Dispatcher without any additional training and time-consuming, using the available resources and facilities, without additional workload on the trainers. In order to that, courses' contents in department's catalogue must be matched with courses' contents in ICAO Doc 7192-AN/857 PART D-3 Training Manual, and students' absenteeism must be followed. Besides this, all missing and / or incompatible documents, trainers, processes, procedures, systems etc. all areas should be renovated, corrected, changed.

Department of Aviation Management can be authorized by DGCA according to SHY-UHU and other reference documents like ICAO Annex-1 and ICAO Doc 7192-AN/857 PART D-3 Training Manual. All requirements for authorization are in SHY-UHU and these requirements can be grouped 4 main groups: "Organisation", "Facilities", "Training and Trainers" and "Quality System" [14].

In this method, the faculty provides all requirements, for example Quality System for Flight Dispatcher Trainings. Courses in the department are accredited according to ICAO Doc 7192-AN/857 PART D-3 Training Manual. Students are trained as "trainees without previous aviation experience". According to the data obtained in the research, the catalogue of the Department of Aviation Management matches to the content of the training in ICAO Doc 7192-AN/857 PART D-3. After the graduation, students are entitled to enter the Dispatcher License exams and are not entitled to additional costs[14].

Authorization of the Faculty for Flight Dispatcher Training Courses

This method can be used if the course catalogue of the department's cannot be matched with ICAO Doc 7192-AN/857 PART D-3 Training Manual. In this method, the faculty apply for authorization like the first method after the providing all requirements. This method can be thought as an application made by a private institution instead of accreditation of the department.

For the authorization, all requirements-facilities, organisation, quality system, training and trainers-, must be provided. For example, when requirements for training and trainers are considered, a separate

training program is prepared for the two types of candidates (trainees without previous aviation experience and trainees with previous aviation experience) indicated in the regulation. Trainings are held during summer months of every academic year. Thus, students who are graduated can participate in the training. In areas where an agreement with private institutions and/or organizations is deemed incomplete or inadequate, requirements such as training documents and instructors may be provided.

One of the other benefits of this method is trainings can reach the aviation sector and the third party. For example, an airline can buy a training service for its personnel. Basically, this method allows aviation companies for outsourcing. With this method, the faculty gain additional income and this income can be used to ensure the for development and continuity of the training. Also, faculty's staff can be trained with this method.

Agreement with Private Institutions or Organizations

Another method for Licencing the students of Department of Aviation Management is agreement with private institutions or organizations authorized by DGCA as Flight Dispatcher Training Organisations. Table 2 shows the organizations authorized by DGCA as Flight Dispatcher Training Organisations [12].

Table 2. Flight Dispatcher Training Organisations

Organisation's Name	Authorization Number
Türk Hava Yolları A.O.	TR-TO (D) – 01
Duha Havacılık Ve Eğitim Hizmetleri Tic. Ltd. Şti.	TR-TO (D) – 02
HEM Havayolu Havaalanları Yer Hiz ve Araç Gereç Yazılım Eğitim	TR-TO (D) – 03
Onur Air Taşımacılık A.Ş.	TR-TO (D) – 04
Kapadokya University	TR-TO (D) – 06
İstanbul Gelişim MYO	TR-TO (D) – 07
Akademi Havacılık A.Ş.	TR-TO (D) – 08

Students who graduate from the Department of Aviation Management will be considered as " trainees with previous aviation experience" according to Article 21 (d) of SHY-UHU, so that the duration of training will decrease and the possibility of decrease in the cost to be paid for training will arise. Apart from that, the faculty has capacity and facilities for providing trainings. If the faculty offers its facilities in the agreements, the costs are bearded by both the students and the personnel of an airline or a private training organisation such as accommodation, transportation, etc. will decrease. But this method is a short-term solution because the faculty cannot be authorized. Those students who cannot afford this training will not be able to benefit from this opportunity.

6.2. Authorization of Eskisehir Technical University Faculty of Aeronautics and Astronautics in SHT-EGITIM/HAD

With the scope of SHT-EGITIM/HAD Rev.1, DGCA authorizes organizations for Ground Handling, Heliports, Airport Standards and Safety, Terminal Operations, Fuel Services and Catering Services trainings. The higher education institutions authorized by DGCA under SHT-EGITIM/HAD Rev.1 can be listed as follows according to the education subjects they are authorized [14].

Table 3. Authorized Higher Education Institutions under SHT-EGITIM/HAD Rev.1

Trainings	Authorized Higher Education Institutions
Ground Handling	İlke Eğitim ve Sağlık Vakfı Kapadokya Vocational School THK University Ankara Vocational School İstanbul Arel University Vocational School Maltepe University Vocational School Program of Civil Aviation Management
Airport Standards and Safety	DHMI, Eskisehir Technical University İlke Eğitim ve Sağlık Vakfı Kapadokya Vocational School Ondokuz Mayıs University THK University Ankara Vocational School, Hasan Kalyoncu University
Terminal Operations	Eskisehir Technical University
Heliports	İlke Eğitim ve Sağlık Vakfı Kapadokya Vocational School

Table 4. Authorization and Certification Methods within SHT-EGITIM/HAD Rev.1

Method	Aim and Benefits
Authorization of Department of Aviation Management (Accreditation of the Department)	This method is aimed that the course contents on the catalogue of the Aviation Management Department are matched to the course content specified in the SHT-EGITIM/HAD regulation. Since the faculty is authorized under the same instruction, other requirements are considered to be completed. Students may obtain a certificate as soon as they complete the courses in the catalogue, without additional training. A separate examination can be made for the evaluation.
Authorization of the Faculty for Ground Handling Trainings	In this method, the faculty can start the training as a separate course for students and staff, like a private training institution. Faculty is authorized for Terminal Operations and Airport Standards and Safety trainings. This indicates that the basic requirements of the faculty are met. One of the benefits of this method is the way the lead can reach the aviation sector and the third party. This method can be provided additional income to the faculty and this income can be used to ensure the continuity and development of the education program.
Agreement with Private Institutions or Organizations	Another way for the to certify Department of Aviation Management students and faculty personnel within SHT-EGITIM/HAD, the faculty must agree with a special training institutions and/or ground handling companies authorized by the DGCA for the Ground Handling Trainings under SHT-EGITIM/HAD. The protocol includes training of students, provision of training facilities and materials.

When the authorized training list in DGCA (2017) is examined, it is seen that Eskisehir Technical University is authorized for Terminal Operations and all of the Airport Standards and Safety trainings stated in the SHT- SHT-EGITIM/HAD instruction.

This is the result that Eskisehir Technical University provides the authorization requirements (organization, facilities, trainers, etc.) within SHT-EGITIM/HAD. In this part of research, there is an implementation to Ground Handling Services Trainings certification for of students of Eskisehir Technical University Faculty of Aeronautics and Astronautics under the SHT-EGITIM/HAD by the methods specified in Section 5.

Within the scope of the research, Department of Aviation Management course catalogue and the training content in SHT-EGITIM/HAD have been compared for authorization of ground handling trainings. According to the result, Department of Aviation Management's catalogue matches with the regulation for Station Representation, Load Control and Communication, Station Supervision, Safety Management System and Passenger Services trainings and the department can be authorized for these trainings. However, some training contents and the catalogue does not match, for example Worldtracer and Travel Documents Trainings does not match with any course content of the department.

This fact is preventing the faculty from applying for accreditation of the department. The faculty can adapt the training content in SHT-EGITIM/HAD to the course content of the department for authorization or the faculty can start an additional training program, which is prepared according to the regulation, and train students and faculty staff. Additional training should be aimed at completing missing training content and incomplete course hours.

Except the first method, the faculty can train the students and staff after the authorization of the faculty, just like Airport Standards and Safety trainings. For implementing this method, the faculty must meet the training documents requirement mentioned in SHT-EGITIM/HAD because the faculty met all requirements except training

documents. And finally, the faculty can agree with a ground handling company for trainings as a certification method for students. If Eskisehir Technical University Faculty of Aeronautics and Astronautics applies for authorization of Permission Procedures trainings in SHT-EGITIM/HAD, the faculty does not have to apply authorization of Flight Permissions trainings in SHT-EGITIM/HUD.

The main reason of this fact is these trainings have the same training contents. Because of this reason there is no implementation for SHT-EGITIM/HUD in this research.

7. Conclusion

Special trainings are required to work in the aviation industry. These trainings are determined and regulated by aviation authorities. Aviation authorities published numerous regulations in particular in areas requiring expertise such as pilotage, air traffic control, flight dispatching, trainings, licensing requirements, training organisations, etc. Individuals trained according to these regulations are described as "qualified personnel".

In the last 10 years, as a result of growth of aviation sector, the number of higher education institutions which are offering education in aviation has increased in Turkey. However, most of the higher education institutions do not prepare their educational curricula according to the regulations of national and international authorities.

Therefore, the higher education institutions are not authorized by DGCA. Even if, these students graduate from higher education institutions, which are not authorized by the civil aviation authority, students cannot do their job because they haven't got a certificate or license in the field of aviation. As a result, companies employing these students who are trained in unauthorized educational institutions take on additional costs by taking their students training them again.

Eskisehir Technical University Faculty of Aeronautics and Astronautics authorized by DGCA for SHY-147, SHT-1A, SHY65.01 (ESARR-5), SHT-EGITIM/HAD regulations.

According to DGCA's regulations, the personnel and students of Eskisehir Technical University Faculty of Aeronautics and Astronautics can obtain the License of Flight Dispatcher within the scope of SHY-UHU and the ground handling certificates of SHT-EGITIM/HAD by three different methods, Authorization of Department of Aviation Management (Accreditation of the Department), Authorization of the Faculty, Agreement with Private Institutions or Organizations. These three methods have different requirements [14].

Authorization and licencing can be examined in various dimensions. Authorized higher education institutions prepare and update their courses according to international and national regulations. With the right organisational structure, if these institutions provide trainings to aviation sector they can provide additional income to the institutions and this income can be used to ensure the continuity and development of the education program.

As the training is carried out according to certain standards, the quality of training activities is increased. Students who are aware that they will get a license or certificate will start to approach the courses more differently and give more importance. Students may be expected to develop different attitudes because the subjects such as absenteeism, passing grade, examination procedure are regulated in these regulations.

It was also observed that in the interviews made with the students, the motivation of the students can be changed positively. This may be an important step towards reducing the fear of not being unemployed and increasing self-esteem. The businesses that will employ licensed students can benefit by not incurring additional training costs or by only bearing the costs for training that is needed.

Ethical Approval

Not applicable.

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