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The Relationship Between the Educational Environment and Level of Educational Satisfaction of the Flight Training Institute Designated by Specialized Educational Institutions*

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ABSTRACT

The purpose of this study is to measure the satisfaction of educational environment factors such as teachers, facilities and administration system, and education infrastructure of the Korea Institute of Education. We conducted a self - filling questionnaire survey of 276 pilot pilots of the Korea Instructional Training Center. The satisfaction level of the education center was measured by the 5-point Likert scale, and t-test ANOVA, correlation analysis and multiple regression analysis were performed. The main results are as follows. 1. Among the sub-factors of Satisfaction with Flight Training Center, satisfaction with the training course was the highest and Satisfaction with the flight instructor was the lowest. 2. The higher the degree of satisfaction with the education process, the higher the satisfaction with the administrative system, the higher the satisfaction with the education infrastructure, the higher the overall satisfaction. 3. The effect of satisfaction on the curriculum, satisfaction with the teaching staff, administrative system, and educational infrastructure on the overall satisfaction with independent variables is proportional to the degree of satisfaction with each independent variable appear. The biggest factor influencing overall satisfaction was the flight training course, followed by the administrative system. The purpose of this study was to identify the educational satisfaction of student pilots by selecting the appropriate variables related to the educational satisfaction of the education center based on the previous studies on the educational satisfaction of the university.

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1. Introduction

As the aviation field develops globally and as the aviation industry popularized, domestic airlines are also growing in terms of quality. As the number of airplanes increased and the number of flight routes increased, the air transport industry is increasingly growing following the increase in the number of low cost airlines and the climbing flight hours per unit of aircraft (Kim, 2009a). As a result of such trend, the demand for human resources, which is the core resource of the air transport industry, is growing. According to the International Civil Aviation Organization (ICAO), the expansion of aviation liberalization and the increased demand for global aviation personnel are expected to cause a shortage of the aviation manpower across the world, faced with a shortage of approximately 13,000 people of pilot manpower in the Asia and the Pacific region (ICAO Global and Regional Forecasts / 2010-2030). As for the supply for the insufficient pilots, it could be expected to train more than 1,000 pilots per year in the future, considering that the number of domestic institutions to nurture is about 850 people and the number of overseas acquirers is about 300 people per year considering the recent trend in pilot qualification acquisition and the expansion of domestic department of flight operation (Ministry of Land, Infrastructure and Transport, 2016).

The number of domestic pilot training institutions is approximately 32, while operating approximately 120 training aircrafts to train more than 800 commercial pilot pilots per year. Of them, ninepence specialized training institutions designated according to the Aviation Act mainly train approximately 300 people per year, and the number will likely continue to grow in the future. Seven universities, which are not professional training institutions, train approximately 180 people a year, and approximately 16 private training companies train approximately 250 people a year. It is evident that there is a movement to train manpower in Korea in line with the global demand. Especially, the flight operation departments that train the manpower at the universities have been continuously established and gaining momentum towards the supply. Previously, there were departments of flight operation at Korea Aerospace University and Hanseo University, but since 2011, the flight operation department has been newly installed at Chodang University, Kyungwoon University, Jungwon University, Cheongju University, Korea National University of Transportation, Far East University and Kunjang University College, and in 2017, the department will be newly installed at Sehwan University and Catholic Kwandong University.

However, the new universities and private flight training companies are relatively poor in training programs and equipments, so in reality, they are lacking in training compared to professional training institutions. The reason for this is that the newly established educational institutions are lacking in information such as factors influencing infrastructure or educational satisfaction compared to educational institutions with long experience in education.

It is also a reality that airlines do not offer recruitment opportunities to the pilots who have not satisfied the evaluation of flying capability among the hiring criteria such as evidence of credentials, flight hours, and flying capability. Even if there are not enough people for the regular number required, only those who have passed the absolute evaluation could enter the airlines. That is, even if the demand for pilots falls short, it is not about the lack of absolute number of pilots but of highly qualified pilots. Accordingly, it is about the time for Korean aviation training institutions

to identify such issues and make efforts to nurture talents with the sense of mission and those equipped with the capability required by the airlines.

This was attempted to review matters that should be equipped with non-specialized training institution's flight training institutes including private aviation companies by presenting issues as to whether training is conducted to satisfaction as the demand for piloting manpower increases, the number of pilots graduated from the designated flight training institutions is increasing at the time of increasing supply, and by examining the satisfaction of training for those designated by the state. Moreover, it is necessary to understand the current status of the level of educational satisfaction in order to produce competitiveness in the flight training institutes growing in line with the lack of the manpower.

The purpose of this study is to measure the level of satisfaction of educational environment factors such as flight training institutes, instructors and staffs, facilities and administration system, as well as the educational infrastructures for the pilot pilots who are trained in the flight training institutes designated as specialized training institutions. According to previous studies, higher education satisfaction increases the quality of education and this is the basis to train high quality pilots. Therefore, we seek to increase the satisfaction of the education and to improve the satisfaction of the education, and to help pilots with high qualitative level in the world.

2. Theoretical Background

2.1 Concept of Flight Training

The concept of education and training has long been defined by numerous scholars. Education and training were defined as a learning experience designed and planned to cause permanent changes in the individuals' knowledge, skills and attitudes (Noe, 1986). Education and training were defined as an organized procedure of learning knowledge or skills for a specified purpose (Beach, 1980).

Generally, education and training are used almost synonymously (JMAC, 1989), however, when strictly defined, education would mean the first class held for students, whereas training is one that is conducted for additional class work such as re-education and make up. Accordingly, flight education and training can also be described as a process of learning designed and planned for the development of flight related knowledge, skills and attitudes.

Flight education and training is defined as a process of learning to accumulate aircraft operating skills and related knowledge required for becoming a pilot. That is, it refers to training one to complete pilot certification required for pilots, whereas a pilot is a person who operates an aircraft directly among the aviation employees, and in the case of a civilian aircraft, the function of the pilot has to be certified by the Minister of Land, Infrastructure and Transport as the pilot of the aircraft, and it has to be a person who has been issued a certificate (Article 25 of the Aviation Act).

Qualifications shall be classified into transportation pilots, co-pilot, business pilots, and private

pilots according to the scope of certification, each of whom shall be qualified and authorized through a certain test conducted by the Minister of Land, Infrastructure and Transport (Article 29 of the same Act for the departmental test and field test).

If one so intends as to conduct business and operate an aircraft of an approved type, class, or form, you must be granted the corresponding qualification, but if you are not qualified, you can not act pursuant to Article 27 of the Aviation Act. The qualification or credential means the basic eligibility of the above mentioned aviation employee. Specification of evidence of qualification refers to the ability to conduct a specific scope of work, even if one has a license by classifying the type, class, and form of the aircraft, and the classification of the evidence of qualification and specified type of the aircraft are as provided in Table 1.

Table 1. Classification of specified types of aircraft

Classification	Type of specification	Details
1	Specification of type	Airplane, rotorcraft, airship, etc.
2	Specification of class	Land single / multiple, Water single / multiple
3	Specification of form	Jet engine-B747, MD-11, A-320, etc.

Source: Articles 26, 27 and 28 of the Aviation Act

That is, if the existing pilots' evidence of qualification can operate on the land, and if the engine is not an individual one (land single), but instead can be operated on the water, and if one intends to operate the an aircraft equipped with two or more engines (water multiple), one shall acquire specified qualification for the specific aircraft model in the form of water multiple (Articles 26, 27 and 28 of the Aviation Act). For example, a flight which an individual implements for free of charge purposes, such as for a recreational purpose, must be at least above the qualification of a private pilot, and the business pilot's license or better must be acquired to be employed for payment. Accordingly, most airline pilots requirements target those having at least a license of the business pilot.

Thus, the pilot qualifications referred to in this paper mainly refer to the commercial airplane pilots having the basic qualifications for employing pilots at the airlines. Table 2 - 4 provides details on the qualifications of the pilot for becoming a business pilot, including eligibility, departmental test and field test.

The scope of the field test for pilots varies as per that type, class and business specified, and in the case of the specified use of the commercial and private gliders, the test is conducted only for the operating skills and the skills necessary for the performance of the corresponding qualification, however, other certifications are assessed for the skills required for the performance of corresponding qualifications such as operating skills, machine flight, wireless equipment, public notice communication, and navigation technology, etc.

Table 2. Basic testing qualification for each evidence of qualification for pilots

Classification	Basic Testing Requirements	Total Flight Career	Other Career			
			Captain Career	Outdoor Flight Career	Machine Flight Career	Nighttime Flight Career
Private pilot	• A person having the following flight career • A person having pilot evidence of qualification issued by a foreign government	40 hours <35>*	Solo flight career of 10 hours or more including solo nighttime flight career of 5 hours or more			
Business pilot	• A person having a private pilot evidence of qualification	200 hours <150>*	100 hours <70>*	20 hours of captain career	10 hours	Five hours including 5 sessions of take off and landing each with captain career
	• A person having transportation pilot evidence of qualification issued by a foreign government	150 hours <100>*	35 hours	10 hours of captain career		
	• A person having business pilot evidence of qualification issued by a foreign government					

Source: Attached 11 of the Enforcement Rules of the Aviation Act; (Hours within brackets are the hours of education completed by specialized educational institution)

Table 3. Scope of departmental test for pilots

Type	Type, Class & Business	Subject
Pilots	Aircraft (private and business pilots)	Aviation Act, Air Navigation, Air Meteorology, Flight Theory, Air Traffic, Communication, Information Business

Source: Attached Table 10 of Article 81 of the Enforcement Rules of the Aviation Act

Table 4. Scope of field test for pilots

Type of Evidence of Qualification	Type, Class & Business Specified	Scope
Private Commercial	Aircraft	A. Operation skills
		B. Handling wireless devices
		C. Contact for public notice
		D. Navigation skills
		E. Skills required for performing the qualification

Source: Attached Table 10 of Article 81 of the Enforcement Rules of the Aviation Act

2.2 Concept of Flight Training Institute of the Designated Specialized Training Institution

Flight training institute refers to an educational institution's flight training institute that conducts flight training, and in this study, it refers to a flight training institution designated by the Ministry of Land, Infrastructure and Transport satisfying the standards set by the Ministry of Land, Infrastructure

and Transport. As for the flight training institutes designated in Korea, there are Hanseo University, Korea Aerospace University, Korea Aviation College, Korea National University of Transportation, and Chodang University which are based on the designation of Article 94 of the Aviation Act (Table 5).

Table 5. Current status of specialized educational institutions nurturing pilots designated by the Ministry of Land, Infrastructure and Transport

Classification	Name of Institution	Place of Practical Training	Date of Designation
1	Korea Aerospace University	Jeongseok Airfield, Uljin Airfield	’06.8.16
2	Hanseo University	Taean Airfield	’06.11.08
3	Korea Aviation College	Uljin Airfield, Muan Airport	’06.01.14
4	Korea National University of Transportation	Cheongju Airport	’14.07.03
5	Chodang University	Muan Airport	’16.04.20

Basis of designation: Article 29-3 of the Aviation Act and Article 94 of the Enforcement Rules (excluding designation of specialized educational institutions, etc., as of May 2016, and armed forces)

2.3 Level of Educational Satisfaction

The level of educational satisfaction is affected by the result of influencing the profitability or development of the companies according to customer satisfaction, whereby most companies focus on customer satisfaction from product to service and educational market also uses student satisfaction targeting students, who are their main customers, thereby pursuing student centric marketing to achieve satisfaction (Kim, 2009b).

Educational satisfaction is the extent of satisfaction students feel as they use the quality of educational service provided by the educational institutions. However, it is not easy to define and understand whether the level of satisfaction of service quality was high because it depends on the students’ subjective point of view (Kim, 2010).

The level of educational satisfaction in the educational part of Korean universities can be regarded as the education provider’s unilateral provision of education without the consideration of the demand or the future influence of the students having demand. In order to pursue a consumer centric education, education providers can grow only if they offer education in line with the needs and abilities of the educated students.

College education without the reflection of the students’ opinions will cause dissatisfaction of students and their loss of intention to learn. This is why the colleges’ level of educational satisfaction surveys are required. It is very important for the educational development to search the quality of education and the level of educational satisfaction of the students by conducting a research on their education (Kim, 2013).

The level of educational satisfaction survey refers to observing the students’ subjective responses to the educational environment (Astin, 1993).

The surveyed students’ level of educational satisfaction can be used as an important indicator

of the educational service level, but is not an objective indicator. The level of educational satisfaction is considered to be a predictor of successful and effective education, notwithstanding which the level of educational satisfaction is clearly different from the quality or effectiveness of education. Therefore, in order to elevate the level of educational satisfaction which many educational institutions and learners perceive to be subjective, it is necessary to actively conduct research.

The level of educational satisfaction of educational institutions and students affects the quality of education and forms a public confidence. The attitude of the learners plays such an important role in elevating the level of educational satisfaction and securing the high reliability privately. Therefore, by investigating and analyzing students' evaluation of education, finding the quality of education or the level of educational satisfaction of the learners is very crucial for the educational development.

As a matter of fact, measuring the level of educational satisfaction is very difficult and, accordingly for such reasons, there is no active investigation of the level of educational satisfaction in the educational institutions. However, as the perception of the learner's attitude playing an important role in elevating educational achievement and reliability socially has expanded, many universities and educational institutions are interested in the level of educational satisfaction survey and their importance is also increasing.

As a previous research on the level of educational satisfaction, Kang (1999) claimed that the level of educational satisfaction was correlated with student interest, class preparation, appropriateness of educational content, educational method, environment, and the level of satisfaction for instructor's level at a statistically significant level. The higher the level of interest in learning, the higher the level of satisfaction for education. That is, by analyzing the factors that increase the level of satisfaction and, hence, increasing the level of educational satisfaction, it is possible to improve the immersion and interest in learning towards achieving progress of an effective education.

The level of educational satisfaction survey conducted for the UK college students by Harvey and Berit (2003) analyzed the level of educational satisfaction across various areas such as curriculum, teaching and learning, library, computer training facilities, dining hall and recreational rooms, student club activities, and self development opportunities. The analysis was performed targeting professors and students, facility investments, commuting conditions, curriculum, job placement course taking personnel, and living environment as the factors of the level of satisfaction. Table 6 summarizes the details of Harvey's satisfaction survey and many other studies.

Ruben (1995) has suggested 3 areas forming the quality of college education. Ruben presented that the quality of administrative services, meaning quality of teaching, support system and information related to teaching and research and various services, and the quality of relationship, meaning interpersonal relationship with members, where the level of educational satisfaction will also improve as the quality of education improves. Furthermore, in order to maintain the high level of educational satisfaction of students, Ruben claimed that there is a need to operate educational programs effectively such as building educational infrastructures such as administrative staff, library, support system and educational facilities, developing new education programs, research and scholarship system and, finally, the improvement of education services.

Table 6. Details of Harvey's survey of level of satisfaction

Area	Sub Area	Details
Curriculum	Information on the courses	Extent of information provision on lectures and timetable's formation
	Burden of learning and tasks	Use of learning data center and formation of lecture plan
	Organization of lectures	Quality of assignments
		Feedback on the assignments' submission
		Conformity of the assignments' evaluation criteria
Teaching-Learning	Instructor's lecturing details	Access to instructors
		Attitude of professors, reliability of professors, clarity of lectures
	Individualized teaching practice	Clarity of lecture details
		Appropriateness of lecture contents
		Collaborative learning opportunities
	Field experience	Quality of practice
		Extent of securing educational facilities and equipments

Comprehensively reviewing the previous researches conducted, the level of educational satisfaction of college students in Korea was generally low, and there was a significant difference between the students' personal characteristics and the level of educational satisfaction of the universities. In addition, the higher the level of educational satisfaction of students, the higher the intention to recommend and the lower their willingness to transfer to other universities. The level of educational satisfaction survey of these universities will provide implications for practical survival strategies that can help survive for the universities of endless competition for survival in terms of enhancing the competitiveness of universities in response to changes in the external environment of the universities. The purpose of this study is to investigate the relationship between the level of educational satisfaction and the main variables through the overall diagnosis of the level of educational satisfaction based on previous researches and present ways of survival for the universities.

Therefore, we have focused the study on the following aspects. First, we investigate the relationship between the level of satisfaction and the level of educational satisfaction with flight teaching staff and the curriculum. Second, we learn about the relationship between the level of satisfaction and satisfaction with the administrative system of the designated flight training institute of the specialized educational institutions. Third, we learn about the relationship between the educational performance achievement of the flight training institutes and the level of educational satisfaction.

3. Research Method

This study is a descriptive cross-sectional correlation research intended to investigate the factors affecting the level of educational satisfaction of student pilots at the flight training institutes, which are designated by specialized educational institutions.

3.1 Research subject

Among the flight training institutes designated by specialized educational institutions, flight training institute A located in Chungcheong-do and flight training institute B located in Gyeongsang-do were selected. The subjects were 149 and 127 each, and the questionnaire survey was conducted with the subjects who gave consent after explaining the purpose of the study. This study was conducted with 276 student pilots who were selected based on Kline's (2005) method which satisfied a minimum of 20 times of measured variables.

3.2 Data collection

From September 10, 2016 until October 20, 2016, we visited in person the flight training institutes and obtained prior consent, distributed the self-administered questionnaires, and immediately retrieved them or retrieved them after a few days. At the selected flight training institutes, we distribute approximately 300 copies to student pilots undergoing training, of which 277 copies were collected, and 276 copies, excluding 1 copy of the incompleted questionnaire, were chosen to be the final subjects.

3.3 Research tools

Based on the previous researches, as for the research tools, 12 general items and a tool for measuring the level of educational satisfaction of the universities (Kim, 2013) were used, which were used for reorganization according to the flight training institutes' situation. In order to test the validity of the tools, an explorative factor analysis was conducted and classified them into five sub-factors of curriculum, flight teaching staff, administrative system, educational infrastructure, and overall satisfaction.

The level of educational satisfaction for flight was measured by the 5 point Likert scale (1 point = Not at all ~ 5 points = Very), and the higher the score means the higher level of educational satisfaction. Cronbach's α , which represents the internal consistency of the overall level of educational satisfaction, was 0.909, respectively.

3.4 Statistical analysis

SPSS (SPSS 22.0 for windows, SPSS Inc, Chicago, USA) was used for the collected data, and the frequency, percentage, mean, and standard deviation concerning general matters and level of satisfaction were used for frequency analysis and crossover analysis. The t-test and one-way ANOVA tests were used to determine the differences in the level of satisfaction following general items. The Pearson's correlation coefficient was obtained for the correlation analysis of the sub-factors between the levels of educational satisfaction, a stepwise multiple regression analysis was conducted to learn about the overall satisfaction concerning the flight training institute.

4. Research Result

4.1 General characteristics of the subjects

The subjects were 229 males (83.0%), who comprised the majority, and 209 of them were below age 30 (75.7%). 213 of them used dormitories (77.2%) and their major program was aviation related such as flight operation and helicopter operation (Table 7).

Table 7. General characteristics of the subjects

Variable	Classification	Frequency	Percent
Gender	Male	229	83.0
	Female	47	17.0
Age	Below age 30	209	75.7
	Age 30 or more	67	24.3
Place of residence	Dormitory	213	77.2
	Living on one's own	53	19.2
	Commuting	10	3.6
Major program	Pursuing aviation related major program	128	46.4
	Not pursuing aviation related major program	148	53.6

4.2 Technical statistics of educational satisfaction for each sub-factor concerning the flight training institute

Table 8 is the result of measuring the level of satisfaction of the flight training institutes based on the Likert's 5-point mean measuring scale. The overall level of satisfaction was the highest at 3.82 points, followed by the level of satisfaction for curriculum (3.73 points), administrative system (3.55 points), flight teaching staffs (3.49 points), and educational infrastructure (3.43 points), respectively.

Table 8. Extent of educational satisfaction for the flight training institute

Special Characteristic	Frequency (N)	Minimum Value	Maximum Value	Mean ± Standard Deviation	Cronbach's α
Overall level of satisfaction	276	1.33	5.00	3.82±0.77	0.911
Curriculum	276	1.60	5.00	3.73±0.71	0.903
Administrative system	276	1.17	5.00	3.55±0.77	0.872
Flight teaching staff	276	1.00	5.00	3.49±0.83	0.746
Educational infrastructure	276	1.50	5.00	3.43±0.95	0.851

4.3 Overall level of satisfaction of the flight training institute following general characteristics

Table 9 illustrates that the overall level of satisfaction of flight education according to general characteristics was 3.90 for those under 30 years of age and 3.56 for those over 30 years of age (P<0.001). The place residence was 3.91 points for the dormitory and was higher than living on one's own (3.52 points) or commuting (3.62 points) (P=0.003). Those pursuing aviation related major program had 4.11 points, which was a higher level of satisfaction than those not pursuing aviation related major program (P<0.001).

Table 9. Overall satisfaction of flight training institutes following general special characteristics

Variable	Classification	N	Overall Satisfaction	*P***
			M±SD*	
Gender	Male	229	3.85±0.79	0.305
	Female	47	3.72±0.66	
Age	Below age 30	209	3.90±0.78	0.001
	Age 30 or more	67	3.56±0.68	
Place of residence	Dormitory	213	3.91±0.75	0.003
	Living on one's own	53	3.52±0.77	
	Commuting	10	3.62±0.74	
Major program	Pursuing aviation related major program	128	4.11±0.72	<0.001*
	Not pursuing aviation related major program	148	3.58±0.72	

*Mean ± Standard Deviation; **by independent t-test or one-way ANOVA test

4.4 Correlation between sub-factors of educational satisfaction concerning the flight training institute

Table 10 shows the result of analyzing the correlation between the sub-factors of the student pilots' level of satisfaction with the flight training institutes' education. Overall satisfaction was educational infrastructure (r=.557), administrative system (r=522). flight teaching staff (r=.336), demonstrating all positive. It was seen that the more excellent the educational infrastructure, the better equipped the administrative system, and the higher the level of satisfaction of the flight teaching staff, the higher the level of overall satisfaction.

Table 10. Correlation between sub-factors of educational satisfaction for the flight training institutes

Variable	Flight curriculum	Flight teaching staff	Administrative system	Educational infrastructure	Overall satisfaction
Flight curriculum	1				
Flight teaching staff	.336**	1			
Administrative system	.522**	.292**	1		
Educational infrastructure	.557**	.213**	.339**	1	
Overall satisfaction	.704**	.322**	.552**	.425**	1

** $p<0.01$ by Pearson correlation coefficient at α =0.05

4.5 Factors influencing the overall satisfaction concerning the flight training institute

Table 11 illustrates the result of analyzing the factors affecting the overall satisfaction of flight training institutes for 277 student pilots. The age and major program which showed differences in the overall satisfaction were added as independent variables by treating them as dummy variables.

Table 11. Factors affecting the overall satisfaction of flight training institutes

Independent Variable	Non-standardization factor		Standardization factor	t	P^*	VIF
	B	S.E.	Beta			
Constant	0.488	0.197		5.035	<0.001	
Flight curriculum	0.580	0.051	0.533	11.412	<0.001	1.412
Administrative system	0.246	0.046	0.246	5.325	<0.001	1.376
Not pursuing major program (ref.=Pursuing aviation related major program)	-0.305	0.062	-0.198	-4.912	<0.001	1.049

Dependent variable = Level of overall satisfaction R^2=0.579, Adjusted R^2=0.575, F=124.855(P<0.001),
* by stepwise multiple regression analysis at α =0.05

The result of validating the regression analysis' assumption was all satisfactory. The auto-correlation of the error using Durbin-Watson was examined to be 1.960, which is larger than the test statistics, so the auto-correlation may be said to be non-existent. Next, since the tolerance limit is 0.1 or the VIF value is not larger than 10, all the variables were seen to have no problem in multi-collinearity.

The regression model showed significant results (F=124.86, P<0.001), and the modified coefficient of determination (R2) indicating the explanatory power of the model was 57.5%. The factors that have the largest effect on the level of overall satisfaction of the flight training institutes of the student pilots were the flight curriculum (β =0.533) and the administrative system (β =0.246). In

particular, the level of satisfaction of those pursuing major program turned out to be larger than that of those not pursuing major program (β =-0.198).

5. Discussion

In this study, we analyzed the relationship between the educational environment and the level of educational satisfaction of the flight training institutes designated by specialized educational institutions through empirical studies and the following key results were obtained.

(1) Among the sub-factors of the level of satisfaction about the flight training institutes, the level of satisfaction for curriculum was the highest, and that for flight teaching staff was the lowest.
(2) The higher the level of satisfaction with the curriculum, the higher the level of satisfaction with the administrative system, and the higher the level of satisfaction with the educational infrastructure, the higher the level of overall satisfaction.
(3) The level of satisfaction with curriculum, the level of satisfaction with teaching staff, the administrative system, and the educational infrastructure as independent variables and the higher the level of satisfaction of each independent variable is, the higher the level of overall satisfaction to have influence. The most important factor affecting the level of overall satisfaction was flight curriculum, followed by the administrative system.

This study attempted to identify the level of educational satisfaction of student pilots by selecting appropriate variables for the level of educational satisfaction of the universities based on the previous researches conducted on the level of educational satisfaction, and this is intended to be used as base data to understand important factors for identifying directions of development for the flight training institutes and key factors. It was also possible to draw the conclusion that, from the references and the questionnaire survey that is feasible to identify the relationship between the educational environment and the level of educational satisfaction of the designated flight training institutes and to improve the educational environment in a broad sense to affect the level of educational satisfaction. Comprehensively, recommendations are as follows based on the results of this study.

First, they need to manage educational programs on an ongoing basis. The introduction of new models of aircrafts and the demand for jet specified qualifications, such as the current standards of pilot recruitment, must be quickly identified for the changes in the programs to offer appropriate programs, so that students can improve the efficiency of flight capability.

Second, they need to invest in the educational environment, so that the students can concentrate on education. According to the results of the validation of this study, a significant relationship was found to have been established between the educational environment of the flight training institutes and the level of educational satisfaction. Based on which, the development of the educational environment of the flight training institutes can bring about the improvement of the level of educational satisfaction, and according to the previous studies, a higher level of educational satisfaction provides

the foundation for elevating the quality of education and train the pilots of quality. According, they can achieve competitiveness among the growing number of flight training institutes.

Third, they must endeavor to manage teaching staff. Among the 4 factors influencing the educational environment, the level of satisfaction was the lowest. They must not merely produce people who can fly well, but develop programs that can nurtures teaching staffs capable of efficiently growing the capability of the students, and in the process of nurturing teaching staffs, they must not just evaluate flight capability, but evaluate attitudes and mindset toward students for education.

Fourth, we selected two institutions that have graduated students from among the flight training institutes designated by specialized educational institutions, but we were faced with limitations of identifying issues such as whether and in what respects specialized educational institutions were superior with accuracy for the lack of identification of the level of satisfaction for other university annexed flight training institutes or private flight training companies. This needs to be expanded in scope and studied in the future.

6. Conclusion

The implications of this study are, first, there were not many previous researches conducted on flight training institutes, so previous researches on the universities' level of satisfaction were used for comparison. Studying ways to improve the level of educational satisfaction of universities to identify areas for studying ways to improve the level of educational satisfaction of flight training institutes can be meaningful. Second, in order to enhance competence through the level of educational satisfaction of student pilots of the flight training institutes designated by the two specialized educational institutions, which are specimens of this study, it is necessary to construct the infrastructure such as lecture facilities and convenience facilities, and beyond everything, it is necessary to operate efficiently through the improvement of the quality of flight teaching staff. As such, it is necessary to maximize the level of educational satisfaction of student pilots and making effort and searching plans yielding the quality of pilot development with educational performance of flight training institutes are required. Recently, more educational institutions have been established to help realize the dream of becoming pilot, and access to education has improved through the access to various media and advertisements. With the growing global demand for aviation, the number of pilots is increasing due to the recent diversification of routes to achieving the dreams of becoming pilot by alleviating the vision restrictions of military and civilian pilots. However, the systematic satisfaction survey of the flight training institutes almost has not been conducted. In addition, there are not many academic studies conducted on the flight training institutes.

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