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Thai Lion Air (SL) Flight Attendants' Satisfaction toward the Environmental Factors in the Course of Safety Management System (SMS) between C-Learning Class and E-Learning Class.

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Abstract. The objectives of this research were (1) to study personal factors in the SMS course comparing between the classroom (C-Learning) and the online (E-Learning), (2) to study the satisfaction of Thai Lion Air (SL) flight attendants towards the physical environment factors and the socio-psychological environment factors in the C-Learning and the E-Learning of the SMS Course (Recurrent Training), (3) to compare SL flight attendants' satisfaction in the learning styles between C-Learning and E-Learning of the SMS Course (Recurrent Training). The sample group was 300 flight attendants. The statistics used for data analysis were Frequency, Percentage, Mean, SD, T-test, LSD and One-way ANOVA. The study found that (1) most flight attendant were female (74.7%), 30-40 years old (53.3%), with Bachelor's Degree (68.7%) and more than 2 years with SL (64.7%), (2) SL flight attendants were very satisfied with the physical environment of C-Learning class in all aspects, especially in Training Equipment and Tools was the highest at 4.34. Meanwhile the Training Location was highest at 4.40 in the E-Learning class, (3) Most SL flight attendants had a statistically significant difference in overall satisfaction level in C-Learning and E-Learning at 0.05 which were more satisfied with C-Learning class than E-Learning class.

Keywords: Safety Management System, C-Learning, E-Learning, Physical Environment, Socio-Psychological Environment

INTRODUCTION

Flight attendants are airline officers who take care of the safety and assistance of passengers when the aircraft is operating. They cover a wide range of responsibilities, whose primary one is to ensure the safety of passengers under normal conditions and in emergencies, life threatening conditions and surveillance of various safety events. While performing the aforementioned duties, some actions or omissions may result in an accident resulting in injury to the crews or passengers or adversely affect from insecurity and lead to serious incidents. According to statistics, aircraft accidents are on the rise in 2018 and 2019 (Bureau of Aircraft Accidents Archives (3BA), 2020 Habana, Cuba), prompting aviation organizations around the world to focus on safety, with a focus on the Safety Management Systems (SMS) and the submission of safety reports. It is believed that it can reduce accidents and lead to increased operational safety. Teaching and Learning of Safety Management System in any sectors of aviation industry which are involved with the safety has to be a comprehensive course which the content meets the objectives of the International Civil Aviation Organization (ICAO) identified in Annex 19. Organizations or airlines have to implement them in accordance with the problems and requirements of a Safety Management System (SMS) and cabin safety. The performance of a flight attendant is responsible for a number of areas. As required, SMS training is required to raise awareness of employees to carefully operate, as well as to reduce risks, prevent possible accidents and to raise the level of safety in the organization (less harm and risk). At present, Thai Lion Air (SL) offers Safety Management System (SMS) training courses for flight attendants, both classroom (C-Learning) and online (E-Learning). Therefore, we are interested in SL flight attendants' satisfaction toward the environmental factors in the course of safety management system (SMS) between C-Learning class and E-Learning class. This makes it possible to know the benefits, disadvantages, satisfaction and use the results to develop the course of Safety

Management System (SMS) in Recurrent Training Course of SL flight attendants to be more efficient and meet the needs of the learners.

Research Objectives

1. To study personal factors in the Safety Management System (SMS) course comparing between the classroom (C-Learning) and the online (E-Learning).
2. To study the satisfaction of Thai Lion Air (SL) flight attendants toward the physical environment factors and the socio-psychological environment factors in the C-Learning and the E-Learning of the SMS Course (Recurrent Training).
3. To compare SL flight attendants' satisfaction in the learning styles between C-Learning and E-Learning of the SMS Course (Recurrent Training).

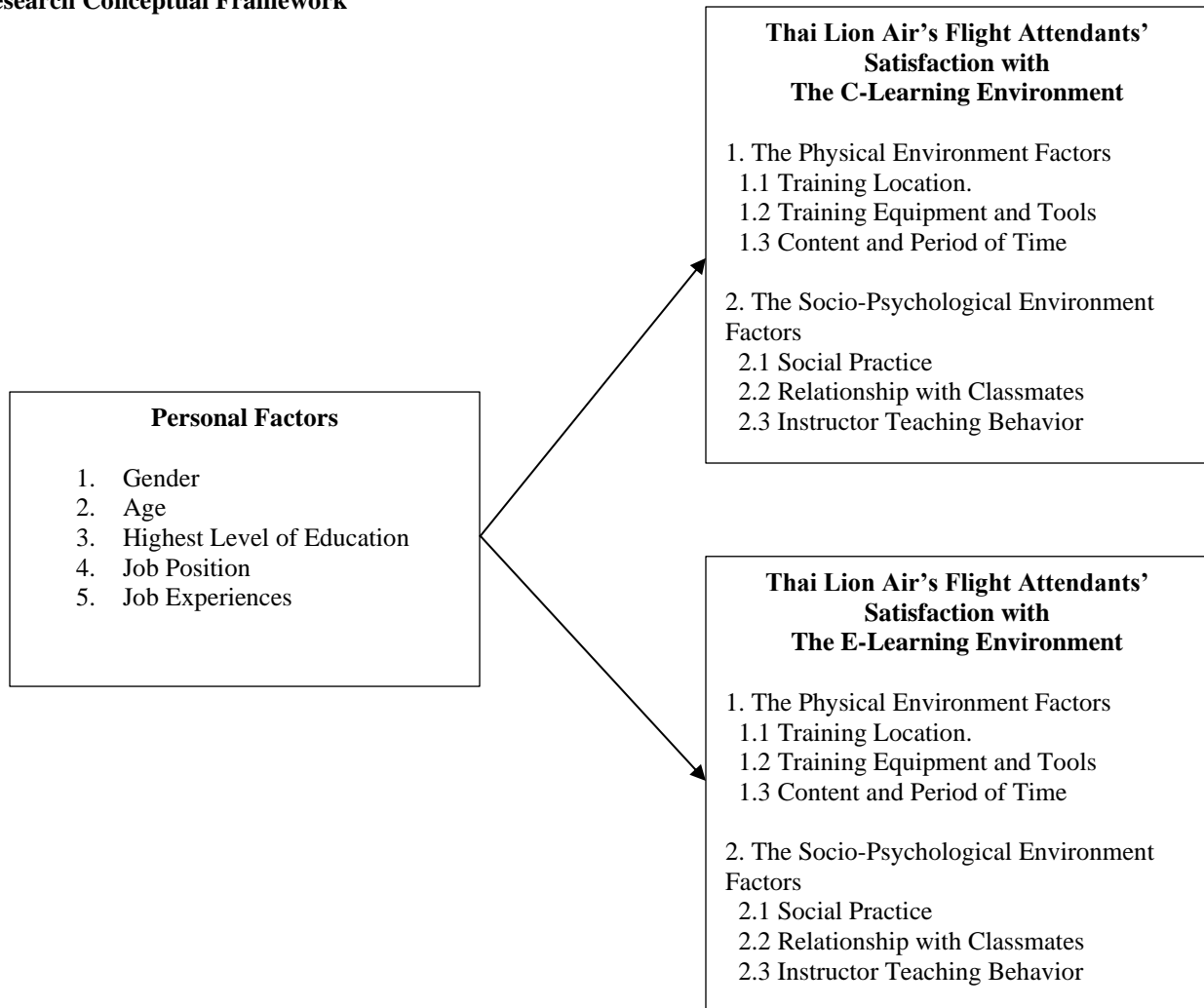
Scope of Study

1. Demographic scope in Population is a total of 300 flight attendants on Thai Lion Air.
2. Content scope: 1) Independent variables are personal factor (gender, age, highest level of education, job position and job experiences) and classroom's environments factors (the physical environment factors and the socio-psychological environment), 2) Dependent variable is satisfaction in the learning styles (C-Learning and E-Learning)
3. Location scope is Don Mueang International Airport, Bangkok, Thailand.
4. Period scope: December 2019 - May 2020.

Terminology

1. Physical environment are training location, training equipment and tools and content and period of time.
2. Socio-psychological environment are social practice, relationship with classmates and instructor teaching behavior
3. Classroom learning (C-Learning) is an on-site classroom with a focus on the face-to-face interaction and cooperative learning. It can be from two or more people as one-to-one teaching or lectures may be conducted by speakers in a conference room with group learners. This style of learning is suitable for the primarily movement-oriented in order to developing psychomotor skills.
4. Online learning (E-Learning) is a teaching styles that use electronic devices such as computers, networks, Internet, intranets, extranets, or via television or satellite signals and use different formats for presenting information content which may be in the form of learning that we are familiar with to facilitate the SL flight attendants. They can study from home or their places and also adjust the study time according to the situation.
5. Safety Management System (SMS) is a holistic focus on safety management in the Flight Attendant Department of Thai Lion Air as a requirement by International Civil Aviation Organization (ICAO) which the Civil Aviation Authority of Thailand (CAAT) has taken as a guideline specified in the document of Air Operator Certificate Requirement.

Research Conceptual Framework



RESEARCH METHODS

Study Design

This research was a quantitative research using a closed-ended survey research model containing personal qualification data, training environment data in both the physical environment and the socio-psychological environment in Safety Management System (SMS) Training.

Population and Samples

The population of the study was 991 Thai Lion Air flight attendants, consisting of 215 flight pursers and 776 flight attendants (based on the data from Thai Lion Air Flight Operations Crew Division on May 8, 2020). The sample of this study was 300 Thai Lion Air flight attendants who received the Safety Management System (SMS) training in both classroom and online training (by using Taro Yamane's calculation, there were 285 actual samples and 15 additional samples).

Data Collection

The researchers studied concepts, theories, related documents and research, as well as other relevant factors to create a research tool such as a quantitative research questionnaire to compare the satisfaction of Thai Lion Air flight attendants who received classroom and online Safety Management System Training (Recurrent Training) in the factors of physical and socio-psychological environment. However, the researcher presented the questionnaire to 3 experts to check the Content Validity. All questions have the Index of Item-Objective Congruence (IOC) between the content of the question and the objectives at 0.67-1.00 passed the criteria of 0.50 and above which is applicable (Suwimol Tirakanant, 2007). Then the questionnaires that were corrected according to the instructions were taken to try out with the sample group of 30 that was similar to the sample used in the study to test Reliability.

Questionnaire

The questionnaire consists of 3 parts as follows:

Part 1: Personal Information of SL flight attendants who joined the SMS Course in both C-Learning class and E-Learning class.

- 1) Gender (nominal)
- 2) Age (ordinal)
- 3) Highest Level of Education (ordinal)
- 4) Job Position (nominal)
- 5) Job Experiences (ordinal)

Part 2: Satisfaction of SL flight attendants toward environmental factors which were the physical and socio-psychological environments in the Recurrent Training Course of Safety Management Systems (SMS) through classroom-based training (C-Learning). This is a closed-ended questionnaire using the Likert Scale Standard (Likert, Rensis, 1967).

5	=	Most Satisfaction
4	=	Very Satisfaction
3	=	Satisfaction
2	=	Less Satisfaction
1	=	Least Satisfaction

For the satisfaction level measurement, the score range was measured for the mean (X^2) of the questionnaire responses by considering the following evaluation criteria.

4.50 – 5.00	=	Most Satisfaction
3.50 – 4.49	=	Very Satisfaction
2.50 – 3.49	=	Satisfaction
1.50 – 2.49	=	Less Satisfaction
1.00 – 1.49	=	Least Satisfaction

Part 3: Satisfaction of SL flight attendants toward environmental factors which were the physical and socio-psychological environments in the Recurrent Training Course of Safety Management Systems (SMS) through online-based training (E-Learning). This is a closed-end questionnaire using the Likert Scale Standard as same as mentioned above.

RESULTS AND DISCUSSION

Quantitative research in the type of Survey Research using a closed-ended questionnaire consisted of personal information and training environmental factors, both in the physical environment and the socio-psychological environment.

Questions	Amount of Questions	Cronbach's Alpha
Training Location.	5	0.846
Training Equipment and Tools	5	0.785
Content and Period of Time	5	0.867
Social Practice	4	0.780
Relationship with Classmates	4	0.799
Instructor Teaching Behavior	5	0.803

Figure 1. The table shows Cronbach's Alpha Coefficient of C-Learning Class.

A validation of the reliability of questions that measured SL flight attendants' satisfaction in the 6 environmental factors of C-Learning Class; (1) Training Location, (2) Training Equipment and Tools, (3) Content and Period of Time, (4) Social Practice, (5) Relationship with Classmates and (6) Instructor Teaching Behavior found that the Cronbach's alpha coefficient was from 0.780 to 0.867. It met the criteria of 0.7 indicating that the questionnaire was highly reliable.

Questions	Amount of Questions	Cronbach's Alpha
Training Location.	5	0.808
Training Equipment and Tools	5	0.786
Content and Period of Time	5	0.835
Social Practice	4	0.796
Relationship with Classmates	4	0.860
Instructor Teaching Behavior	5	0.908

Figure 2. The table shows Cronbach's Alpha Coefficient of E-Learning Class.

A validation of the reliability of questions that measured SL flight attendants' satisfaction in the 6 environmental factors of E-Learning Class; (1) Training Location, (2) Training Equipment and Tools, (3) Content and Period of Time, (4) Social Practice, (5) Relationship with Classmates and (6) Instructor Teaching Behavior found that the Cronbach's alpha coefficient was from 0.786 to 0.908. It met the criteria of 0.7 indicating that the questionnaire was highly reliable.

n = 300

Gender	Amount (Person)	Percentage
Male	76	25.3
Female	224	74.7
Total	300	100
Age	Amount (Person)	Percentage
Under 30 years old	104	34.7
30 – 40 years old	160	53.3
Over 40 years old	36	12.0
Total	300	100
Highest Level of Education	Amount (Person)	Percentage
Bachelor's degree	206	68.7
Postgraduate	94	31.3
Total	300	100
Job Position	Amount (Person)	Percentage
Cabin Crew	248	82.7

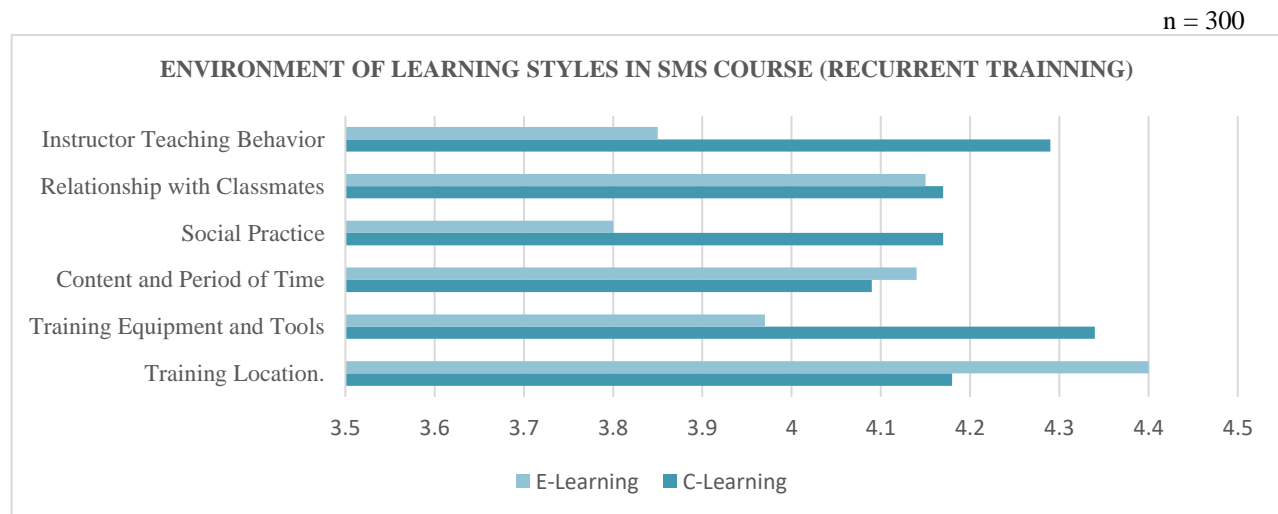
Purser	52	17.3
Total	300	100
Job Experiences	Amount (Person)	Percentage
Less than 2 years	106	35.3
More than 2 years	194	64.7
Total	300	100

$$P \leq 0.05$$

Figure 3. The table shows the number of respondents according to Personal Factors.

It was found that 74.7% of the respondents were the most female, 53.3% were in the range of 30-40 years, 68.7% of the respondents had the highest education level at the bachelor's degree and 64.7% of the respondents have worked in the Company for more than 2 years.

The analysis of descriptive statistics, the researchers analyzed the data from questionnaires of the samples. It was presented in the form of Mean, Standard Deviation, and an interpretation of the satisfaction level of Thai Lion Air flight attendants about the environment of the learning styles in both Classroom (C-Learning) and Online (E-Learning) for the Recurrent Training in Safety Management System (SMS) as presenting by the following bar graph.



$$P \leq 0.05$$

Figure 4. The satisfaction level of Thai Lion Air flight attendants about the environment of the learning styles in both Classroom (C-Learning) and Online (E-Learning)

It was found that the flight attendants were highly satisfied with the environment within the classroom (C-Learning) training in all areas, with the most satisfaction in Training Equipment and Tools at 4.34, the least in terms of Content and Period of Time at 4.09. As for the online training (E-Learning), flight attendants gave the highest weight in terms of Training Location at 4.40 percent. Moreover they gave the lowest weight in online training (E-Learning) on Social Practice and Instructor Teaching Behavior at 3.80 and 3.85. When comparing all aspects of classroom training (C-Learning) and online training (E-Learning) in satisfaction weights were 4.17 and 4.05 as shown in the following table.

n = 300

Environment Factors	Comparison Analysis Results			
	C-Learning (Mean)	E-Learning (Mean)	t	Sig.
Training Location.	4.185	4.404	-5.465	0.000*
Training Equipment and Tools	4.340	3.970	7.583	0.000*
Content and Period of Time	4.085	4.136	-1.111	0.267
Social Practice	4.165	3.804	9.154	0.000*
Relationship with Classmates	4.011	4.145	-2.669	0.008*
Instructor Teaching Behavior	4.289	3.855	9.461	0.000*
Total	4.179	4.052	6.197	0.000*

P ≤ 0.05

Figure 5. The table shows the comparison of environmental satisfaction between C-Learning and E-Learning

CONCLUSION

The result of content validity in the Cronbach's alpha coefficient toward 56 questions for studying satisfaction of SMS Recurrent Training Course in C-Learning and E-Learning Class was shown in the range of 0.780 to 0.867. It met the criteria. 0.7 indicates that the questionnaire is highly reliable.

Research Objectives 1: To study personal factors in the Safety Management System (SMS) course comparing between the classroom (C-Learning) and the online (E-Learning). The study showed that most flight attendant were female (74.7%), 30-40 years old (53.3%), with Bachelor's Degree (68.7%), in position of Cabin Crew (82.7%) and more than 2 years with SL (64.7%). In addition, an analysis of the satisfaction level of training environments in the Safety Management Systems (SMS) course (Recurrent Training) can be classified into 2 learning styles as follows: (1) Classroom-style training (C-Learning), it was found that Thai Lion Air's flight attendants had a high level of satisfaction in all aspects of the training environment. The satisfaction level in the physical environment of the training equipment was the highest at 4.34 overall, followed by the socio-psychological environment in Instructor Teaching Behavior at 4.29. (2) Online-style training (E-Learning), it was found that Thai Lion Air's flight attendants had a high level of satisfaction in all aspects of the training environment. The level of satisfaction in the physical environment in the Training Location was the highest with a total mean of 4.40, followed by the socio-psychological environment of the Relationship with Classmates with the mean of 4.15. The study results are consistent with the research of Panadda Sricham and others (2020) which studied in the topic of *Satisfaction with Chief Flight Attendant in Safety Training Case Study: Bangkok Airways Public Company Limited*. Her study found that the chief flight attendants (purser) were the most satisfied with the training. Moreover, male flight attendants seemingly had higher levels of satisfaction in the socio-psychological environment in the Relationship with Classmates than female flight attendants. Consequently, Personal Factors in terms of gender, age range, highest level of education, job position and job experiences contributed to the satisfaction of C-Learning were significantly different at the 0.05 level. The results of this study were inconsistent with the research of Sinapa Sripan-in (2017), who studied Training Satisfaction and The Effectiveness of Personnel Training. The results of the study showed that personal factor of gender had no difference in training satisfaction.

However in the online learning (E-Learning), male flight attendants had higher levels of satisfaction in physical environment in terms of Content and Period of Time than female flight attendants. However, it was found that male flight attendants had lower levels of satisfaction in the instructor-related physical environment than female flight attendants. The results of this study are consistent with the research of Kornthanawat Wuttiyan (2019) in the title of Students' Satisfaction with Learning English Online via Skype program at ECC Language Institute. The research has shown that different gender in personal factors have different effects on the satisfaction of learning English through Skype. For flight attendants under the age of 30 and the age 30-40, they had the level of satisfaction in the physical environment of the Training Location higher than flight attendants who were over 40 years old. Flight attendants under the age of 30 and age 30-40 had a lower level of satisfaction in the physical environment of Training Equipment and Tools than flight attendants over 40. Flight attendants under the age of 30 and age 30-40 had lower levels of satisfaction in the socio-psychological environment of Relationship with Classmates than flight attendants over 40. Furthermore, flight attendants with a bachelor's degree have

a higher level of satisfaction in the socio-psychological environment of Instructor Teaching Behavior than those with a postgraduate level of education. The researcher opines that the vast majority of postgraduate flight attendants are the flight pursers who have been trained several times. Relatively large knowledge and skills may discern the imperfection of the learning slides, resulting in lower satisfaction. Consequently, personal factors in terms of gender, age range, highest level of education contributed to the satisfaction of E-Learning environment were significantly different at the 0.05.

Research Objective 2: To study the satisfaction of Thai Lion Air (SL) flight attendants toward the physical environment factors and the socio-psychological environment factors in the C-Learning and the E-Learning of the SMS Course (Recurrent Training). The results showed that SL flight attendants were very satisfied with the physical environment of C-Learning class in all aspects, especially in Training Equipment and Tools was the highest at 4.34. Content and Period of Time was the lowest rank at 4.09. Meanwhile the Training Location was highest at 4.40 in the E-Learning class. The lowest rank toward E-Learning class was Social Practice at 3.80.

Research Objective 3: To compare SL flight attendants' satisfaction in the learning styles between C-Learning and E-Learning of the SMS Course (Recurrent Training). Classroom-style training (C-Learning), the majority of flight attendants' satisfaction in (1) the Physical Environment of the Training Equipment and Tools, (2) the Socio-Psychological Environment of Social Practice of the training and (3) the Socio-Psychological Environment of Instructor Teaching Behavior in the classroom-style training (C-Learning) are higher than the online-style training (E-Learning). Online training (E-Learning), flight attendants can learn at ease, which results in most flight attendants' very satisfied in (1) the Physical environment of the Training Location and (2) the Socio-Psychological Environment of Relationship with Classmates in the online-style training (E-Learning) is higher than the classroom-style training (C-Learning). Overall, Thai Lion Air's flight attendants are more satisfied with the classroom-style training (C-Learning) than the online-style training (E-Learning). The results of this study are consistent with the research of Ladonna S Hale et al. (2009) whose research title is *Online VS Classroom instruction: student satisfaction and learning outcomes in an undergraduate Allied Health pharmacology course*. His study found that learners were more satisfied with certain aspects of the online-style training (E-Learning) than the traditional classroom-style training (C-Learning) and were more satisfied with certain aspects of the classroom-style training (C-Learning) than the online-style training (E-Learning). However, there was a higher satisfaction with the classroom model than online in overall.

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