

ENHANCING SAFETY IN MIND THROUGH TRANSFORMATIVE AVIATION SAFETY KNOWLEDGE FOR ONE SAFETY CULTURE: CASE STUDY OF AVIATION PERSONNEL DEVELOPMENT INSTITUTE, KASEM BUNDIR UNIVERSITY'S STUDENTS

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Abstract - The purpose of the study were; (1) to study the level of Aviation Safety Knowledge of Aviation Personnel Development Institute's students through the concept of Transformative Knowledge (2) to compare the knowledge of Aviation Safety among students of Aviation Personnel Development Institute in term of Safety Culture. This study was a qualitative research study that used focus group in all four major groups of 10 students and in total of 40. There were two groups of junior students consisted of Thai students of Thai Program and International Program students. There were another two groups of senior students that were divided the same as junior students' groups. The result of this study showed that the level of Aviation Safety Knowledge of junior students' groups was not different from that of senior students' ones when using the concept of Transformative Knowledge through the factors of the intellectual leadership, clear definition and language revitalization. For a comparative study of the knowledge of Aviation Safety between Thai students of Thai program and International students of International program in term of Safety Culture showed that Thai students of Thai program had knowledge of Aviation Safety in the context of Safety Mind rather than International students by differently structured curriculums and culture believes.

Index Terms - Transformative Knowledge, Aviation Safety, Safety Culture.

I. INTRODUCTION

The digital world in which technology is progressing makes human beings comfortable and receives rapid response in all aspects including transportation. Air transport that has been expanding rapidly over the past 4-5 years to meet the needs of people in the global society has greatly affected economic growth, social and cultural changes. People travel to appreciate nature in a country that is different from their own country. Some travel to trace the ancient civilizations of the world. Traveling across the country or across the settlements where they live causes economic movements, whether in the manufacture of aircraft, the development of products and services, employment and many more. Then those tourists exchange information and traveling experiences through social media so that others who have never known will learn the different nature and cultures in every corner of the world. This is how to learn and gain knowledge in Today's world. Thus everyone can be both an educator and learner at the same time. Knowledge in Digital Era is dynamic and is constantly updated.

While traveling leads to learning and cross-cultural exchanges, traveling also serves as a link between different cultures of the world society to be integrated into one culture. Such culture is the safety culture. Even though people from different societies and cultures have different patterns of beliefs, behaviors and needs, everyone needs the same standard of

safety while traveling, especially aviation safety. Furthermore, an important factor that can create a safety culture is awareness. The awareness of any matter will depend on the knowledge gained. When considering the exchange of knowledge of travelers through social media, it was found that aviation safety knowledge was overlooked. Most travelers provide information which is knowledge on how to travel and gain the best value of Service such as the information on which airlines provide good services at a reasonable price or any inexpensive hotel or accommodation located near tourist attractions. However, the right ways of traveling with airlines to ensure safety is mentioned in the minority group. Therefore, the safety-related aviation accident always occurs. Hence, the awareness of safety is still weak. This research is therefore a study to prove that transformative knowledge is a type of knowledge which can cause people paradigm shift in Aviation. Safety is the utmost priority of transportation rather than Service. In general, knowledge about aviation safety is focused on responsibilities of employees and organization. However, Transformative Aviation Safety Knowledge will not only focus on organizations or authorities' responsibilities but also focus on everyone's responsibilities as a self-responsibility in carrying out all activities in Aviation. To strengthen the safety in this digital era, people must have the responsibility for their own safety. In addition, this research is also a study to form safety mind which will bring about a safety

culture in every culture through Transformative Aviation Safety Knowledge. The methodology applied in this study was Focus Group of Aviation Personnel Development Institute, Kasem Bundit University's students with 7 main questions to discuss based on the following aim of study:

- 1) To study the level of Aviation Safety Knowledge of Aviation Personnel Development Institute's students through the concept of Transformative Knowledge
- 2) To compare the knowledge of Aviation Safety among students of Aviation Personnel Development Institute in term of Safety Culture.

To test the following hypotheses:

- **Hypothesis 1:** The level of aviation safety knowledge of senior students has more knowledge of aviation safety than junior students studying using the concept of Transformative Knowledge.
- **Hypothesis 2:** Aviation safety knowledge of international students in international programs is higher than Thai students in Thai language courses.

II. TRANSFORMATIVE AVIATION SAFETY KNOWLEDGE FOR ONE SAFETY CULTURE

Transformative Safety Knowledge means a method for describing aviation safety knowledge that enables people to have the paradigm shift in understanding and perspectives on the importance of aviation safety towards oneself. In general, aviation safety knowledge focuses on the responsibility of others who are mainly working in the aviation towards public interests. However, the knowledge of aviation safety that uses the concept of Transformative Knowledge focuses on the individual's responsibility for personal benefits that can lead to Safety Culture which is the interests of the public. Consequently, Safety can only occur when everyone is aware of their own responsibility. Each person, whether a passenger, officer, organizational authorities and the general public, has a part in managing aviation safety. When everyone has a safety mind, they will carry out any activities based on safety at all times until they become routine. Then those people will go to teach the next generation to follow until it is a lifestyle pattern for people in society. The pattern of living on the basis of safety which everyone in the society behaves the same from generation to generation, that is Safety Culture.

Transformative Aviation Safety Knowledge

Transformative Knowledge refers to the way in which a person describes or interpret the true meaning of event that occurs in society in order to understand the core or goal of that reality which causes the process of thinking, values and meaning. That is different from the original which affect social behavior. It impacts the circumstances or characteristics of that society in the better ways. The

key component of Transformative knowledge is Intellectual Leadership, or referring to a teacher with a cunning skill in assessing the current situation and linking with the cultural differences and experiences of the learner through the definitions that have been created before. Moreover, language revitalization allows learners to understand the meaning of things more easily and clearly, so that they can adjust the concepts and attitudes of the learners towards particular knowledge to new understanding, new definition and new attitudes. The concept of Transformative knowledge is a concept that resembles Critical Theory which focuses on the process of analyzing questions to obtain answers and various perspectives. Nevertheless, the goals of the analysis and questioning processes for Transformative Knowledge is to change the conceptual framework, attitudes and social behavior. These statement reflects some of the main ideas and concepts in Transformative Knowledge: Columbus did not discover America. The Indians had been living in this land for 40,000 years when the Europeans arrived. Concepts such as "the European discovery of America" and "the Westward Movement" need to be re-conceptualized and viewed from the perspectives of different cultural and ethnic groups. (James A. Banks, 1996: 16)

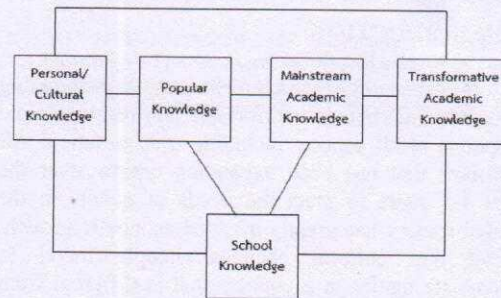


Figure 1: Types of Knowledge

Transformative Aviation Safety Knowledge is the knowledge that can define "Aviation Safety" focusing on each individual responsibility of oneself safety, regardless whoever they are or whatever they are performing. Once accident occurs, everyone must take responsibility for that losses cost including passengers who receive the service from the trip.

Aviation Safety

The definition of "Aviation Safety" by International Civil Aviation Organization (ICAO) is the state in which the possibility of harm to persons or of property damage is reduced to, and maintained at or below, an acceptable level through a continuing process of hazard identification and safety risk management (ICAO Safety Management Manual, 2013). Aviation Safety can be explained in other words that aviation safety is preventing process for various events that will cause loss of life and property

of those involved in aviation from unintentional actions or human error, including the prevention of aircraft accidents.

In the past, theorists about the causes of accidents have given the meaning of safety in the context of the responsibility of the worker. Unsafe actions and unsafe conditions of workers lead to accidents. People therefore understand that safety can occur only when the authorities perform their duties strictly and the organization has clear safety regulations.

Safety Culture

Safety Culture is the way safety is perceived, valued and prioritized in an organization. It reflects the real commitment to safety at all levels in the organization. Safety Culture is not something you get or buy; it is something an organization acquires as a product of the combined effects of Organizational Culture, Professional Culture and National Culture. Its essence is in what people believe about the importance of safety, including what they think that their peers, superiors and leaders really believe about safety as a priority. In Aviation, a healthy Safety Culture is really needed in order to achieve acceptable safety performance (http://www.skybrary.aero/index.php/Safety_Culture). However, Safety Culture should be the only culture that has no boundary limits and should have the same standard regardless of where it is located in this world.

At present, people all over the world travel across their own border and culture with air transport. The creation of the Aviation Safety Culture is therefore the starting point of connecting various societies and cultures together to lead the Safety Society. When everyone is carrying out any activity based on safety at all times, it is a routine that will become a lifestyle pattern for people in society which will be taught and inherited continuously. That is what is called the Safety Culture.

III. METHODOLOGY

This study "Enhancing Safety in Mind through Transformative Aviation Safety Knowledge for One Safety Culture: Case Study of Aviation Personnel Development Institute (APDI), Kasem Bundit University's Students" was a qualitative research using focus group technique.

Population

Key informants used in this study were students of the Aviation Personnel Development Institute of Kasem Bundit University. There were 20 Thai students from Bachelor of Arts in Aviation Business (Thai Language Program) and 20 foreign students from Bachelor of Business Administration in Aviation Industry Management (International Program). The total were 40 key informants.

Focus Group

In this study, we selected the key informants to join the focus group by purposive selection. Selection consists of:

- Group A: 10 of APDI Junior students in Aviation Business
- Group B: 10 of APDI Junior students in Aviation Industry Management
- Group C: 10 of APDI Senior students in Aviation Business
- Group D: 10 of APDI Senior students in Aviation Industry

Focus group plan consists of discussion issues, patterns and conversation processes. There were tools used for focus group, such as voice recorder, note book, number plate 1-10 that is used to represent all 10 key informants, etc. There were 7 main questions that were the scope of the content and were divided into 3 parts as followed:

Part 1: General questions about traveling experiences consisted of Q1 and Q2.

- Q1: Since you were young, have you ever traveled?
- Q2: Which vehicles have you used for your trips? (There are choices that students can select more than 1 answer by raising hand)

Part 2: Questions in General Safety Knowledge consisted of Q3 and Q4.

- Q3: According to your thought, which vehicle is the safest vehicle? And why?
- Q4: Do you think you, yourself were a part that caused your previous trips safety?

Part 3: Questions in Aviation Safety Knowledge consisted of Q5, Q6 and Q7.

- Q5: Do you know what the most important matter for Air Hostess / Steward / Check-in Staff is?
- Q6: Do you think who can support or cause the flight safe after taking off and landing to the destination?
- Q7: In case, while you were inflight and you saw some water that looked oily came out from the wing, what would you do? (The answers were from applying brainstorming technique with the explanation.)

At the end of Q7, the key informants were required to re-answer for Q3 again so to analyze whether the key informants' perception had changed or not. During a critical discourse, we used Transformative Knowledge Concept for Aviation Safety knowledge in the form of a broad picture of Aviation Industry Operation by shortening the work in the aviation business to match the travel experience of key informants. Key informants were able to connect previous knowledge from traveling experiences or from classroom learning while studying new knowledge arising from conversations in a short period of time. In addition, we also inserted a

comparison sample to visualize the importance of aviation safety toward individual.

- Knowledge of Ground Service Operation in scopes of Safety, for example, check-in staff
- Knowledge of Inflight Service Operation in scopes of Safety, for example, Pilot and Flight Attendant.
- Questions were inserted during group discussions after asking Q5 and found that there were still those who provided primary information that were not aware of the importance of aviation safety.

"If you were a passenger of K Airlines that provided you a very cheap air ticket. All both Ground and In-flight staffs were very handsome and beautiful as if Angelina Jolie and Brad Pitt. All staffs were fluent in English and in many languages that passengers needed. They served every passengers in excellent services with smiley face at all time. However, K Airlines will never ensure the passengers' safety. Passengers might get injured or died during the flight or during their traveling with K Airlines because the Ground Staffs and Flight Attendants were not able to take care of passengers' safety. Would you still want to travel or fly with K Airlines?"

Content analysis methods and non-participant observation were used for data collection. We also collected data from related documents which was Document Analysis. Then researcher brought those data to verify the accuracy using Investigator Triangulation method. The researcher then used Analytic Induction data, which is a method of interpreting, creating conclusions from concrete data or visible phenomena, such as opinions and behaviors that appeared during conversations.

IV. RESULT AND DISCUSSION

The research finding did not follow hypothesis 1, but hypothesis 2. The level of Aviation Safety Knowledge of senior students in both programs was equal to junior students in both programs after using the concept of Transformative Knowledge in the definition of Aviation Safety. Previously, the researcher speculated that the experience of traveling with commercial airlines would differently contribute the level of Aviation Safety Knowledge in concept of Transformative Knowledge to junior students and senior students. Frequency of flights was not essential factor lead to individual safety awareness, but the knowledge gained from the courses which were in different curriculum structures was a key impact in order to create Safety Culture. Concept of Transformative Knowledge applied in definition of Aviation Safety used in focus group proved that Safety Mind can be created by particular type of knowledge with delicate tools, not traveling experiences. The emergence of self-consciousness depends on how to explain the meaning of aviation safety so that students are able to understand the

importance of safety in a new perspective. It launches students a new attitude towards aviation safety through clear definitions with language revitalization conducted via intellectual leadership. The results of the study based on the hypothesis 2 presented that foreign students in Aviation Industry Management (International Program) had knowledge of aviation safety higher than Thai students in Airline Business (Thai language program), especially groups of junior students. Junior students, especially in Thai Program had less frequency of flight or flight experience than groups of senior students. While all junior foreign students definitely had flight experiences, but only a few in junior Thai students. However, when we applied the concept of Transformative Knowledge into data analysis, the finding was not shown as the hypothesis 2. Thai students in Thai language program had knowledge of aviation safety in term of transformative knowledge higher than foreign students studying in international programs because of differences in the curriculum structure and cultural belief. The curriculum structure in international program had less courses related to aviation safety knowledge, resulting in Transformative Knowledge was applied into those courses less than Thai students studying in Thai language program. Moreover, some of foreign students had their cultural belief towards any events that Life and Death of human is depend on the Acts of God. Thus safety would only occur as Gods' wish. That belief against the Transformative Aviation Safety Knowledge in term of self-responsibility of individual safety. Those were the reasons why applying of Transformative Knowledge Concept caused changes in the results of study which against both hypotheses. Hence the measurement of aviation safety knowledge as General Aviation Safety Knowledge or Transformative Aviation Safety Knowledge will be judged from the attitude and perspective of the students expressed through Dialogue in Focus Group. For General Aviation Safety Knowledge, aviation safety is depend on the responsibility of others who are performing their duties in the Aviation. On the contrary, Aviation Safety, as Transformative Safety Knowledge is depend on individual responsibility of everybody, regardless of which status he/she is in.

CONCLUSIONS

The level of Aviation safety knowledge of students of the Aviation Personnel Development Institute, when applying the concept of Transformative Knowledge in the context of aviation safety awareness or safety mind towards oneself in Thai students and foreign students in all groups was not different with the following factors:

1. Intellectual Leadership

The finding showed that Intellectual leadership is not only meant for instructors, but also to key informants

(recipients) who have different ways of thinking from the group and have the skills to reliably convey their thought, attitude and perspective allowing the listener to learn and change the process of thinking leading to create new knowledge. While discussing among the key informants, new knowledge can be formed by all reasons given in focus group. Especially the dominant key informants of the group, their explanation strongly effected the others' responses.

2. Definition and Language

Language is an important component for Transformative Aviation Safety Knowledge. In particular, the Language Revitalization will allow recipients to clearly understand the meaning of definitions that is difficult to understand and have been explained by academic language (official). In this study, we used language that was easy to understand in explanation of the Aviation Safety by inserting words "Individual" and "Own" that emphasize the essence of aviation safety knowledge into the definition of aviation safety.

Thus, Aviation Safety is defined as the ways that each of people protect and prevent their own life and things away from any dangers that can be caused during doing the activities in Aviation. You are the one can control yourself the best to not doing anything that would harm yourself not the others. Aviation Safety is an individual's responsibility of each, regardless of who you are. In general, Safety belongs to yourself not the others. Everyone is essential part of Safety Management which leads to Safety Culture. When Safety Mind is performed by

everyone in every societies at all times as routines, then Safety Culture exists.

The concept of Transformative Knowledge is not limited in the Knowledge of Safety. It is also able to apply in any knowledge which is needed in the process of paradigm shift. Transformative Knowledge is an effective type of knowledge leading to changes of social behavior. This study was created to apply the concept of Transformative Knowledge in field of Aviation Safety so to create Safety Culture in this digital era. Even though it is not easy to create safety mind which is a key component of Safety Culture, it is worth to try in order to link several different culture and merge them to be one safety culture in any societies.

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