

DEVELOPMENT OF AVIATION STUDENTS' GROUND SERVICE COMPETENCIES THROUGH COOPERATIVE EDUCATION UNDER THE AUN- QA FRAMEWORK

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Abstract

This study investigates the challenges faced by aviation students during cooperative education and proposes development guidelines aligned with the AUN-QA framework. A mixed-methods approach was employed, combining quantitative and qualitative data from 28 fourth-year aviation students specializing in ground service roles. Quantitative data were collected from employer evaluations using a 5-point Likert scale and analyzed using descriptive statistics and Pearson's correlation, while qualitative data were obtained through in-depth interviews with workplace supervisors. The findings revealed that students demonstrated high levels of knowledge, skills, and professional characteristics. However, several gaps were identified, particularly in English communication, problem-solving, decision-making, and adaptation to real work environments, including shift-based operations. A gap between classroom learning and real-world practice was also evident, especially in operational tasks and the use of ground support equipment. Pearson's correlation analysis showed strong positive relationships between knowledge, skills, characteristics, training, and student performance. The study highlights the importance of experiential learning in bridging academic and industry expectations and recommends enhancing simulation-based learning and aviation English training under the AUN-QA framework.

Keywords: Aviation Students, Ground Service, AUN-QA

Introduction

Human resource development in the aviation industry is essential due to its complex operations and high safety standards. Aviation students, particularly those preparing for ground service roles, are required to demonstrate competencies in communication, teamwork,

problem-solving, and the ability to work under pressure. In ASEAN higher education, the AUN-QA framework emphasizes outcome-based education and alignment with stakeholder and industry expectations, requiring continuous curriculum improvement to ensure graduate employability (ASEAN University Network, 2020).

Cooperative education plays a critical role in bridging academic learning and professional practice by allowing students to gain real-world experience. In Thailand, it is strongly promoted by the Ministry of Higher Education, Science, Research and Innovation (MHESI), which highlights its importance in developing professional competencies and improving students' readiness for the labor market (MHESI, 2022).

However, previous studies indicate that students often face challenges when transitioning from classroom learning to real work environments, particularly in communication, confidence, and practical skills (Jackson, 2015). Therefore, it is essential to evaluate students' competencies in real-world contexts to identify gaps and ensure alignment with industry requirements (Biggs & Tang, 2011). Such evaluation is especially important in aviation ground service operations, where performance directly impacts service quality and operational efficiency.

Objectives

1. To investigate challenges faced by aviation students during cooperative education
2. To propose development guidelines aligned with AUN-QA

Research Questions

1. What challenges do aviation students face in ground service operations?
2. How can their competencies be improved?

Hypotheses

Cooperative education plays a significant role in developing students' competencies in alignment with AUN-QA outcome-based education, particularly in terms of knowledge, skills, and professional characteristics (KSC). These competencies are essential for enhancing students' performance in real-world aviation ground service operations. Therefore, the following hypotheses are proposed:

- H1: Knowledge is positively correlated with performance
- H2: Skills are positively correlated with performance
- H3: Characteristics are positively correlated with performance
- H4: Training is positively correlated with performance

Literature Review and Theory

Previous studies highlight the importance of experiential learning in developing employability competencies. Jackson (2015) found that work-integrated learning enhances communication, teamwork, and confidence. Clarke (2018) emphasized the role of workplace experience in graduate employability. Suarta et al. (2017) identified soft skills and personal

characteristics as critical factors for employment success. In service industries, Wang et al. (2014) found that internships significantly improve service performance and problem-solving skills. The aviation industry requires a combination of technical knowledge, operational skills, and safety awareness (IATA, 2023). This study adopts the Knowledge–Skills–Characteristics (KSC) framework, which explains that competency is developed through the integration of these three components. Additionally, Experiential Learning Theory (Kolb, 1984) supports the idea that learning occurs through experience and reflection. These frameworks align with AUN-QA principles, which emphasize measurable learning outcomes and continuous improvement.

Conceptual Framework

The framework illustrates that organizational development intervention (ODI) influences knowledge, skills, characteristics, and training, which collectively enhance students' performance in aviation ground service operations.

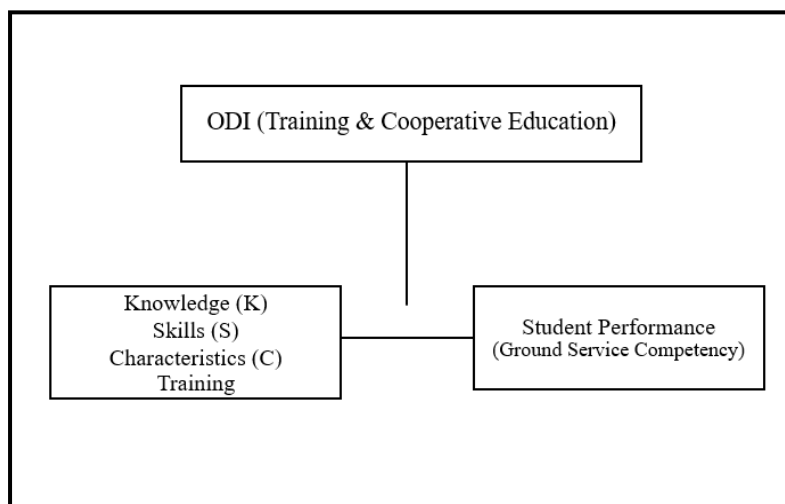


Figure 1. Conceptual Framework

Methodology

This study employed a mixed-methods approach. The population consisted of 30 fourth-year aviation students, with 28 selected using purposive sampling (Krejcie & Morgan, 1970). Quantitative data were collected from employer evaluations using a 5-point Likert scale. Mean scores were interpreted using the following criteria: 4.21–5.00 = highest, 3.41–4.20 = high, 2.61–3.40 = moderate, 1.81–2.60 = low, and 1.00–1.80 = lowest. Data were analyzed using frequency, percentage, mean, standard deviation, and Pearson's correlation. Qualitative data were obtained through in-depth interviews and analyzed using content analysis. To ensure data quality, content validity was assessed by experts, and reliability was tested for consistency. The qualitative data were obtained through in-depth interviews with industry

professionals in the aviation sector, including airline supervisors and managers with more than 10 years of experience in both full-service and low-cost airlines. These experts were directly responsible for supervising interns in ground service operations, providing valuable insights into students' real-world performance.

Results

The sample consisted of 28 aviation students, including 12 males and 18 females, with an equal proportion of Thai and international students. The results indicate that students demonstrated high levels of competency across all dimensions. Skills received the highest mean score ($M = 4.62$), followed by characteristics ($M = 4.52$) and knowledge ($M = 4.51$). Based on the Likert scale interpretation ($4.21-5.00 =$ highest), all variables fall within the highest level, indicating strong student competency and overall readiness for aviation ground service roles. However, qualitative findings revealed several gaps in real-world application. Students showed limited familiarity with ground support equipment, weaknesses in English communication, problem-solving, and decision-making, as well as difficulties adapting to shift work and managing emotional control under pressure.

The findings also reveal a gap between high quantitative performance and actual workplace readiness. While students perform well in structured academic environments, they face challenges in dynamic operational contexts. Pearson's correlation analysis showed strong positive relationships between all variables and performance, particularly characteristics ($r = 0.96$), followed by skills ($r = 0.95$), training ($r = 0.94$), and knowledge ($r = 0.91$). These results highlight the importance of both technical skills and professional characteristics in aviation ground service performance.

Conclusion

The findings indicate that aviation students demonstrate high levels of competency across knowledge, skills, and professional characteristics; however, gaps remain in their ability to apply these competencies in real-world operational contexts, particularly in communication, decision-making, and adaptability under pressure. This suggests that while students are well-prepared in structured academic environments, additional support is required to enhance their readiness for dynamic workplace conditions. The study highlights the importance of experiential learning in bridging the gap between classroom knowledge and workplace performance, with cooperative education serving as a key mechanism for integrating theory with practice. Overall, the results emphasize the need for continuous curriculum development, including simulation-based learning and industry collaboration, to ensure that graduates meet professional requirements in aviation ground service operations, in alignment with AUN-QA outcome-based education principles.

Discussion and Recommendation

The findings support experiential learning theory and the KSC framework. Knowledge, skills, and characteristics must be developed together to achieve competency. The results align with Jackson (2015) and Suarta et al. (2017), emphasizing soft skills and practical experience. However, they differ from Clarke (2018) regarding language readiness, as students still require improvement. The identified simulation gap suggests that classroom learning is insufficient. Realistic training environments are necessary for effective competency development. Universities should enhance simulation-based learning to reflect real aviation scenarios. Aviation English training should be strengthened, particularly for non-native speakers. Soft skills such as leadership, emotional control, and adaptability should be integrated into teaching methods. Collaboration between universities and industry should be strengthened to ensure curriculum relevance and continuous improvement under AUN-QA. The findings further indicate that although students demonstrate high competency levels, challenges remain in real-world operational contexts. This suggests that theoretical learning alone is insufficient to prepare students for the dynamic environment of aviation ground services. The gap between classroom learning and workplace requirements highlights the importance of simulation-based learning and industry collaboration. Aviation operations require not only technical knowledge but also communication skills, decision-making ability, and adaptability under pressure.

Therefore, curriculum development should emphasize experiential learning and real-world scenarios to ensure that students are better prepared for professional practice.

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