

Comparative Study of the Old and Current Curriculum of the Bs Air Transportation Program At An Aeronautical School in Parañaque: Basis for Industry-Aligned Improvement

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Abstract

The study's focal point was to compare the old and current academic curricula of the Air Transportation program at an aeronautical school in Parañaque. It aimed to serve as a basis for an industry-aligned curriculum that would benefit the graduates. Additionally, it aimed to comprehend the graduates' career outcomes, the skills they were equipped with, and the challenges they faced. Using the mixed-method approach, the researchers conducted an online survey with twenty-one alumni who graduated from the old and current curricula and interviewed an alumnus from each of the curricula and one validator. The results showed that there is no significant difference between the old and current curricula. However, based on the recommendations of the alumni, it was emphasized that there was a need to rearrange and modify the courses, enhance the practical training, and provide necessary preparation for employment. Furthermore, the assessment between the old and current curricula provided a bridge to rectify the needs for improvement to support the institution's graduates.

Keywords: Academic Curriculum, Aeronautical School, Air Transportation, Compare, Graduates

1. INTRODUCTION

In the aviation industry, standards and requirements are constantly evolving, and the curriculum in aviation education must adapt to meet the industry's demands. This study focuses on the graduates of the Bachelor of Science in Air Transportation program at an aviation school located in Parañaque. Specifically, this study aims to compare the career outcomes of graduates from the old and current curricula, examining how each curriculum has contributed to the graduates' skill sets, employment status, and job relevance. Consequently, it will determine and assess whether the teaching and learning styles in terms of hands-on experience and material advancement of the old and current curricula have been translated into successful employment and professional growth.

For instance, a study of the graduates in accountancy revealed that the institution's educational and professional trajectories are a factor in employability (Sayson et al., 2024). Practitioners are also tasked with preparing students for career settings (Navarro, 2015). Institutions should consider collaborating with external and industry partners to strengthen partnerships and employability (Chima et al., 2023). To meet the industry's standards, institutions provide objectives and outcomes to enable industry-leading performance and competitive advantage. Additionally, in the UK, universities have established their students by promoting commercial awareness and specialist knowledge to enhance graduates' business acumen and occupational success (Wong et al., 2022).

Equally significant are the curriculum changes. Curriculum change can be transformative as it shows successful reforms with the help of institutional direction and faculty members' expertise (Howson & Kingsbury, 2023). Curriculum changes in different ways as it emphasizes how institutional structures and relationships help in influencing change (Annala et al., 2023). Curriculum mapping can further clarify student learning paths and enhance alignment between objectives and outcomes (Wijngaards-de Meij & Merx, 2018). For technical and vocational training, equipping students through organizational objectives will enable a market-leading performance (Mboore, 2021). In avionics, aviation-related curricula must align with international safety standards and industry requirements to ensure graduates are job-ready. Specific subjects provide structured training that equips avionics students with the necessary licenses and competencies to work in the aviation industry (Puspita et al., 2020).

Furthermore, future skills for aviation professionals should be established clearly in the university classroom (Lappas et al., 2016). Many students expressed willingness to pursue tracks in operations and maintenance, given that they develop the skills needed (Yiu et al., 2022). The aviation industry requires cognitive processes such as critical thinking skills for operational security (Miller & Long, 2023). Quasi-professional methods are essential in preparing aviation managers as they serve as practical and interactive training tools (Doroshenko, 2020). Moreover, the Mentoring Aviators Through Educational Support (MATES) initiative had been designed to support aviation students' soft skills, professional identity, engagement, and technical training through partnerships with peers and industry mentors (Bates, 2013), as cited by O'Brien (2015).

In addition to the points mentioned, aviation continues to advance technologically. However, the educational side has lagged, creating gaps between universities and industry requirements (Sun et al., 2021). Due to insufficient offers in aviation management programs in terms of expectations, values, and dynamics. Graduates struggle with employment opportunities (Peksatici & Ergun, 2019). Employers hesitate in hiring inexperienced graduates due to the lack of practical experience gained in universities (Julia et al., 2015). The gaps that challenged the Philippine educational system underscore the need for improvement to ensure that students are adequately prepared for higher education and professional pathways (Campos, 2023). Curriculum changes address gaps by aligning content, teaching, and outcomes to ensure students gain the full range of competencies needed for their profession. Improving curriculum design may prepare the students more for industry needs (Al-Eyd et al., 2018, and Vinsih et al., 2022). To meet the industry's evolving demands, enhancing traditional teaching methods by adapting technological advancements can reshape aviation training while improving students' practical abilities and employability (Li et al., 2020, and MA, 2023).

By integrating these perspectives, comparison of the old and current curricula offers a significant opportunity to transform and assess career outcomes, skill sets, and employability. Studies show that strengthening the linkage between academic preparation and industry expectations can contribute to the

improvement of aviation education. However, gaps exist between education and real-world demands, highlighting the need for continuous curriculum updates. Ultimately, the graduates' employability is strongly linked to the curriculum's theoretical knowledge, hands-on experience, and mentorship.

1.1. Background of the Study

The Bachelor of Science in Air Transportation (BSAT) program was introduced at an aviation school in Parañaque City following its elevation to college status in 1989. It was designed to prepare students for careers in aviation by combining classroom lessons, lab work, and on-the-job training. Covering areas such as fleet planning, air traffic management, aviation law, and airline operations, the program equips graduates with the skills needed for roles like flight dispatcher, airport operations manager, and airline service supervisor. Over time, it has adapted to industry changes to ensure students remain ready for the demands of modern air transportation.

The air transportation curriculum, which was updated in 2018, integrates classroom learning with practical hands-on training, ensuring the development of a skill set in areas such as Flight Planning, Airline Dispatching, Airport Planning, Airspace Management, and compliance with Philippine Civil Aviation Regulations (PCAR) from aviation professionals with extensive experience. A defining aspect of the curriculum is the Visual Vectoring En Route Training (VRET), an exclusive program designed to provide BS Air Transportation students with advanced simulation experience in air traffic management and en route vectoring.

In 2024, the institution, with First Aviation Academy (FAA), equipped the RedBird flight simulator to boost its aviation education and training program. Students enrolled in the BSAT program were the first to experience hands-on training, which further developed the program's outcomes.

Many graduates from the BSAT program have found employment across various sectors of the industry, both within fields directly related to their degree and in areas beyond its scope. This trend provides an important topic about the effectiveness of the program in honing its graduates with the necessary skills and competencies required in their chosen fields. With the continuous improvement of the aviation industry and its demands, it is necessary to assess if the current curriculum is sufficient to comply with these needs.

Over the years, BSAT graduates have proven their employability by securing positions in both aviation-related fields and other industries. This study explores the program's development and its role in shaping graduates' career opportunities, while also identifying areas that may need improvement to strengthen its relevance to industry needs.

This study aimed to examine the competency of the BSAT program by comparing the old curriculum (2011-2017) with the current curriculum (2018-2025), aiming to identify gaps, strengths, and areas for improvement to ensure that graduates are fully equipped to meet industry standards and expectations.

1.2. Theoretical Framework

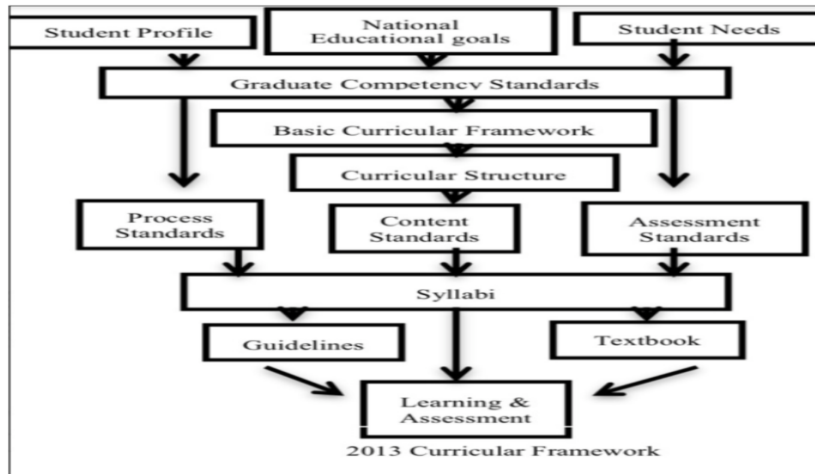


Fig. 1: Curriculum Framework Diagram

In the study done by Suwarma and Kumano (2019), the curricular framework, based on the 2013 national curriculum, centralized the process by focusing on student character building, thematic learning, and competency-based outcomes aligned with national goals. With an academic curriculum change, it showed an emphasis on graduate competency standards, critical thinking, and integration of science and even technology in education.

Implementing an academic curriculum change benefits the students by equipping them with the updated knowledge and skills to meet the rising demand in the aviation industry. Through this, it will allow students to have an improved and effective learning experience to help their employability.

1.3. Conceptual Framework

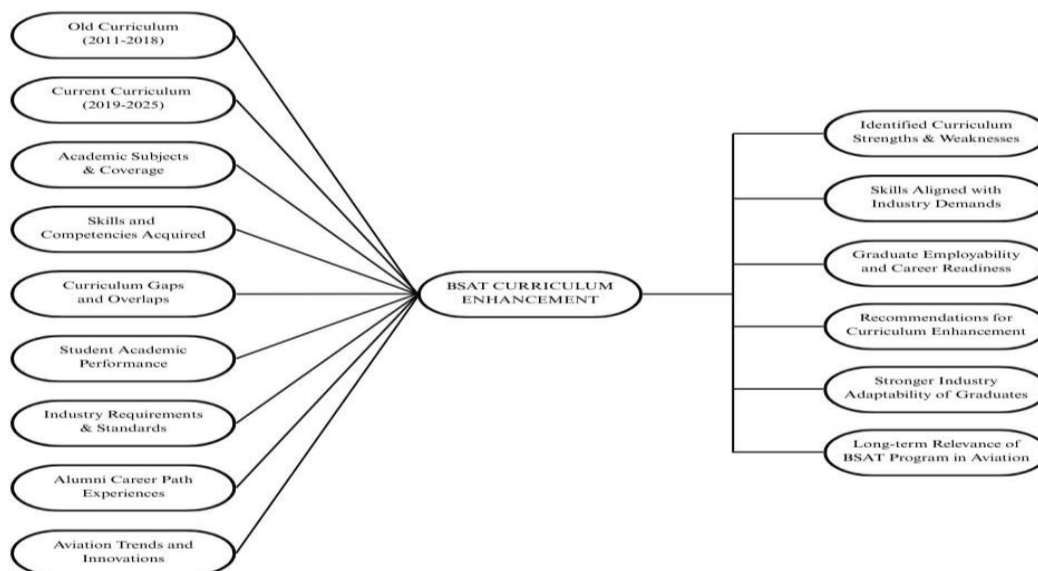


Fig. 2: Modified Curriculum Framework Diagram

The conceptual framework of this study is centered on the enhancement of the BSAT’s academic curriculum. By integrating a structured curriculum that includes assessment standards, content standards,

syllabi, and learning assessments, the BSAT program will improve its curriculum through skills and competencies required, student academic performance, industry requirements and standards, and aviation trends and innovation set to overcome curriculum gaps and overlaps. Ultimately, this study aims to propose improvements that will keep the BSAT program relevant to the demands of the aviation industry.

1.4. Statement of the Problem

This study aims to analyze the old and the current curricula, which will serve as a basis for improving the program's academic curriculum aligned with industry needs. Specifically, the study sought the answers to the following questions:

1. What are the career opportunities that the Air Transportation graduates attained based on:
 - a. The Institution's Projected Outcomes; and
 - b. Academic Curriculum?
2. To what extent did the skill sets honed through the Air Transportation curriculum equip the graduates with the expertise required in the field of Air Transportation?
3. What are the gaps in the current/old academic curriculum that challenge the graduates of BS Air Transportation in employment in the aviation industry?
4. Is there a significant difference in the perception of the respondents on the career opportunities, skill sets, and gaps when grouped according to old and current academic curricula?
5. Based on the findings, how did the alumni perceive the BSAT curriculum?
6. Based on the interviews, what recommendations could be implemented to improve the BSAT academic curriculum?

1.5. Hypothesis

There is no significant difference in respondents' perceptions of career opportunities, skill sets, and gaps when grouped by old and current curricula.

1.6. Significance of the Study

1. BS Air Transportation Students

This study will provide students with a curriculum aligned with the evolving industry standards, equipping them with relevant skills and competencies for the preparation for employment.

2. BS Air Transportation Faculty

Faculty will benefit from a clear teaching framework and updated syllabi that enhance instructional methods and student outcomes. Active involvement in curriculum development also supports professional growth and strengthens their role in aviation education.

3. Aeronautical Institution

The institution will strengthen its academic reputation by offering a globally aligned curriculum that produces graduates who meet or exceed industry expectations, while also fostering stronger partnerships in the aviation sector.

4. Aviation Industry Companies

The industry will gain well-prepared graduates trained with modern technologies and practices, enabling higher management and authorities to integrate them efficiently into operations while boosting productivity, safety, resource use, and overall competitiveness.

5. Future Researchers

The study serves as a reference for future research on aviation curriculum development, supporting innovation and providing a foundation for projects that address emerging challenges about the curriculum.

2. METHODOLOGY

2.1. Research Design

This study used a Mixed-Method research design, combining both quantitative and qualitative approaches. The quantitative part involved questionnaires and surveys to gather measurable data. The qualitative part included in-depth personal interviews to gain detailed insights and perspectives. The researchers also took an exploratory approach since the study was carried out within the current curriculum. This allowed them to look at new experiences, patterns, and challenges without being restricted by existing theories or previous models. It gave them the freedom to investigate how the current curriculum affects learning outcomes and perceptions, ensuring that contextual insights supported the interpretation of numerical findings. The researchers then analyzed the data using Thematic Analysis to identify recurring patterns and themes that added depth to the overall interpretation of the results.

2.2. Respondents

This study used Slovin’s formula to determine a judgment sample of 175 students, which is based on the recent number of graduates at an aeronautical school provided by the school’s registrar. The researchers accumulated 21 total respondents. This number is sufficient to satisfy and proceed with the data analysis and results, as it is in the acceptable range of 10% - 15% for external respondents (Pandya, 2024). The primary objective is to gather demographic data in terms of sex and alumni respondents from the old and current curricula.

Sex	Frequency	Percentage
Male	14	66.67
Female	7	33.33
Total	21	100

Table 1: Frequency and Percentage Distribution of the Sex of Respondents

Table 1 shows that the majority of the respondents are male, which accounts for 66.67% of the total number of respondents, while female respondents account for 33.33% having a total of 100% or 21 respondents.

Curriculum	Frequency	Percent
Old	13	61.90
Current	8	38.10
Total	21	100

Table 2: Frequency and Percentage Distribution of the Respondents from the old and current curricula

Table 2, based on the total of 22 responses, 13 were alumni from the old curricula with 61.90%, and 8 were from the current curricula with 38.09%.

2.3. Settings

This study focuses only on graduates of the Bachelor of Science in Air Transportation (BSAT) program of an aeronautical school in Parañaque. The respondents are limited to BSAT alumni, and the research will find out if the lessons, training, and skills they learned in the program were useful in their jobs. It also assesses whether the knowledge and competencies they gained are aligned with current industry practices and requirements, providing insight into the program's effectiveness in preparing graduates for various career paths. This applies to alumni working in aviation, such as airline operations, airport management, flight dispatch, or cargo handling, as well as those who pursued careers outside the aviation field (giving a broader perspective on how transferable and applicable the BSAT's academic curriculum is beyond the aviation industry).

The study does not include graduates of other programs, nor current BSAT students who have not yet finished the program. It will also not cover the academic curriculum of other aviation schools. The results will only reflect the experiences and opinions of BSAT alumni, which means they may not fully show the needs and standards of the aviation industry as a whole, nor represent the perspectives of graduates from other aviation institutions.

2.4. Instrumentation

The study used a structured survey questionnaire that was created based on the statement of the problem (SOP) and supported by the related review of literature (RRL). These served as guides to make sure the questions were clear, relevant, and connected to the study's goals. Before the final version was made, the questions were checked and validated by selected respondents to ensure their clarity and accuracy. The questionnaire used a 4-point Likert scale ranging from 1 – Highly Disagree to 4 – Highly Agree to measure how much the respondents agreed with each statement.

A pilot test was conducted with 33 respondents to test whether the questionnaire was reliable. Using SPSS software, the results showed that the instrument passed the Cronbach's Alpha test, meaning it was consistent and dependable. The final survey form was divided into four main sections based on the study's statement of the problem: Section 1 with 8 items, Section 2 with 2 items, Section 3 with 11 items, and Section 4 with 3 items. Each section focused on specific areas such as curriculum relevance, job preparedness, and the effectiveness of the training program. The final survey was then answered by BS Air Transportation alumni, since they had experience in applying what they learned in school to their careers.

2.5. Data Analysis

The researchers employed both quantitative and qualitative methodologies for an in-depth analysis of the differences and effectiveness of the BS Air Transportation program's old and current curricula. Quantitatively, the researchers devised an exploratory framework, distributing questionnaires and surveys to BSAT graduates of both curricula. The researchers conducted a gap analysis on the resulting data to quantify the discrepancy between expected learning outcomes and actual learning outcomes. The researchers used descriptive statistics, including frequency, percentage, and weighted mean, to interpret the findings and demonstrate the degree to which the curricula align with industry standards and employability indicators.

Using Cronbach's Alpha, the instrument's reliability was assessed, resulting in excellent internal consistency. Frequency and percentage were also used for profiling purposes to ascertain the sex and academic curriculum type distribution of respondents. A t-test for two groups was conducted for significant differences, assessing the old and current curricula at a significance level of 0.05 in SPSS.

Regarding the qualitative aspect of the study summarized in this document, interviews were analyzed via content and thematic analysis, which helped identify recurring themes, insights, and perceptions of the relevance, strengths, and weaknesses of the academic curriculum. The qualitative details combined with the quantitative details in this study provided a comprehensive picture through which to understand how the BSAT program fits the changing landscape of the aviation industry, and provide effective unveilings that led to recommendations for revising the academic curriculum to enhance graduate preparedness and align with the needs of the industry.

2.6. Ethical Considerations

The researchers ensured that the ethical standards of the study were observed at all times. Personal information provided by participants remained confidential, and the conduct of the research posed no risks to health or safety.

The data collected was securely stored and protected against unauthorized access. Since the meetings and discussions with respondents were conducted through Google Meet, a safe and appropriate online platform, physical safety concerns related to location, emergency exits, or environmental hazards were avoided.

Authorization from the institution was obtained before the study, and coordination with the representatives was maintained at all times. Nonetheless, the conditions of having a representative accompany the researchers and offering food if the activity lasted past regular hours were not applicable since the study was performed online entirely.

Participation in the study was voluntary, and the researchers guaranteed that no sensitive or harmful topics would be raised that might cause discomfort to respondents or negatively affect the institution.

Safety of both respondents and researchers was prioritized by ensuring proper online protocols were observed, and the researchers also prepared precautionary measures should issues arise during the virtual sessions.

Furthermore, the research activities did not interfere with the normal operations of the institution and were expected to contribute positively by providing insights relevant to its academic and operational development.

3. RESULT AND ANALYSIS

3.1. Career opportunities the Air Transportation graduates attained based on:

3.1.1 The Institution’s Projected Outcomes

<i>Statement</i>	<i>Standard Deviation</i>	<i>Weighted Mean</i>	<i>Remarks</i>
The BSAT program ensures that the first job after graduation directly relates to the graduate’s degree.	0.86465	3.38	Strongly Agree
The BSAT program supports career progression that aligns with expectations after completing the program.	0.74960	3.19	Agree

The BSAT program acknowledges that factors such as personal interests, opportunities, and external influences may affect career choices.	0.81358	3.48	Strongly Agree
The BSAT program provides the necessary knowledge and preparation to secure employment and perform effectively in the chosen career.	0.94365	3.10	Agree
The BSAT program emphasizes the importance of regularly adapting the curriculum to meet industry needs for professional development.	0.70034	3.76	Strongly Agree
The BSAT program develops professional skills that enhance employability and readiness for careers in the aviation industry.	0.90238	3.29	Strongly Agree
The BSAT program prepares graduates to contribute effectively to their organization’s strategic goals.	0.99523	3.10	Agree
The BSAT program trains graduates to deliver high-value performance in the workplace.	0.90238	3.29	Strongly Agree
Total	0.54425	3.32	Strongly Agree

Legend: Legend: 3.25 - 4.00 Strongly Agree; 2.50 - 3.24 - Agree; 1.75 - 2.49 - Disagree; 1.00 - 1.74 - Strongly Disagree

Table 3: Mean and Standard Deviation on the projected outcome of the BS Air Transportation Program

The table above presents the BSAT graduates’ evaluation of the old and current curricula in relation to the institution’s projected outcome. These results provide insight into how both academic curriculum supports the institution’s projections and help identify areas for improvement to better align the program with industry demands.

The results reveal that a total weighted mean of 3.32, which falls under the "Strongly Agree" range, indicates that the graduates of the old and current curricula generally agree and believe that the BSAT curriculum is aligned with their career opportunities and effectively supports the institution’s projected outcome. Their responses also highlight that the curriculum helped them gain relevant knowledge and professional skills that contributed to their employability and workplace performance. The highest rating (WM = 3.76) was observed in the statement emphasizing the importance of regularly adapting the

curriculum to meet industry needs, while slightly lower means were recorded for statements concerning career progression and knowledge application.

Overall, the data imply that the BSAT curriculum has successfully provided graduates with relevant skills and competencies but still requires continuous updates to stay aligned with the aviation industry’s evolving standards. This supports Chima et al. (2023), who emphasized that colleges should collaborate with industry partners, monitor employment outcomes, and proactively adapt their curriculum to ensure program success and professional development. In line with this, the findings suggest that strengthening partnerships with aviation organizations and integrating more industry-based learning will further enhance graduates’ readiness and contribution to the field.

3.1.2 Academic Curriculum

<i>Statement</i>	<i>Standard Deviation</i>	<i>Weighted Mean</i>	<i>Remarks</i>
The BSAT Curriculum encouraged flexibility when facing unexpected changes or challenges in your job	1.04881	3.00	Agree
The BSAT curriculum gave a clear idea and learning on how the subjects taken were connected to real-world job requirements.	0.79282	3.14	Agree
Total	0.85565	3.07	Agree

Legend: Legend: 3.25 - 4.00 Strongly Agree; 2.50 - 3.24 - Agree; 1.75 - 2:49 - Disagree; 1.00 - 1.74 - Strongly Disagree

Table 4: Mean and Standard Deviation of Respondents, Academic Curriculum

The data presented in the table above illustrate the perceptions of BSAT alumni regarding the BSAT curriculum’s capacity to develop flexibility and its connection to actual job demands. The statement “The BSAT curriculum encouraged students to be flexible when facing unexpected changes or challenges in their job” obtained a weighted mean of 3.00 with a standard deviation of 1.04881, indicating a moderate level of agreement and variation among the responses. This result suggests that the BSAT curriculum provides a fair degree of preparation in developing adaptability skills, though it may still benefit from further enhancement through the inclusion of practical and experience-based learning components. Furthermore, the statement “The BSAT curriculum gave students a clear idea and learning of how the subjects they took are connected to real-world job requirements” garnered a weighted mean of 3.14 and a standard deviation of 0.79282, reflecting that most respondents moderately agree that the program allowed them to connect academic concepts to professional applications.

The computed overall mean of 3.07 signifies that the BSAT curriculum is moderately effective in cultivating flexibility and aligning academic learning with industry expectations. This indicates that while the program sufficiently equips students with foundational knowledge and competencies, it may require continuous development to ensure greater applicability in real-world settings. Integrating internship

programs, case analyses, and problem-based learning activities could further strengthen students' readiness to adapt to evolving professional environments. These findings are consistent with the studies of Garcia (2020) and Villanueva and Santos (2021), which underscore the importance of aligning academic instruction with practical industry experiences to enhance graduates' employability and adaptability. Therefore, the results highlight the need for ongoing curriculum enhancement to ensure that BSAT graduates possess the flexibility, practical knowledge, and professional resilience required in today's dynamic job market.

3.2 Set skills honed through the Air Transportation curriculum that equipped the graduates with the expertise required in the field of Air Transportation.

<i>Statement</i>	<i>Standard Deviation</i>	<i>Weighted Mean</i>	<i>Remarks</i>
The Curriculum helped strengthen professional competencies that are important in your career.	0.98077	3.19	Agree
The BSAT curriculum was regularly updated to reflect industry changes during your time as a student.	0.85635	2.67	Agree
The BSAT curriculum gave knowledge and skills that matched the requirements of your first job.	0.96362	3.14	Agree
The integration of quasi-professional (e.g., simulations and project-based learning) methods and training in the BSAT program prepared you for a real-world professional.	1.02353	3.05	Agree
The BSAT program provided practical and interactive tools that prepared you for decision-making and leadership roles in the aviation industry.	0.86465	3.05	Agree
The BSAT program adapted updated teaching methods to keep pace with the changes in the aviation industry.	0.83095	3.10	Agree
The BSAT curriculum integrated aviation skills to prepare students for industry needs.	0.80475	3.05	Agree
The BSAT curriculum provided broad career pathways within the aviation industry.	0.98077	3.19	Agree
The BSAT curriculum gave opportunities to develop higher-level skills.	0.80475	2.95	Agree
The BSAT program helped build a professional identity in the aviation industry through mentorship and exposure to professionals.	0.99523	3.23	Agree

The BSAT curriculum connected you with aviation professionals.	1.11697	3.05	Agree
Total	0.74153	3.06	Agree

Legend: Legend: 3.25 - 4.00 Strongly Agree; 2.50 - 3.24 - Agree; 1.75 - 2:49 - Disagree; 1.00 - 1.74 - Strongly Disagree

Table 5: Mean and Standard Deviation of Respondents’ skills honed through the BSAT curriculum

The table above shows the weighted mean, standard deviation, and remarks of the responses of the alumni from the BSAT curriculum in terms of the skills honed from the program. For the statement of problem number 2, the researchers managed to form eleven statements.

Each statement resulted in a weighted mean between 2.50 and 3.24, which falls under “agree” in the 4-point Likert Scale. This signifies that the respondents agreed that the curriculum equipped them with the set skills and expertise required in the field of Air Transportation. Overall, the results showed a total of 3.06 for the weighted mean and 0.74153 for the standard deviation, which falls within the range between 2.50 and 3.24, suggesting that the alumni agree that the curriculum equipped them with skills and expertise in the field of Air Transportation.

The institution has a reputable standing in Air Transportation. However, based on the results, the statement of having the curriculum regularly updated had the lowest weighted mean of 2.67. Although it is within the range of “agree”, it needs to be emphasized. With that, the statements about how the curriculum helped strengthen professional competencies and how the curriculum provided a broad career pathway had the highest weighted mean of 3.19, meaning the curriculum benefited the respondents.

The results showed that the curriculum is relevant, but may need improvement in aligning with the industry’s needs as stated in the study (Nayoyos-Refugia, 2024). Additionally, the curriculum should incorporate a clearer understanding of skills development as future aviation professionals (Lappas et al., 2016).

3.3 Gaps of the current/old curriculum that challenged the graduates of BS Air Transportation in employment in the aviation industry.

<i>Statement</i>	<i>Standard Deviation</i>	<i>Weighted Mean</i>	<i>Remarks</i>
Curriculum mapping helped address gaps and redundancies in the curriculum.	0.76842	3.09	Accepted
The implementation of the K–12 program improved the preparedness of students entering the BSAT program.	0.92582	2.42	Accepted
The change in the BSAT curriculum improved the program’s performance by providing sufficient training and	0.88909	3.23	Accepted

enhancing the employability of students.			
Total	0.58599	2.92	Accepted

Legend: Legend: 3.25 - 4.00 Strongly Agree; 2.50 - 3.24 - Agree; 1.75 - 2:49 - Disagree; 1.00 - 1.74 - Strongly Disagree

Table 6: Mean and Standard Deviation results of SOP 3 from the survey respondents

The table under SOP 3 shows how respondents viewed the BS Air Transportation program’s curriculum and its connection to student preparedness and employability. The results reveal that curriculum mapping (WM = 3.0952) and recent changes in the BSAT curriculum (WM = 3.2381) were seen as moderately effective in improving training and addressing redundancies. However, the implementation of the K–12 program (WM = 2.4286) was rated lower, suggesting that it did not fully prepare students entering the BSAT program. Overall, the data imply that while the curriculum has improved in some areas, there are still parts that need more attention, especially in helping students transition smoothly from high school to college and into the industry.

These results show that a gap still exists between what students learn in school and what employers expect in the workplace. This supports Julia et al. (2015), who mentioned that many graduates struggle to meet industry standards because their academic knowledge doesn’t always match real job demands, leading to longer adjustment periods. MA (2023) also emphasized that improving traditional teaching methods through technology can help students develop better practical skills and become more employable. In line with these studies, the findings suggest that the BSAT program should continue improving its curriculum by incorporating more hands-on and industry-based training to better prepare students for future careers in aviation.

3.4 Difference between the perception of the respondents

3.4.1 Male and Female

Statement		Mean	Std.Deviation	F	SIG	Decision
Gender	Male	3.25	0.46813	3.83	0.065	Accepted
	Female	2.89	0.76894			

Legend: ≤ 0.05 Reject, > 0.05 Accept, ≤ 0.01 Very significant

Table 7: Statistical Analysis of Alumni Perceptions on the Effectiveness of the BSAT Curriculum According to Gender

The table examined gender-based differences in alumni perceptions of the BSAT curriculum’s effectiveness. Female respondents gave slightly higher ratings in areas such as job alignment and career progression, but these differences were not statistically significant, indicating general agreement that the curriculum supported employment outcomes. A significant difference was found in how external factors influenced career decisions, with male respondents more likely to attribute their career paths to personal interests and opportunities outside the program. This result, supported by a significance value below 0.05, suggests that male alumni were more influenced by non-academic factors. These findings support the view

that career development is shaped not only by academic preparation but also by external influences (Navarro, 2015; Sayson et al., 2024).

Further analysis showed that male alumni consistently rated the curriculum higher in strategic readiness, adaptability, and workplace performance, though these differences were not statistically significant. However, significant gender-based gaps were observed in perceptions of employability and professional competencies, where male respondents expressed greater confidence in how the curriculum prepared them for aviation careers. The total mean score for male respondents was 3.253, while female respondents had a lower total mean of 2.8869. Although the overall difference was not statistically significant, the results highlight specific areas where gender-based perceptions diverge. These findings underscore the importance of implementing gender-responsive strategies to ensure that all students are equally supported in developing career-relevant skills and competencies (Mbore, 2021; Annala et al., 2023).

3.4.2 Old and current curriculum graduates

Statement		Mean	Std.Deviation	F	SIG	Decision
Academic Curriculum	Old Curriculum	3.21	0.614	0	0.996	Accepted
	Current Curriculum	3.01	0.573			

Legend: 3.25 - 4.00 Strongly Agree; 2.50 - 3.24 - Agree; 1.75 - 2:49 - Disagree; 1.00 - 1.74 - Strongly Disagree

Table 8: Statistical Results of the Alumni About the BSAT Old and Current Curriculum

The table presents a comparison between the old and current curricula of the BSAT, aiming to determine whether recent revisions improved student preparation for the aviation industry and to identify differences in graduates’ perceptions of effectiveness, relevance, and employability outcomes. The results revealed that there was no statistically significant difference between the perceptions of respondents regarding the old and current curricula of the BSAT program, indicating that both were viewed similarly in terms of effectiveness, relevance, and contribution to employability. The overall mean of the old curriculum, 3.21, was slightly higher than that of the current curriculum, 3.01, suggesting that graduates from the earlier program perceived it as somewhat more effective in preparing them for employment and professional responsibilities. On the other hand, graduates from the current curriculum gave higher ratings in certain areas, such as the relevance of their first job to their degree and the influence of external factors on their career paths, implying that recent graduates may have experienced broader opportunities and greater exposure to diverse career options. Meanwhile, those who completed the old curriculum expressed stronger agreement that their education provided practical knowledge, professional skills, and the ability to contribute to their organization’s goals. This indicates that while the current curriculum introduced updated teaching methods and course designs to modernize aviation education, it is still in the process of full implementation, resulting in comparable perceptions between the two groups.

3.5 Career opportunities attained by Air Transportation graduates based on the Institution’s Projected Outcomes and the Academic Curriculum

The results suggest that BS Air Transportation graduates were aware of the advantages and disadvantages

of their academic background about their current position. According to Navarro (2015), who emphasized the need for higher education institutions to prepare students for life after college both academically and professionally, the BSAT curriculum gave them strong technical and operational foundations. However, institutional factors like inadequate resources, outdated subjects, and limited exposure impacted their readiness for the aviation industry. This is in line with Chima et al. (2023), who suggested that universities should improve their cooperation with industry partners and constantly modify their curricula to meet evolving aviation standards. According to Puspita et al. (2020), who emphasized the significance of meeting industry and global safety requirements, additional curriculum development and institutional support are still necessary to align education with evolving aviation standards. However, the informants consistently emphasized the importance of mentorship, on-the-job training, and practical experiences in preparing them for real-world challenges. This corresponds with Sayson et al. (2024), who emphasized the value of experiential learning in shaping professional competence and ethical readiness.

Master Theme	Subordinate Theme
Institutional Alignment	Career Preparation and Employability
	Institutional Support and Professional Development
Career Development	Curriculum Industry Relevance
	Educational and Technical Foundation

Table 9: Master Themes Based on Informants: Career Opportunities of BSAT Graduates in Relation to Institutional Outcomes and Academic Curriculum

Master Theme 1: Institutional Alignment

Superordinate Theme 1.1: Career Preparation and Employability

Informant 1: “As a graduate, I believe that the specific aspects of the BSAT curriculum that truly helped us prepare for employment in the aviation industry were the technical and theoretical subjects, such as airport operation and aerodynamics.”

Informant 2: “The major subjects of the BSAT curriculum are all helpful for anyone wishing to enter the industry, whether on the operation or management side. But during our time, the program lacked outside sources or some sort of a reality check about the field.”

Informant 3: “The helpful aspects of the BSAT curriculum are the technical and operational subjects as well as the internship (OJT)... These helped build my theoretical foundation and gave me the opportunity to experience actual airline and airport operations.”

All informants agreed that the BSAT program effectively provided the technical and operational knowledge needed for aviation careers. Core subjects and internship experience were valuable for building employability and early professional confidence. However, they also noted that preparedness relied a lot on practical experience, mentorship, and personal initiative, not just on the academic curriculum. This

shows that while the institution achieved its goal of preparing students for careers, there is a need for more industry engagement and learning based on real-world applications.

Superordinate Theme 1.2: Institutional Support and Professional Development

Informant 1: “To be honest, during my time, I couldn’t really say that our abilities were developed solely because of the BSAT program itself. It was more influenced by the experience and knowledge of our instructors, who had previously worked in the aviation field.”

Informant 2: “I’ll be honest that it is not the fault of the program, but much more so of the institution... The faculty had limited resources that the Aeronautical School could not commit.”

Informant 3: “I think improving the quality of graduates doesn’t only depend on changing the curriculum but also on upgrading the institution’s standards and resources. It’s not really the department’s fault for having limited resources — it’s more of an institutional matter that affects how much exposure and experience students can get.”

The informants emphasized that institutional factors significantly impacted their professional readiness. They valued the instructors’ real-world experience but noted that institutional limitations, particularly in resources, facilities, and industry connections, limited their exposure to practical environments. Graduates believed that institutional investment in stronger partnerships, improved facilities, and wider professional development programs would better prepare future students for aviation careers.

Master Theme 2: The Academic Curriculum

Superordinate Theme 2.1: Academic and Technical Foundation

Informant 1: “Most of what we learned in school was basic insights and theoretical concepts that served as an introduction to the field... Although I was somehow familiar with some of the procedures and terminologies, it still took time, experience, and on-the-job training to fully grasp and apply what was expected of me in an actual aviation environment.”

Informant 2: “The major subjects of the BSAT curriculum are all helpful... but the program lacked outside sources and reality checks about the field.”

Informant 3: “The program helped us build technical knowledge and practical skills, but it still needs more updates and real-life applications to deepen our understanding of how aviation operations actually work.” The informants agreed that the BSAT curriculum provided a strong academic and technical foundation. It introduced them to aviation concepts. However, they noted that theoretical learning often exceeded practical experience. Graduates stressed the need to incorporate hands-on learning activities, simulations, and updated technologies. This integration helps ensure that academic knowledge effectively translates into operational skills in aviation work environments.

Superordinate Theme 2.2: Curriculum Industry Relevance

Informant 1: “During my time, we were not able to access a detailed syllabus for each subject... Despite that, our instructors did their best to deliver the lessons effectively.”

Informant 2: “The curriculum was still in need of polishing if the program wanted to ensure that its graduates were competent for what the industry expects to have.”

Informant 3: “The nonsensical subjects in our curriculum... like Basic Electricity and many more, alongside some AMT subjects, were less aligned with the professional roles typically assigned to BSAT graduates. These could be replaced with analytical and managerial subjects.”

The informants consistently noted gaps in the curriculum’s connection to current industry needs. They pointed out that some subjects were outdated or irrelevant to air transport operations. They suggested replacing these with courses focused on management, analysis, and problem-solving. They emphasized

the need for more activities based on industry practices and updated content in the curriculum. This is important to ensure that graduates have modern skills valued by aviation employers.

The thematic analysis shows that BS Air Transportation graduates acknowledged both the strengths and weaknesses of their academic preparation concerning their current careers. The BSAT curriculum offered them a strong technical and operational foundation. However, factors such as limited exposure, outdated subjects, and insufficient resources impacted their readiness for the aviation industry. Informants repeatedly noted that mentorship, on-the-job training, and practical experiences were crucial for getting them ready for real-world challenges. They also mentioned the need for further curriculum improvement and more institutional support to keep education in line with changing aviation standards.

3.6 Academic Curriculum

Master Theme	Subordinate Theme
Academic Curriculum Enhancement and Industry Relevance	Flexibility Development
	Real-World Alignment
	Practical Learning

Table 9: Master Theme based on the informants, Academic Curriculum

Master Theme 1: Academic Curriculum Enhancement and Industry Relevance

Superordinate Theme 1.1: Flexibility Development

Informant 1: “The BSAT program, on my part, did not help the graduates in establishing or harnessing their EQ... The program was heavily caged into the idea that having the respective technical, operational, and managerial knowledge is enough, but gone is the time when knowledge outweighs Skills and Attitude. Employers nowadays are much more in search of Attitude and Skills...”

Informant 2: “To be honest, during my time, I couldn’t really say that our abilities were developed solely because of the BSAT program itself. It was more influenced by the experience and knowledge of our instructors, who had previously worked in the aviation field. In terms of developing adaptive skills, I believe the program had limited impact...”

Informant 3: “As a recent BSAT graduate, I believe the program moderately influenced our ability to adapt to the unexpected changes and challenges of the aviation industry. Instructors who shared real-world experiences helped bridge the gap between theory and practice... We learned more from our own experiences rather than from the curriculum.”

All three informants emphasized that flexibility and adaptability are essential for aviation graduates. However, they observed that the BSAT program remains rigid and primarily theoretical, offering limited training in adaptability, soft skills, and problem-solving. They highlighted the need for a competency-based approach and greater reliance on experiential and self-directed learning to help students manage real-world aviation challenges.

Superordinate Theme 1.2: Real-World Alignment

Informant 1: “The program, during our time, lacked outside sources or some sort of a reality check about the field... most graduates only managed to land jobs in the industry because of passion and grit rather

than because the program prepared them.”

Informant 2: “The course provided us with only a limited understanding of the practical aspects of our chosen career... When I started working in the industry, I realized that the tasks and responsibilities in the real world were far more complex than what we encountered in the classroom.”

Informant 3: “The BSAT curriculum prepared me for the basic competencies needed to start my aviation career. However, I can say this is only the first layer of foundation I needed... The program helped us build technical knowledge and practical skills, but it still needs more updates and real-life applications to deepen our understanding of how aviation operations actually work.”

The respondents consistently identified a disconnect between classroom learning and actual industry practice. While the BSAT curriculum builds theoretical knowledge, its limited exposure to real operational settings results in graduates who must rely on post-graduate experience to gain industry competence. They also noted the absence of modernized facilities and updated simulations, which hinder the program’s ability to align with current aviation standards and real-world demands.

Superordinate Theme 1.3: Practical Learning

Informant 1: “If I were to rate the BSAT curriculum during our time in having competent graduates, it would even receive quite a failing mark... It is not the fault of the instructors, but more because the faculty had limited resources that the aeronautical school could not commit. The curriculum wanted to improve, but the institution lacked the commitment and support to provide updated and adequate training.”

Informant 2: “As a graduate of the BSAT program, I can say that the course provided us with only a limited understanding of the practical aspects of our chosen career. Most of what we learned was basic insights and theoretical concepts that served as an introduction to the field... It took time, experience, and on-the-job training to fully grasp and apply what was expected in an actual aviation environment.”

Informant 3: “The program’s practical components, such as OJT, simulations, research projects, and case discussions, were effective in developing adaptability and problem-solving skills. However, the curriculum could still be improved by focusing more on applied learning and critical decision-making, as these are crucial in a fast-paced industry.”

The data show that practical learning remains one of the weakest aspects of the BSAT program. While the inclusion of OJT and simulation exercises provides some experiential grounding, these efforts are insufficiently integrated and outdated. Institutional resource constraints and a lack of modern equipment further limit students’ technical exposure. Consequently, graduates depend on real-world experience and personal initiative to develop the competencies required in aviation operations.

3.7 Set Skills Honed through the Air Transportation Curriculum that Equipped the Graduates with the Expertise

The interpretation of the results shows that the BSAT curriculum served both as a foundation and a challenge in preparing graduates for professional aviation practice. While the program provided essential theoretical and technical knowledge, its practical application and institutional support remained limited. This suggests that although the curriculum established basic preparedness, reforms are needed to strengthen institutional commitment, technical training, and alignment with industry standards. Puspita et al. (2020) and Lappas and Kourousis (2016) emphasized that aviation curricula must evolve alongside technological and operational advancements to ensure graduates’ readiness for industry demands. Likewise, Wong et al. (2022) and Campos (2023) highlighted that employability relies on integrating academic learning with practical experience and professional exposure. This context underscores the

importance of continuous curriculum enhancement, institutional collaboration, and experiential learning to develop globally competitive and industry-ready aviation professionals.

Master Theme	Superordinate Theme
Curriculum Preparedness and Practical Competence	Limited Practical Exposure
	Foundational Knowledge but Lacking Depth
	Curriculum Improvement
Graduate Readiness and Skill Application	Adjustment to Real-World
	Development of Competence Through Experience

Table 10: Master Theme based on the informants, Set Skills Honed through the Air Transportation Curriculum that Equipped the Graduates with the Expertise.

Master Theme 1: Curriculum Preparedness and Practical Competence

Superordinate Theme 1.1: Limited Practical Exposure

Informant 1: “If I were to rate the BSAT curriculum during our time in having competent graduates, it would be receiving quite a failing mark... the faculty had limited resources that the Aeronautical school could not commit.”

Informant 2: “The course provided us with only a limited understanding of the practical aspects of our chosen career.”

Informant 3: “The program helped us build technical knowledge and practical skills, but it still needs more updates and real-life applications...”

The respondents shared that while the BSAT curriculum introduced them to essential aviation concepts, it lacked sufficient real-world application because of limited institutional resources and facilities. They explained that most learning focused on conceptual instruction rather than hands-on practice, which left them unprepared for the technical and operational demands of the industry. The absence of modern equipment, updated simulations, and stronger industry linkages also hindered their ability to apply knowledge in realistic aviation settings. As a result, they relied heavily on post-graduate experience and on-the-job training to build their technical confidence. This shows that the lack of practical exposure was not due to the curriculum’s content alone but to institutional limitations that restricted opportunities for applied learning.

Superordinate Theme 1.2: Foundational Knowledge but Lacking Depth

Informant 1: “It is not because of the instructors or what, but more on the prospect that the faculty had limited resources... the current curriculum has improved, but still far from passing the standards of preparing graduates to the field.”

Informant 2: “Most of what we learned in school was basic insights and theoretical concepts that served as an introduction to the field.”

Informant 3: “The BSAT curriculum prepared me for the basic competencies needed to start my aviation career. However, I can say this is only the first layer of the foundation I needed.”

The respondents shared that while the BSAT curriculum successfully provided them with a foundational

understanding of aviation, it lacked the depth needed to fully prepare them for the professional demands of the industry. They described the program as largely introductory, focusing more on essential principles and basic competencies than on advanced, real-world applications. Although this foundation was beneficial, it was not enough to meet industry standards or develop the level of mastery expected in aviation practice. The limited depth of instruction restricted their ability to translate classroom learning into specialized skills, leaving graduates to rely on further training and work experience to strengthen their expertise. This reveals a gap in curriculum development, where learning remained focused on general knowledge instead of incorporating industry-based simulations, updated modules, and analytical activities that could enhance critical thinking and technical proficiency.

Superordinate Theme 1.3: **Curriculum Improvement**

Informant 1: “Everyone is limited to its full extent... lacking commitment for excellence...”

Informant 2: “When I was finally hired and started working in the industry, I realized that the tasks and responsibilities in the real world were far more complex...”

Informant 3: It's not really the department's fault for having limited resources, it's more of an institutional matter...”

The respondents emphasized that the effectiveness of the BSAT curriculum depended not only on its design but also on the level of institutional support behind it. They shared that limited resources, outdated facilities, and the lack of administrative commitment hindered the full implementation of the curriculum's objectives. The respondents explained that while the program aimed to produce competent aviation graduates, its success was restricted by the institution's failure to provide updated equipment, adequate training tools, and stronger partnerships with the aviation industry. This lack of institutional support affected both the teaching process and the students' ability to gain practical exposure. They noted that curriculum improvement should go hand in hand with the institution's initiative to enhance its infrastructure, upgrade its training facilities, and establish active linkages with industry partners. Without these improvements, the curriculum's potential to prepare students for real-world aviation operations remains limited. The respondents' experiences highlight that the responsibility for quality education does not rely solely on the program or instructors but must also involve the institution's commitment to continuous improvement and excellence.

Master Theme 2: **Graduate Readiness and Skill Application**

Superordinate Theme 2.1: **Adjustment to Real-World**

Informant 1: “I think I will not be truly prepared to embark on an aviation career if I were expected to have a job immediately after college...”

Informant 2: “...I realized that the tasks and responsibilities in the real world were far more complex than what we encountered in the classroom.”

Informant 3: “I expected more... most well-known aviation schools in the country.”

The respondents revealed that transitioning from academic life to the aviation workforce was challenging, as the BSAT curriculum did not fully equip them with the necessary skills and adaptability required in real-world settings. They shared that while the program introduced them to aviation concepts, it was not enough to prepare them for the complexity of actual industry operations. One respondent mentioned feeling unprepared to work immediately after graduation, while others realized that workplace responsibilities were far more demanding than what they had experienced in school. This shows that the curriculum provided theoretical understanding but lacked the depth and realism needed to mirror the dynamic nature of aviation work. The gap between classroom instruction and professional expectations

made it necessary for graduates to undergo further adjustment, training, and self-learning once employed. Their shared experiences highlight the importance of incorporating practical, scenario-based learning and industry-oriented projects to help students build the confidence and competence needed to adapt effectively in their future workplaces.

Superordinate Them 2.2: Development of Competence Through Experience

Informant 1: “ ...earning an airmen's license seemed to be the catch, but even though it boosted my confidence to meet the demands of the industry, it still felt lacking.”

Informant 2: “ ...it still took time, experience, and on-the-job training to fully grasp and apply what was expected of me in an actual aviation environment.”

Informant 3: “I hope to see the day when new graduates are recognized for their sharp skills.. “

The respondents consistently expressed that their competence in aviation developed mainly through hands-on experience and professional exposure rather than through classroom instruction alone. They explained that while the BSAT program gave them a starting foundation, it was only after gaining practical experience in real aviation settings that they became truly confident in their technical abilities. One respondent mentioned that even earning an airmen's license boosted confidence but did not completely prepare them for actual work, while others emphasized that time, training, and on-the-job learning were essential for mastering aviation tasks. These experiences illustrate that true professional competence is often built outside the classroom, where graduates face real operational challenges and are required to apply their knowledge under pressure. The respondents’ accounts also highlight that experience-based learning fosters deeper understanding, self-reliance, and adaptability, qualities that are difficult to fully develop in a purely academic environment.

3.8 Gaps of the current/old curriculum that challenged the graduates

The interpretation shows that curriculum improvement is a continuous process that takes time to produce measurable effects on graduate outcomes. As stated by Annala et al. (2023) and Kandiko Howson and Kingsbury (2023), curriculum change is a gradual process that depends heavily on institutional readiness and faculty involvement. Similarly, Sun et al. (2021) emphasized that although the aviation industry continuously evolves technologically, educational programs often lag in fully aligning with these advancements. Navarro (2015) and Sayson et al. (2024) also highlight the importance of preparing students not only academically but also professionally to ensure successful transitions into the workforce. In this context, the results suggest that while both the old and current BSAT curricula have effectively provided foundational aviation knowledge, further enhancement is still needed to strengthen industry linkage, hands-on learning, and the integration of modern aviation competencies.

Master Theme	Subordinate Theme
Curriculum Alignment	Academic Foundation
	Technical Relevance
	Bridging Integration
Student Readiness	Career Orientation and Adjustment

	Competency Assessment
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Table 11: Master Theme based on the informants, The gaps and challenges of graduates.

Master Theme 1: Curriculum Alignment

Superordinate Theme 1.1: Academic Foundation

Informant 1: “I think... The helpful aspects of the BSAT curriculum are the technical and operational subjects... such as air law, aerodynamics, airport operations, navigation, meteorology, aircraft incident and accident, and aviation safety...”

Informant 2: “In my point of view, the major subjects of the BSAT curriculum are all helpful for anyone wishing to enter the industry...”

Informant 3: “I guess courses like airport operation and aerodynamics provided a strong foundation and understanding of aircraft operations and flight principles...”

Respondents widely acknowledged the academic foundation of the BSAT curriculum as a key contributor to their initial preparedness for careers in aviation. Core subjects such as aerodynamics, air law, and airport operations were consistently cited as essential in building theoretical knowledge. Despite limitations in syllabus transparency and topic depth, instructors played a vital role in reinforcing these foundations through real-world insights. This foundational layer, while not exhaustive, enabled graduates to grasp basic aviation concepts and terminology, serving as a springboard for further specialization and industry immersion.

Superordinate Theme 1.2: Technical Relevance

Informant 1: “Also... the internship program gave me the opportunity to experience actual airline and airport operations...”

Informant 2: “So basically... the BSAT curriculum helped me develop professional skills that improved my employability...”

Informant 3: “Personally... I believe the program helped us build technical knowledge and practical skills, but it still needs more updates and real-life applications...”

Technical relevance was achieved through practical components such as OJT, simulations, and case discussions, which exposed students to operational realities. These experiences were instrumental in bridging the gap between classroom theory and field application. However, respondents emphasized that the curriculum lacked depth in emerging technologies and strategic management, limiting its alignment with evolving industry standards. While technical subjects were relevant, their delivery and scope required enhancement to fully prepare students for multifaceted aviation roles.

Superordinate Theme 1.3: Bridging Integration

Informant 1: “To me...some subjects are far beyond our range... like Basic Electricity and many more, alongside some AMT subjects...”

Informant 2: “From my perspective... I’d say subjects such as Airspace to be discussed for an entire semester is just a waste of time...”

Informant 3: “From what I see... we were not able to access a detailed syllabus for each subject...”

Respondents expressed concern over curriculum misalignment, particularly with subjects perceived as irrelevant to air transport operations. Maintenance-related topics and overly extended coverage of niche subjects were seen as barriers to efficient learning. The lack of integration between academic content and actual job roles created confusion and diluted the curriculum’s impact. Graduates suggested replacing

these with courses focused on analytics, decision-making, and strategic planning to better reflect the competencies required in aviation management and operations.

Master Theme 2: **Student Readiness**

Superordinate Theme 2.1: **Career Orientation and Adjustment**

Informant 1: “In my perspective... I think improving the quality of graduates doesn’t only depend on changing the curriculum but also on upgrading the institution’s standards and resources...”

Informant 2: “What I mean is, In my opinion...most graduates only managed to land jobs in the industry because of passion and grit rather than to say because the program prepared them...”

Informant 3: “When I was finally hired... I realized that the tasks and responsibilities in the real world were far more complex than what we encountered in the classroom...”

Student readiness was shaped not only by curriculum content but also by institutional support and personal initiative. Respondents highlighted that while the BSAT program laid a basic foundation, it fell short in preparing students for the complexity of real-world aviation roles. Many graduates relied on external certifications, mentorship, and personal drive to navigate their careers. The transition from academic learning to professional adjustment required resilience and adaptability, often cultivated outside the formal curriculum.

Superordinate Theme 2.2: **Competency Assessment**

Informant 1: “That makes sense, though employers nowadays are much more in search of Attitude and Skills, as Knowledge could be attained...”

Informant 2: “The BSAT program... does not fit such a perspective like most aviation courses... What aviation courses are in need of implementation is the idea of Competency-based Training...”

Informant 3: “Although I was somehow familiar with some of the procedures and terminologies, it still took time, experience, and on-the-job training to fully grasp and apply...”

Respondents emphasized that competency development was insufficiently addressed by the BSAT curriculum. While knowledge acquisition was evident, the program lacked mechanisms to assess and cultivate soft skills, emotional intelligence, and real-time decision-making. The absence of competency-based training limited students’ ability to adapt to dynamic industry demands. Graduates advocated for a shift toward applied learning models that prioritize skill demonstration, problem-solving, and behavioral readiness, qualities increasingly valued by aviation employers.

3.9 Recommendations that could be implemented to improve the curricula

This section highlights the importance of enhancing the BSAT curriculum through continuous improvement, practical training, and stronger collaboration with the aviation industry. Alumni responses revealed that while the program provided a solid theoretical foundation, it must continue to evolve to address the growing complexities of the aviation sector. Strengthening the integration of experiential learning, advanced simulations, and field exposure is essential to bridge the gap between classroom instruction and real-world application. Supporting studies by Lappas and Kourousis (2016) and Wong et al. (2022) emphasized that aviation programs must adapt to technological and operational changes to maintain relevance and ensure graduate readiness. Similarly, Campos (2023) and Puspita et al. (2020) noted that continuous curriculum development, coupled with faculty training and institutional partnerships, fosters both academic excellence and employability among graduates. Thus, sustained collaboration between the academe and aviation industry will ensure that the BSAT program remains

responsive, innovative, and capable of producing globally competitive and professionally competent aviation professionals.

Master Theme	Superordinate Theme
Recommendations	Modified Courses
	Enhanced Practical Learning
	Integrating Soft Skills
	Preparations

Table 12: Master Theme based on the informants, Recommendations that could be implemented to improve the curricula.

Master Theme 1: Recommendations

Superordinate Theme 1.1: Limited Practical Exposure

Informant 1: “ ...subjects such as Airspace to be discussed for an entire semester is just a waste of time and money. Unnecessary subjects should be removed...”

Informant 2: “ ...theoretical concepts that served as an introduction to the field.”

Informant 3: “ ...doesn’t only depend on changing the curriculum but also on upgrading the institution’s standards and resources.”

The respondents collectively recognized the need to modify and update the BSAT curriculum to align it more closely with current aviation industry requirements. They expressed that several subjects were outdated, lengthy, or lacked relevance to actual aviation operations. The respondents consistently emphasized that certain topics could be condensed or replaced with more industry-specific and analytical content to better prepare students for professional roles. Their responses indicated that the curriculum’s theoretical orientation should be balanced with applied learning and updated instructional content to meet the evolving needs of aviation practice. This finding indicates that these curricular gaps hinder students from acquiring the relevant competencies that the field demands.

Superordinate Theme: 1.2: Enhanced Practical Learning

Informant 1: “ ...lacked outside sources or some sort of a reality check about the field.”

Informant 2: “Most of what we learned in school were theoretical concepts... started working in the industry, I realized that the tasks and responsibilities in the real world were far more complex.”

Informant 3: “ ...build technical knowledge and practical skills, but it still needs more updates and real-life applications.”

The respondents shared a common perception that the BSAT program lacked adequate hands-on training and real-world exposure to aviation operations. Although the program established its foundational technical knowledge, it did not fully equip them to handle complex industry tasks upon graduation. Respondents consistently stated that learning was primarily theoretical, with limited opportunities to apply lessons through simulations, laboratory exercises, or field-based experiences. This highlights the necessity of reinforcing the practical component of aviation education, as respondents believed that greater exposure to actual aviation environments would enhance their competence and adaptability. These insights suggest

that the current structure of practical learning within the BSAT curriculum remains insufficient in bridging the gap between classroom instruction and professional application

Superordinate Theme 1.3: **Integrating Soft Skills**

Informant 1: "...did not help the graduates in establishing or harnessing their Emotional Quotient."

Informant 2: "...prepare for employment in the aviation industry were the technical and theoretical subjects."

Informant 3: "...continued in aviation not because the program pushed us, but because of our passion for flying and our own initiative."

The respondents emphasized the importance of developing soft skills alongside technical competence in the BSAT program. They explained that while the curriculum successfully provided technical knowledge, it did not sufficiently nurture interpersonal communication, emotional intelligence, and adaptability, which are essential for professional success in the aviation field. Their shared insights indicate that the BSAT program should not focus solely on theoretical or technical mastery but must also cultivate teamwork, critical thinking, and a professional attitude among students. This suggests that the integration of competency-based training and soft skills development within the curriculum would enhance graduates' overall preparedness and enable them to perform more effectively in real-world aviation environments.

Superordinate Theme 1.4: **Preparations**

Informant 1: "I think I will not be truly prepared to embark on an aviation career if I were expected to have a job immediately after college..."

Informant 2: "...tasks and responsibilities in the real world were far more complex than what we encountered in the classroom."

Informant 3: "I hope to see the day when new graduates are recognized for their sharp skills, not just because they came from the school..."

All respondents shared the view that the BSAT curriculum provided foundational aviation knowledge but did not fully prepare them for immediate employment in the aviation industry. They expressed that while the program introduced them to essential competencies, it lacked sufficient pre-employment preparation and exposure to real operational settings. Respondents consistently stated that upon entering the workforce, they found the responsibilities and technical requirements more complex than what had been presented in school. This suggests that graduates relied heavily on post-graduate experience and personal initiative to adapt to the professional environment. These findings imply that the curriculum should place greater emphasis on job-readiness by incorporating activities that simulate workplace conditions and expectations.

4. DISCUSSION

4.1. Conclusions

Results showed that in the quantitative method, a limited and small sample size was utilized, as the number of graduates per year cannot be released by the school's registrar. Thus, it must be interpreted with caution. Based on the results and analysis, the following were concluded:

1. The study found that BS Air Transportation graduates recognized both the strengths and limitations of their academic preparation in relation to their current employment. The BSAT curriculum successfully provided a technical and operational foundation that helped graduates enter the aviation industry. However, institutional limitations such as insufficient exposure, outdated subjects, and limited practical training reduced their overall readiness for professional work. Informants consistently

emphasized that real learning occurred through mentorship, on-the-job training, and practical experience rather than through classroom instruction alone. While the program's core aviation subjects and internship opportunities supported career entry, continuous curriculum enhancement and stronger institutional support are needed to ensure that graduates remain competitive, adaptable, and industry-ready in an evolving aviation environment.

2. The findings of the study emphasize that the competencies developed through the BSAT program significantly contribute to graduates' preparedness for careers in the aviation field. Nonetheless, as the aviation industry advances through new technologies and shifting regulations, the curriculum must adapt accordingly. Ongoing revisions, partnerships with aviation professionals, and the inclusion of practical training are essential to ensure BSAT graduates remain skilled, adaptable, and aligned with international aviation standards. Thus, maintaining a dynamic and well-designed curriculum not only boosts graduates' employability but also strengthens the program's vital role in advancing innovation and development within the air transportation industry.
3. The study identified critical gaps within both the old and current BSAT curriculum that pose challenges to graduate employability in the aviation industry. These include the presence of non-industry-aligned subjects, limited integration of strategic and managerial competencies, and insufficient emphasis on applied learning and decision-making. While technical foundations and internship experiences were acknowledged as beneficial, many respondents emphasized that their adaptability and problem-solving skills were developed primarily through external training and personal initiative. The curriculum's limited responsiveness to evolving aviation standards and its lack of competency-based frameworks contributed to a disconnect between academic preparation and workplace expectations. These findings underscore the need for targeted curricular improvements to better equip graduates for dynamic industry demands.
4. The findings reveal that both the old and current BSAT curricula produce similar outcomes in shaping students' perspectives on career opportunities, skill development, and existing gaps within the program. Although the revised curriculum introduced several updates, its effects remain gradual as both versions continue to focus on building strong foundational aviation knowledge. The results reflect that curriculum improvement is a continuous process, with its full impact taking time to unfold as education and industry demands evolve. This shows that while progress is evident, the revisions have not yet significantly changed the overall learning experience of students. Still, it underscores that meaningful change in curriculum outcomes takes time to be fully realized in the program.
5. Findings revealed that the alumni perceived the BSAT's academic curriculum as a program that provided essential theoretical knowledge but lacked sufficient hands-on experience and exposure to real aviation operations. While the curriculum served as a solid academic foundation, it fell short in preparing graduates for the technical and professional challenges encountered in the aviation industry. Alumni consistently emphasized the need for more practical training, updated facilities, and stronger alignment with industry standards. This perception indicates that the BSAT program must evolve beyond classroom instruction by incorporating more applied learning, industry collaboration, and continuous curriculum development to better equip students for the realities of aviation practice.
6. Based on the interviews, the BSAT's academic curriculum helped the graduates gain a reputable role in the aviation industry. The academic curriculum has already improved. But the informants suggested that there is a need to modify the program's courses, enhance practical learning, integrate soft skills,

and make necessary preparations to further improve the program's long-term goals to support its graduates.

4.2. Recommendations

Based on the discussed conclusions, the recommendations are as follows:

1. To keep the BS Air Transportation program relevant to the needs of the aviation industry, it is recommended that the academic curriculum undergo strategic revisions that focus on hands-on and skill-based learning. More practical activities, such as simulations, extended on-the-job training, and case-based learning, should be added to help students apply theory to real-world aviation skills. The program must also change or eliminate subjects that do not align with the industry, in the likes of maintenance-oriented and non-aviation courses, such as AVTE 114 - Basic Electricity, and some social science subjects, such as SSCI 114 - Art Appreciation and SSCI 123 - The Contemporary World. These changes will provide students with an academic curriculum that meets the evolving standards of the industry. Faculty will benefit from updated syllabi and clearer teaching guidelines. The institution will boost its reputation with a program that aligns with global standards, and aviation companies will receive well-trained, industry-ready professionals. Finally, future researchers can use this study as a basis for ongoing improvements in aviation curriculum development.
2. The importance of this study centers on closing the gap between classroom learning and the actual competencies needed in the professional aviation field. To support this, BSAT students should take part in various training programs, seminars, and aviation-related activities that will help develop their technical expertise and adaptability. In addition, faculty members are encouraged to update their teaching strategies by incorporating modern aviation technologies and real-world applications to make learning more practical and relevant. The aeronautical school in Parañaque City and other institutions offering the program should also establish stronger collaborations with airlines, aviation companies, and government agencies to provide internship opportunities, curriculum benchmarking, and hands-on exposure to real operations. Likewise, aviation industry partners are encouraged to work closely with schools by offering training, workshops, and expert talks that can help shape graduates to be more equipped for employment. Finally, future researchers are advised to explore specific areas for curriculum improvement, such as simulation-based instruction or integration of international aviation standards, to continuously enhance the program and uphold the study's purpose of producing skilled, adaptable, and industry-ready BSAT graduates.
3. To address the identified gaps in the **BS Air Transportation curriculum**, it is recommended that the program undergo strategic revisions to align more closely with evolving industry standards and operational realities. This includes integrating subjects that develop analytical thinking, strategic decision-making, and applied competencies, while phasing out content that lacks direct relevance to aviation roles. Such improvements will equip **BSAT students** with the skills necessary for employment and career advancement, support **Air Transportation faculty** through clearer teaching frameworks and updated syllabi, and enhance institutional credibility by producing graduates who meet global aviation expectations. **Aviation industry companies** will benefit from a workforce trained in modern practices, improving operational efficiency and safety. Furthermore, **future researchers** may use this study as a foundation to explore sustainable curriculum innovations that respond to emerging challenges in aviation education.

4. The study recommends that the implementation of the current BSAT curriculum be further strengthened through closer collaboration between **BSAT students** and **aviation industry companies**. As the current curriculum aims to enhance practical and professional readiness, it should be continuously aligned with the current standards and demands of the aviation field. **BSAT students** should be given more opportunities to apply their learning in real industry settings, while **aviation industry companies** can provide valuable insights to ensure the curriculum remains relevant and responsive. Through this partnership, the current curriculum can effectively address existing gaps and produce graduates who are better prepared for aviation careers.
5. The BSAT curriculum can be further strengthened by integrating more experiential and industry-based learning opportunities, such as advanced simulations, extended on-the-job training, and real-world exposure. The **Air Transportation Faculty** is encouraged to continue improving the curriculum through regular updates, faculty development programs, and the use of modern instructional tools that support quality teaching and learning. **Aviation Industry Companies** are likewise encouraged to expand collaboration with academic institutions through internship programs, mentorship initiatives, and curriculum consultations to provide students with meaningful professional experiences. These collaborative efforts will help produce BSAT graduates who are technically proficient, globally competitive, and well-prepared to meet the dynamic demands of the aviation field. Furthermore, this study may serve as a valuable reference for **future researchers** in developing sustainable strategies that enhance aviation education and promote continuous academic excellence.
6. The study will enhance the BSAT's academic curriculum through modifying the courses, the addition of practical and hands-on learning, necessary preparations on the fundamentals of air transportation, and the integration of soft skills. **BSAT students** will go through real-world experiences that will further align educational outcomes with the aviation industry. Moreover, the assessment of both curricula may be used as a basis for the **Air Transportation faculty** to assess the current need for improvement of the academic curricula and for **future researchers** to establish a well-defined perception through the alumni responses.

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