UAA UNIVERSITY AVIATION ASSOCIATION

Collegiate Aviation Review International

Volume 43 | Issue 1 Peer Reviewed Article #4

03-27-2025

Contributing Factors to Aircraft Maintenance Technology Students' Readiness for the Aviation Industry

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The aviation sector demands highly skilled professionals, particularly in aircraft maintenance, to ensure safety and efficiency. Understanding the factors that affect the preparedness of the Bachelor of Science in Aircraft Maintenance Technology (BSAMT) students is crucial for academic institutions and industry stakeholders to enhance education and training programs. This study employs a survey research design to investigate the factors that contribute to readiness of BSAMT students for the aviation industry. The findings reveal that students have high confidence in their knowledge across critical areas, with positive feedback on the availability, maintenance, and completeness of training facilities. Additionally, students view the curriculum as well-designed, effectively meeting their educational needs and preparing them for a successful career in aviation. Co-curricular activities, including seminars, workshops, and on-the-job training, are perceived as the most influential in enhancing students' readiness. The study highlights the importance of integrating hands-on experiences with academic programs to ensure comprehensive skill development. The results suggest that a well-rounded curriculum, combined with strong industry engagement, is critical in preparing students for the aviation sector.

Recommended Citation:
Ramoso, M. G. D., & Ortega-Dela Cruz, R. A. (2025). Contributing factors to aircraft maintenance technology students' readiness for the aviation industry. *Collegiate Aviation Review International*, *43*(1), 65–81. Retrieved from https://ojs.library.okstate.edu/osu/index.php/CARI/article/view/10115/9037

Introduction

The aviation industry is one of the most dynamic and rapidly growing sectors globally. With increasing globalization and rising demand for air travel, the industry is expected to see continued growth in both passenger numbers and flight operations (Wensveen, 2023). As a result, there is an increasing demand for skilled professionals, particularly in the area of aircraft maintenance, which has become a crucial aspect of aviation operations. The need for highly skilled aircraft maintenance technicians is essential to meet the demands of a fast-evolving sector that relies heavily on technological advancements to ensure safety, efficiency, and sustainability (Ha et al., 2023; Mrusek & Douglas, 2020).

Aircraft maintenance plays a critical role in ensuring the safety, reliability, and efficiency of aviation operations. Proper maintenance procedures are vital for reducing risks associated with mechanical failures, which can have severe consequences for passengers, crew, and the airline. As noted by Singh et al. (2024), the primary responsibilities of aircraft maintenance technicians include inspecting, repairing, and maintaining aircraft in compliance with stringent safety regulations, such as those set by the Federal Aviation Administration (FAA) and the European Union Aviation Safety Agency (EASA). These regulations ensure that maintenance practices meet the required standards for operational safety and airworthiness.

The role of aircraft maintenance technicians has become increasingly complex due to the sophistication of modern aircraft. Advances in avionics, materials, and propulsion systems demand that technicians be equipped with the latest knowledge and skills (Ha et al., 2023). In this regard, proper training and certification programs are essential to ensure that maintenance technicians remain up to date with the latest technologies and practices. Aircraft maintenance technology degree programs, such as those offered by universities and technical schools, are specifically designed to provide students with both the theoretical knowledge and practical skills necessary for successful careers in aircraft maintenance (Rañola, 2023). These programs focus on a range of topics, from aircraft systems and diagnostics to repair techniques and regulatory compliance.

In addition to technical skills, the role of maintenance technicians also involves a significant understanding of safety culture, quality assurance, and environmental considerations. Effective maintenance programs not only prevent mechanical failures but also minimize environmental impact by adhering to sustainability practices, such as the reduction of waste and emissions (Hauashdh et al., 2024). Furthermore, technicians must be able to respond to emergency situations and perform troubleshooting tasks in real-time, which highlights the need for ongoing professional development and adaptive expertise (Jiang et al., 2022).

With the rapid advancements in technology and the increasing complexity of aircraft systems, there is a growing demand for well-trained and competent aircraft maintenance technology program graduates. However, the transition from academic learning to actual employment in the aviation industry can be challenging for students. Despite the importance of this academic program, there exists a gap between the skills acquired by students and the expectations of the aviation industry; and this has to do with their readiness. Readiness in the aviation industry refers to the extent to which individuals possess the necessary skills,

knowledge, and attributes to perform effectively in their roles (Kankaew, 2021). For aircraft maintenance technology students, readiness encompasses technical proficiency, regulatory compliance, problem-solving abilities, communication skills, and adaptability to new technologies.

The readiness of aircraft maintenance technology students for the aviation industry is crucial, given the growing demands of both local and international airlines. However, there is a lack of research on the factors influencing the readiness of Aircraft Maintenance Technology (AMT) students in developing countries like the Philippines.

Factors affecting this readiness are multi-faceted, ranging from technical skills to practical experience and personal attributes. Several studies have highlighted the importance of a strong educational foundation, industry-relevant training, and soft skills in preparing students for the challenges they will face upon entering the workforce. A critical issue is the ability of academic institutions to align their curricula with the constantly evolving needs of the aviation industry, especially given the rapid advancements in technology and regulations (Sun et al., 2021).

According to Cascio (2019), factors such as the quality of training programs, practical experience, technological advancements, and the evolving demands of the aviation sector are significant determinants of students' readiness for the industry. Moreover, the increasing complexity of aircraft systems, regulatory changes, and the rise of digital technologies in aviation require students to possess not only technical expertise but also critical thinking, problem-solving abilities, and adaptability (Keller et al., 2020; Zaharia et al., 2021; Thulasy et al., 2022).

In addition to technical competencies, the readiness of students is also influenced by the development of soft skills, including communication, teamwork, and critical thinking. According to Bennett (2015), effective communication and teamwork are essential in the aviation industry, as maintenance teams must often work under high-pressure situations. Without these skills, even the most technically proficient individuals may struggle in real-world scenarios (Alharasees et al., 2023). This highlights the need for a holistic approach to education that not only focuses on technical knowledge but also on interpersonal and problem-solving skills (Graesser et al., 2018).

Another important aspect to consider is the cultural and socio-economic factors that shape students' educational experiences. For example, access to advanced training resources, mentorship opportunities, and financial support may influence a student's ability to develop the necessary competencies for the aviation industry (Miani et al., 2021; Ng, 2022). These factors may affect not only the students' preparedness but also their confidence in performing tasks under pressure, which is essential in the high-stakes environment of aviation maintenance.

While studies exist on student preparedness in technical fields, few focus specifically on AMT programs in the context of growing aviation sectors. This study aims to address this gap by examining how curriculum design, co-curricular activities, training facilities, and theoretical knowledge impact AMT students' readiness for the aviation workforce in the Philippines. As the country's aviation sector expands, it is essential to align educational programs with industry

needs to ensure the development of competent graduates. The findings will offer valuable insights for academic institutions, industry stakeholders, and policymakers on improving AMT education and enhancing graduate employability, contributing to the growth and safety of the aviation industry in the Philippines.

This study is also significant in advancing several Sustainable Development Goals (SDGs), particularly SDG #4 (Quality Education), SDG #8 (Decent Work and Economic Growth), and SDG #9 (Industry, Innovation, and Infrastructure). By examining the alignment of academic programs with industry needs, this research can help improve the quality of education, ensuring that aircraft maintenance technology program graduates possess the technical skills, industry experience, and soft skills required for the workforce. This enhances employability, contributing to economic growth and the development of a skilled workforce for the aviation sector. Additionally, by promoting industry-academia partnerships and the integration of innovation in education, the study supports the creation of a more resilient, inclusive, and innovative aviation industry, driving sustainable industrial growth and infrastructure development in the Philippines. With this, the study sought answer to the research question: what are the contributing factors on the readiness of Bachelor of Science in Aircraft Maintenance Technology (BSAMT) students in the aviation industry?

Specifically, the study (i) determined the students' level of confidence in the area of knowledge; and (ii) assessed the students' perceptions of the facilities, curriculum, and co-curricular activities as contributing factors to their readiness for the aviation industry.

Theoretical Framework

This study is grounded in the following theories that explore how various factors influence students' preparedness for the workforce:

Kolb's Experiential Learning Theory (2014) emphasizes that learning is a process whereby knowledge is created through the transformation of experience. In the context of BSAMT students, this theory suggests that readiness for the aviation industry is largely determined by the students' ability to engage in hands-on, practical learning experiences, such as internships or simulated aircraft maintenance tasks.

Vygotsky's Constructivist Learning Theory (1978) highlights the role of social interaction and cultural context in the learning process. For BSAMT students, this theory implies that readiness is influenced not only by individual cognitive development but also by collaborative learning experiences, such as teamwork in maintenance tasks or peer-assisted learning in problem-solving scenarios. Students who are exposed to collaborative environments are likely to develop better communication and interpersonal skills, which are essential for success in the aviation industry.

Becker's Human Capital Theory (2009) posits that investment in education and training enhances individuals' skills and abilities, increasing their productivity and employability in the labour market. In this study, Human Capital Theory underscores the importance of providing BSAMT students with adequate training, exposure to cutting-edge technology, and relevant

skills to meet the demands of the aviation industry. The theory suggests that the readiness of students to enter the workforce is directly linked to the quality and relevance of the education and training they receive.

Bandura's Social Cognitive Theory (1986) focuses on the interaction between individuals, their environment, and their behaviors. For BSAMT students, this theory suggests that their readiness is shaped by their self-efficacy beliefs (confidence in their ability to perform tasks), outcomes expectancies, and the social environment they are exposed to. Students who have access to mentorship, industry exposure, and positive role models within the aviation industry are more likely to develop a strong sense of self-efficacy, which contributes to their overall preparedness.

Together, these theories offer a comprehensive understanding of how various factors, including practical training, collaborative learning, investment in education, and personal confidence, contribute to the readiness of BSAMT students to meet the demands of the aviation industry.

Materials and Methods

Research Design

This study employed survey research design to explore the factors affecting the readiness of Bachelor of Science in Aircraft Maintenance Technology Students in the aviation industry. Survey research design is a quantitative approach that collects data from a particular group of respondents to gain insights on various subjects. It generally involves distributing questionnaires or conducting interviews to obtain consistent information from a sample. This method facilitates the analysis of trends, relationships, and attitudes within a population (Creswell & Creswell, 2017). For this study, data was collected through face-to-face surveys.

Research Participants

A total of 140 participants took part in the survey. These respondents were purposefully chosen Bachelor of Science in Aircraft Maintenance Technology (BSAMT) students from a State College in the Philippines. Among the participants, 122 (87%) were male, while 18 (13%) were female.

Instrumentation

The instrument used to assess the factors influencing the readiness of BSAMT students for the aviation industry was developed by the researcher after conducting a comprehensive literature review. The self-administered questionnaire contained 16 items, organized into four sections: five items related to knowledge areas, four concerning facilities, four focused on the curriculum, and three addressing co-curricular activities. Each item was rated on a four-point Likert scale, ranging from "low confidence" (1) to "very high confidence" (4), or from "strongly disagree" (1) to "strongly agree" (4).

To ensure the instrument's content validity, it was reviewed by a panel of subject matter experts in aviation education, curriculum development, and industry standards. These specialists, who possessed extensive experience in both academia and the aviation industry, provided valuable insights into the clarity, relevance, and comprehensiveness of the questionnaire. Their backgrounds included expertise in aviation training programs, industry certifications, and the pedagogical frameworks necessary for preparing students for the aviation workforce. Based on their feedback, the researcher made minor revisions to enhance the instrument's alignment with the study's objectives, ensuring that the questions accurately reflected the critical factors contributing to the students' readiness for the aviation industry. This process helped ensure that the instrument was both relevant and robust in capturing the key variables related to the preparedness of BSAMT students.

Ethical considerations were carefully addressed throughout the study, particularly in terms of informed consent. Prior to administering the survey, the researcher explained the study's purpose to participants and emphasized that participation was voluntary. Respondents were informed of their right to withdraw at any time without consequence. To maintain confidentiality, each participant was assigned a unique code number, which replaced personal identifying information on the survey. This coding system allowed the researcher to match responses to individual surveys while preserving anonymity. Additionally, data analysis was presented in aggregate form, ensuring that no personally identifiable information was disclosed, thereby protecting the privacy and confidentiality of all respondents.

Data Analysis

The study uses descriptive statistics, such as frequencies, percentages, and means, to conduct a descriptive analysis of the survey data.

To analyze the data, responses from the self-administered questionnaire are assigned numerical values based on a four-point Likert scale, ranging from 1 ("low confidence" or "strongly disagree") to 4 ("very high confidence" or "strongly agree"). The scores are then categorized into four confidence levels: 1.00-1.75 represents "Slightly Confident" or Strongly Disagree, 1.76-2.50 indicates "Moderately Confident" or "Disagree", 2.51-3.25 corresponds to "Highly Confident" or "Agree" and 3.26-4.00 signifies "Extremely Confident" or "Strongly Agree". After assigning scores to each response, the data is analyzed by calculating how many responses fall into each confidence category, either by counting frequencies or calculating percentages. This method allows for a clear understanding of students' perceived readiness in various areas based on their confidence or agreement levels.

Results and Discussion

Students' Level of Confidence in the Area of Knowledge

The results presented in Table 1 reveal that the BSMAT students exhibit a generally high level of confidence in various areas of knowledge relevant to their field. The mean scores for all five areas of knowledge fall within the "Highly Confident" range (2.51 - 3.25), suggesting that the students perceive themselves as adequately prepared in key aspects of their training.

The highest mean score of 2.86 was observed in the area of air law and airworthiness requirements, indicating a strong level of confidence among the students regarding their understanding of aviation regulations pertinent to aircraft maintenance. The mean score of 2.82 in natural science and aircraft general knowledge, including fundamental mathematics and principles of physics and chemistry, indicates a strong foundation in the basic sciences. With a mean score of 2.83, students expressed a high level of confidence in their understanding of aircraft engineering, including material characteristics, construction, and powerplant systems. Students demonstrated a mean score of 2.99 in their confidence regarding aircraft maintenance procedures, which is the highest among the areas measured. This suggests that students feel particularly prepared to perform tasks such as aircraft overhaul, inspection, and defect rectification. The mean score of 2.95 for human performance and limitations reflects a strong understanding of how human factors influence aviation maintenance. This area is critical for ensuring safety, as maintenance technicians must be aware of their physical and mental limitations during their work.

Table 1

Level of Confidence in the Area of Knowledge

Area of Knowledge	*f*				*Mean*	Verbal Interpretation
	4	3	2	1		
1. How confident are you that you can still recall the air law and airworthiness requirements such as rules and regulation relevant to an aviation maintenance technician (amt) licenser holder?	27	72	36	5	2.86	Highly Confident
2. How confident are you in your knowledge about natural science and aircraft general knowledge like basic mathematics; units of measurement; fundamental principles and theory of physics and chemistry applicable to aircraft maintenance?	18	81	40	1	2.82	Highly Confident
3. How confident are you with your learning in aircraft engineering? (that includes characteristics and applications of the materials of aircraft construction including principles of construction and functioning of aircraft structures, fastening techniques; powerplant and their associated system)	25	71	40	4	2.83	Highly Confident
4. How confident are you with your education in aircraft maintenance such as required to ensure the continuing airworthiness of an aircraft including methods and procedures for the overhaul, repair, inspection, replacement, modification or defect rectification of aircraft structures?	37	66	36	1	2.99	Highly Confident

5. How confident are you in human performance area, with performance and limitations relevant to the duties of an aviation maintenance license holder?	30	75	33	2	2.95	Highly Confident

Range: 1.00- 1.75- Slightly Confident; 1.76-2.50- Moderately Confident; 2.51-3.25-Highly Confident; 3.26-4.00- Extremely Confident

Novak et al. (2018) emphasize the importance of regulatory knowledge in the aviation industry. Familiarity with air law and regulations is critical, as these rules directly affect the safety and legality of aircraft maintenance procedures (Woodlock (2023). This is consistent with Gauthama et al. (2024), who highlight the importance of scientific knowledge in understanding the complex systems involved in aircraft maintenance. Proficiency in basic scientific principles ensures that students can effectively apply theoretical knowledge to practical maintenance tasks. This result mirrors the findings of Wang and Zimmermann (2021) who note that comprehensive knowledge of aircraft structures and systems is essential for aviation maintenance technicians to ensure the safety and reliability of aircraft. The strong performance in this area may indicate that the curriculum effectively covers the technical aspects of aircraft design and engineering. As Dionne (2019) argue, practical maintenance skills are crucial for aviation technicians, and this result suggests that students are confident in applying what they have learned in real-world scenarios (Güneş et al., 2020). This result is supported by Shanmugam and Paul Robert (2015), who emphasize the importance of human factors training to reduce errors and improve performance in the high-stakes environment of aviation maintenance.

Students' Perception of Facilities as Contributing Factor

Table 2 highlights the students' perceptions of various facilities that contribute to their learning experience in the BSAMT program. The results suggest that students generally agree that the facilities available to them positively influence their development of technical and communication skills, as well as their overall learning experience.

The availability of an aircraft cabin mock-up facility, with a mean score of 2.90, received an "Agree" rating from the students. This suggests that students feel that having access to a simulated aircraft cabin is beneficial for enhancing their technical skills. With a mean score of 2.62, respondents generally agree that the availability of a speech laboratory positively impacts their oral communication skills. The mean score of 2.88 for the maintenance of laboratory facilities indicates that students agree that well-maintained labs play an important role in improving their technical skills. Properly maintained facilities are critical for providing a safe and effective learning environment. With a mean score of 2.91, students expressed agreement that the completeness of laboratory equipment enhances their learning. This includes access to necessary tools and machinery for practical training, which is essential for developing the technical expertise required in aircraft maintenance

Table 2
Facilities as a Contributing Factor

Facilities	*f*				*Mean*	Verbal Interpretation
	4	3	2	1		
A. Availability of aircraft cabin mockup facility to enhance my technical skill	33	73	22	12	2.90	Agree
B. Availability of speech laboratory to enhance my oral communication.	28	67	30	15	2.62	Agree
C. Maintenance of laboratory facilities to improve skill of the students.	32	71	26	11	2.88	Agree
D. Completeness of the equipment of laboratory facilities for enhanced learning of the students	34	69	28	9	2.91	Agree

Range: 1.00- 1.75- Strongly Disagree; 1.76-2.50- Disagree; 2.51-3.25-Agree; 3.26-4.00- Strong Agree

According to Ng (2023), such facilities allow students to engage in hands-on learning, which is essential for mastering the practical skills required in aircraft maintenance. The use of mock-up facilities enables students to familiarize themselves with the layout, systems, and components of aircraft, providing valuable practice in a controlled environment (Hayashi & Gondo, 2024). This supports the findings in language learning and communication theory that argue the importance of practice spaces where students can focus on speaking skills. Rad and Roohani (2024*)* suggest that dedicated facilities, like speech laboratories, allow students to practice speaking in a low-stress environment, which can help improve fluency, pronunciation, and overall communication skills.

As Srivastava et al. (2020) point out, up-to-date and functional laboratory facilities ensure that students can gain hands-on experience with the same tools and equipment they will encounter in the workforce, helping bridge the gap between theory and practice (Fletcher Jr & Tyson, 2017). Hora (2019) suggests that having access to a full range of equipment in laboratory settings provides students with the opportunity to practice a variety of maintenance tasks, ensuring they are well-prepared for real-world scenarios.

Students' Perception of Curriculum as Contributing Factor

Table 3 presents the students' perceptions of the curriculum and its effectiveness in meeting educational goals and preparing them for careers in aircraft maintenance. All four aspects of the curriculum—key concepts, subject relevance, logical sequence, and integration of values—received mean scores that fall within the "Agree" range (2.51–3.25), suggesting that students generally believe the curriculum is well-structured and aligned with their educational needs.

Table 3
Curriculum as a Contributing Factor

Curriculum	*f*				*Mean*	Verbal Interpretation
	4	3	2	1		
A. Key concepts addressed the program objective and program learning outcome.	39	74	22	5	3.05	Agree
B. Alignment and relevance of subject.	32	83	18	7	3.00	Agree
C. Logical sequence of the subject.	30	78	24	8	2.92	Agree
D. Integration of values, national customs, culture and tradition to the curriculum.	41	63	31	5	3.00	Agree

Range: 1.00- 1.75- Strongly Disagree; 1.76-2.50- Disagree; 2.51-3.25-Agree; 3.26-4.00- Strong Agree

With a mean score of 3.05, students expressed agreement that the key concepts covered in the program are aligned with the program objectives and learning outcomes. This suggests that the curriculum effectively supports the overall goals of the program, ensuring that students acquire the knowledge and skills necessary for success in the field of aviation maintenance. The mean score of 3.00 for the alignment and relevance of subjects indicates that students agree the courses are pertinent to their education and career aspirations. The relevance of subjects is critical for keeping students engaged and motivated. With a mean score of 2.92, students agree that the subjects are presented in a logical sequence. This suggests that the curriculum is well-structured, with a coherent progression from one subject to the next, which is important for building foundational knowledge before advancing to more complex topics. The mean score of 3.02 for the integration of values, national customs, culture, and tradition into the curriculum indicates that students agree that these elements are appropriately incorporated. This aligns with the growing emphasis on culturally responsive teaching in higher education.

Cruz (2022) and Dela Cruz and Dela Cruz (2020) emphasize that clearly defined learning outcomes and objectives are essential for guiding curriculum development and ensuring that students are adequately prepared for their professional careers. Lappas and Kourousis (2016) argue that a relevant curriculum enhances students' learning experiences and ensures they are equipped with up-to-date knowledge and skills needed in the rapidly evolving field of aviation. Darling-Hammond et al. (2020) highlight the importance of curriculum sequencing in promoting deep learning, as it allows students to understand the connections between different concepts and disciplines, enhancing their ability to apply knowledge in practical settings. Nopas and Kerdsomboon (2024) suggests that integrating cultural aspects into the curriculum helps students develop a more holistic understanding of the world and prepares them to work in diverse environments, which is particularly important in global industries like aviation.

Students' Perception of Co-Curricular Activities as Contributing Factor

The results presented in Table 4 illustrate the students' perceptions of the co-curricular activities provided in the BSAMT program. All three aspects of co-curricular activities—seminars/workshops, on-the-job training, and educational tours—received mean scores that fall

within the "Agree" range (2.51–3.25), indicating that students view these activities as important contributors to their learning experience.

Table 4
Co-curricular Activities as a Contributing Factor

Co-Curricular Activities	*f*				*Mean*	Verbal Interpretation
	4	3	2	1		
A. Conduct of seminars and workshop	53	57	27	3	3.14	Agree
B. On the job training relevant to Aircraft Maintenance Technology.	51	57	28	4	3.10	Agree
C. Conduct of educational tour for the BSAMT students to the Airline Industry.	46	54	32	8	2.98	Agree

Range: 1.00- 1.75- Strongly Disagree; 1.76-2.50- Disagree; 2.51-3.25-Agree; 3.26-4.00- Strong Agree

With a mean score of 3.14, students expressed agreement that the seminars and workshops conducted are beneficial for their learning. These activities allow students to interact with industry professionals, gain insights into current trends and best practices in the field, and develop critical soft skills. The mean score of 3.10 indicates that students believe on-the-job training is a valuable and relevant experience for their career development. The strong positive response from students suggests that the on-the-job training aligns well with their educational goals and enhances their technical skills. The mean score of 2.98 reflects students' agreement that educational tours to the airline industry contribute positively to their learning experience. These tours provide students with firsthand exposure to the operational environment of airlines and aircraft maintenance facilities.

Chakraborty and Tripathi (2024) highlight the value of seminars and workshops in providing students with opportunities to engage in continuous learning and stay updated with industry developments. The positive response from students suggests that these co-curricular activities enhance their preparedness for the aviation industry.

On-the-job training is critical in aviation education, as it provides students with hands-on experience in real-world settings (Hora, 2019). Peksatici and Ergun (2019) emphasize that internships or job placements are essential in bridging the gap between academic knowledge and practical application, particularly in highly technical fields like aircraft maintenance. According to Morrow (2018), such tours allow students to see the practical application of their studies in a professional setting, providing context and a broader understanding of the industry. This exposure helps students connect their theoretical knowledge to real-world practices, enhancing their readiness for the workforce (Swargiary, 2024).

Factors Affecting the Readiness of BSMAT Students

Table 5 presents the factors influencing the readiness of BSAMT students for the aviation industry. The results are based on the weighted mean scores for each factor, providing insight

into how students perceive the elements that contribute to their preparedness. These factors are ranked from most to least influential.

With the highest weighted mean score of 3.07, co-curricular activities were ranked as the most influential factor affecting students' readiness. This suggests that students view these activities—such as seminars, workshops, on-the-job training, and educational tours—as highly beneficial in preparing them for their future careers. The curriculum received a weighted mean score of 2.99, ranking second in terms of importance. This indicates that students agree that the program's structure, content, and alignment with industry needs significantly contribute to their readiness for the aviation field. With a weighted mean score of 2.90, facilities were ranked third in importance. This suggests that students see the availability, maintenance, and completeness of laboratory and training facilities as important factors in their preparedness. Although important, the area of knowledge received the lowest weighted mean score of 2.61, ranking fourth. While this score still falls within the "Highly Confident" range, it suggests that students feel slightly less confident in their theoretical knowledge compared to the other factors**.** This may reflect the complex and diverse nature of the technical knowledge required in aircraft maintenance, as suggested by Gauthama et al. (2024). While students recognize the importance of knowledge in areas like air law, physics, and aircraft engineering, they may feel that practical experience and co-curricular activities better prepare them for the industry.

Table 5
Factors Affecting the Readiness of BSMAT Students

Factors	*Mean*	Verbal Interpretation	Rank
1. Area of knowledge	2.61	Highly Confident	4
2. Facilities	2.90	Agree	3
3. Curriculum	2.99	Agree	2
4. Co-curricular	3.07	Agree	1

The results align with the following theories, showing that hands-on, industry-related experiences are crucial for student readiness, with co-curricular activities being the most influential factor: Kolb's Experiential Learning Theory (2014) highlights the importance of hands-on experiences. Co-curricular activities, ranked highest in this study, provide concrete experiences and opportunities for students to engage in real-world learning, which is essential for effective preparedness. Vygotsky's Constructivist Learning Theory (1978) emphasizes social interaction and guidance. Co-curricular activities place students within their Zone of Proximal Development, where they benefit from mentorship and collaborative learning, enhancing their readiness for the industry. Becker's Human Capital Theory (2009) views education as an investment in skills that improve future employability. The high ranking of co-curricular activities suggests that practical, real-world training is seen as more valuable than theoretical knowledge in preparing students for the workforce. While Bandura's Social Cognitive Theory (1986**)** focuses on observational learning and self-efficacy. Co-curricular activities provide students with role models and opportunities to build confidence in their abilities, reinforcing their preparedness for the aviation industry.

Conclusion

The study investigates the factors that contribute to readiness of BSAMT students for the aviation industry. The findings reveal that the BSAMT students possess a high level of confidence in their knowledge across multiple critical areas. Their positive responses to the availability, maintenance, and completeness of the facilities indicate that these factors play a significant role in their learning experience. The provision of relevant, well-maintained, and complete facilities supports students in developing the practical skills necessary for success in the aviation maintenance field. The students' positive perceptions of the curriculum suggest that it is effectively designed to meet their educational needs and prepare them for a successful career in aircraft maintenance. The integration of key concepts, relevant subjects, logical sequencing, and cultural values supports both academic and professional development. The positive perceptions of the co-curricular activities suggest that they play a significant role in supporting students' academic and professional development. Seminars, workshops, on-the-job training, and educational tours are effective in complementing the formal curriculum and providing students with practical skills, industry exposure, and a deeper understanding of the aviation maintenance field.

Overall, the findings indicate that co-curricular activities are the most influential factor in preparing BSMAT students for the aviation industry, followed by the curriculum, facilities, and area of knowledge. The results underscore the importance of practical, hands-on experiences, as well as a well-structured and relevant academic program, in shaping students' readiness for the workforce. These findings align with the literature, which stresses the significance of combining theoretical learning with practical exposure to ensure comprehensive skill development for students in technical fields like aircraft maintenance. The scores across all areas may reflect a well-rounded curriculum that prepares students for the diverse demands of the aviation industry. However, further research could examine whether these levels of self-reported confidence translate into actual competencies in real-world settings. Further research could also examine how these perceptions correlate with actual performance in laboratory settings and career outcomes.

In conclusion, by leveraging these factors through curriculum enhancements, industry partnerships, and improved training opportunities, educational institutions can significantly contribute to producing graduates who are well-prepared to enter the workforce and play a vital role in the growth and safety of the aviation sector.

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