



Investigating the Factors Influencing International Students' Satisfaction in Foundation Course and their success in academic Courses: A case of IUT

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of Science in Technical Education with Specialization in Electrical and
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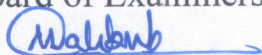
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The thesis titles “Investigating the Factors Influencing International Students’ Satisfaction in Foundation Course and their success in academic Courses: A case of IUT” submitted by Najm Mogalli Nasser no:221031204 of Academic Year 2024-2025 has been found satisfactory and accepted as partial fulfillment of the requirement for the degree of Master of Science in Technical Education with Specialization in Electrical and Electronic Engineering.

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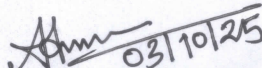
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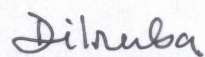
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DECLARATION

This is to testify that the study presented in this thesis is the original study conducted by me, Najm Mogalli Nasser Nasser, bearing the student number 221031204, under the supervision of Dr. Mahbub Hasan, Professor of the Department of Technical and Vocational Education, Islamic University of Technology (IUT), Dhaka, Bangladesh.



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DEDICATION

To my beloved parents, and siblings whose endless love, prayers, guidance, and sacrifices have shaped who I am.

To my dear friends - Musa Abdulmumini, Hesham Almunjedi, and Nafiu Salele - thank you for your outstanding support, patience, and encouragement throughout this journey.

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First and foremost, my most sincere and uttermost gratitude goes to Professor Dr. Mahbub Hasan for his altruistic and selfless guidance throughout this study. His tireless supervision and contribution to this study to see it to perfection was something every research student would dream of having, so I sincerely appreciate him.

Secondly, I would like to acknowledge myself and give a share of the credit to myself as well for the effort that I managed to put in through all the challenges experienced during the study. My next acknowledgment and appreciation go to my teachers and everyone who helped me along the way.

Lastly, I would like to express my heartfelt appreciation to OIC for giving me a series of scholarships to complete my education from Bachelor of Science through to Master of Science.

ABSTRACT

Foundation programs are considered as essential preparatory stage in higher education, especially for international students who come from a different country and required to adapt to new academic, linguistic, and cultural environments. Before enrolling to the main academic stream, preparatory programs, such as Foundation Program plays a vital role to be succeed in their academic programs. This study investigated the factors influencing international students' satisfaction with the Foundation Program at the Islamic University of Technology (IUT) in Bangladesh and also explored the relationship between foundation performance and subsequent academic achievement. The research was guided by two hypotheses: that course content, instructional quality, and academic support significantly predict student satisfaction, and that foundation course results positively correlate to performance in later academic programs.

A quantitative research design was employed, drawing on survey responses from 104 international students who had completed the Foundation Program and progressed into undergraduate studies. Data were analyzed using descriptive statistics, correlation, regression, and t-tests. Results showed that all measurement scales demonstrated acceptable reliability (Cronbach's α between .76 and .80). Correlation analysis revealed that student satisfaction was strongly related to course content ($r = .63$), instructional quality ($r = .67$), and academic support ($r = .76$). However, regression results indicated that only instructional quality ($\beta = .28, p < .01$) and academic support ($\beta = .54, p < .001$) were significant predictors of satisfaction, while course content was not. Together, these variables explained 63.3% of the variance in satisfaction. In addition, foundation course marks were positively correlated with cumulative GPA ($r = .416, p < .01$), accounting for 17.3% of the variance in later academic performance. Gender differences were not significant.

The findings highlight the importance of strong instructional practices and robust academic support systems in shaping international student satisfaction. They also confirm the preparatory value of foundation programs by linking early achievement with later success. The study offers practical recommendations for program improvement and contributes to the broader literature on international student experiences in foundation education.

Keywords: international students, foundation program, satisfaction, instructional quality, academic support, academic success.

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CHAPTER 1: INTRODUCTION

1.1 Background

An essential component of higher education is foundational coursework. Before beginning a full academic program, they serve as steppingstones, providing students with the foundation they require. These classes become even more important for a lot of international students. Studying abroad frequently requires a simultaneous adjustment to a new language, strange teaching methods, and cultural norms. This study examines the factors that influence international students' satisfaction with the foundation course at the Islamic University of Technology (IUT) in Bangladesh and how that satisfaction may relate to their subsequent academic performance

There is more to a foundation course than just a group of classes. It is intended to close knowledge gaps and assist students in adjusting to university life. In addition, it provides international students with a firsthand understanding of the functioning of the local educational system and a time for academic and social integration. When implemented effectively, these programs can empower students to take control of their education and develop productive study habits that they can maintain throughout their degree Cai et al.,(2024). One particularly intriguing example is the Islamic University of Technology, which is situated in Gazipur, Bangladesh. The university, which is affiliated with the Organization of Islamic Cooperation (OIC), draws students from Bangladesh as well as more than 50 of its member nations. These students come with different school experiences, languages, and educational systems. To make sure all newly admitted international students can cope with the demands of university study, IUT runs a foundation course designed specifically for them. This course typically covers core subjects (such as mathematics, physics, chemistry and English) and study skills to prepare students for the undergraduate engineering and technology curriculum. By the end of the foundation course, students are expected to achieve a certain level of entry into their academic departments Zawawi,(2024). Past experience at IUT indicates that students who successfully complete the foundation program not only gain

academic preparation but also greater confidence and adaptability to university life. This is consistent with research conducted in other contexts. For instance, Wolf et al. (2008) reported that students who completed a foundation course tended to perform better in their subsequent university studies than similar students who were directly admitted, highlighting the “added value” of a well-designed foundation program.

Student satisfaction in foundation course is a central concept in this study. In higher education literature, student satisfaction generally refers to students' subjective evaluation of their educational experiences, services, and facilities. For example, student satisfaction is considered as a short-term attitude resulting from the evaluation of students' educational experience, services, and facilities. Satisfaction, therefore, is the extent to which students' expectations and needs are met by educational services Weerasinghe, (2017). Universities monitor student satisfaction because it has important implications: high satisfaction is associated with improved student retention, loyalty, and academic performance, while dissatisfaction can lead to dropout or a negative reputation for the institution Weerasinghe & Fernando, (2017). In the context of foundation courses, satisfaction is not simply a measure of contentment; it is a critical outcome that can influence a student's trajectory in the degree program. Researchers have noted that student satisfaction is a multifaceted concept influenced by numerous factors in the educational environment Li,(2024). For example, demonstrated that both general and specific aspects of the university experience significantly contribute to whether students continue their studies. It was found that second-year college students who were satisfied with key dimensions of dissatisfied student experiences (such as campus climate and academic support) were significantly more likely to continue the following year than those who were dissatisfied Land & Jonassen,(2012). This confirms that satisfaction in the early stages of college study can have lasting effects on student retention and success. Multiple factors have been identified in previous research as determinants of student satisfaction in higher education. One such factor is the relevance of course content. Students tend to feel more satisfied when they perceive the curriculum as relevant to their academic and career goals. Aicha (2018) observed that the perceived quality and applicability of course content significantly influenced business students' satisfaction with their program. In a foundation course, relevance might include aligning preparatory material with the requirements of subsequent academic courses so that students see clear value in what they are learning. Teaching quality and

teaching practices are other critical factors: lecturers' competence, pedagogical approaches, and student interaction can significantly influence satisfaction. A study by Gee (2018) in a similar educational context found that instructors' competencies (e.g., subject matter expertise, communication skills, and accessibility) had a positive impact on student satisfaction levels. Similarly, teaching methods that encourage interaction, hands-on learning, and clear understanding can boost satisfaction; in contrast, monotonous or lecture-only curricula can disengage students. Peer interactions and a sense of community also play a role in student satisfaction. International students often benefit from a supportive network of peers, especially in an unfamiliar environment.

Hang (2023) provides a careful analysis of how different forms of interaction relate to satisfaction, finding that students who interact positively with their peers and engage in collaborative learning report higher satisfaction with their college experience. This suggests that opportunities for group work and social integration can boost overall satisfaction by reducing feelings of isolation and building camaraderie among students. Additionally, the availability of academic support services is a known contributor to satisfaction. Students are more satisfied when they have access to resources such as tutoring, mentoring, language support, counseling, and appropriate facilities for example, Petty et al (2025). found that the proportion of international students and the support structures available to them (including language assistance and integration programs) significantly impacted international student satisfaction at UK universities. In an IUT Foundation program, academic support may include additional English and math tutoring sessions, orientation programs, and peer mentoring, all of which can help students feel supported in their learning journey. Importantly, previous research suggests that early academic experiences and satisfaction can influence subsequent success. Setiawan et al. (2025). suggests that positive experiences in initial courses encourage students to remain engaged and committed to their education. Specifically, in the context of foundation courses, if students find the experience rewarding and feel that their time has been well-used, they are more likely to approach their college courses with confidence and determination. This notion is supported by Alqurashi (2016), who examined international students in the United States and found that the same factors that promote satisfaction such as academic challenge, faculty interaction, and a supportive environment were also strong predictors of academic success as measured by grades. In other words, students who are challenged

and supported constructively tend to enjoy their experience and perform well academically. Applying this insight to Islamic University of Technology, it can be hypothesized that international students who are satisfied with (and successful in) their foundation program are more likely to leverage its benefits (strong foundational knowledge, study skills, and self-confidence) in their subsequent academic programs, leading to better performance there.

Despite the recognized importance of student satisfaction in foundation programs, a notable gap exists in research focusing on the specific situation of universities. In their study Li and Wang (2024) compared foundation programs, and others have studied the general factors of international student satisfaction. As a residential university, all foreign students where students from multiple countries live and study together on IUT campus. English is used as the language of instruction. Cultural adaptations, climatic differences, and academic expectations can be of great importance to these students. How do the outcomes of the Foundation Program relate to their performance in subsequent rigorous engineering programs? Understanding these aspects will fill gaps in previous studies and provide practical insights for improving educational practices at IUT, and possibly at other multinational universities. Therefore, the background and context highlight the need for this study, which will systematically examine the factors influencing international student satisfaction in the Foundation Program at IUT and assess whether this satisfaction (and associated achievement) is related to success in subsequent academic courses.

1.2 Statement of the problem

International students at the Islamic University of Technology (IUT) enter their programs with diverse academic backgrounds, language abilities, and expectations. The Foundation Program at IUT aims to fill gaps in pre-study preparation and ensure that all students achieve a basic level of university readiness. However, a clear problem is that the specific factors influencing these students' satisfaction with the Foundation Program, and its implications for their subsequent academic success, are not yet fully understood. Until now, university administrators and faculty have had to rely on general assumptions or informal opinions Serrano-Sánchez et al., (2025). Regarding what works and what doesn't work in the Foundation Program, there is a lack of empirical data that identifies which aspects of the Foundation Program (such as curriculum content, teaching quality, support services, and peer environment) contribute significantly to

student satisfaction or dissatisfaction. Without this understanding, Foundation Program improvement efforts may be unfocused, and critical issues affecting the student experience may remain unaddressed. Furthermore, the relationship between the Foundation Program experience and subsequent academic performance has not been formally studied at IUT. It is assumed that a solid foundation in terms of subject matter mastery and a positive learning experience leads to better performance in the first year and beyond. However, this assumption must be applied be verified. The problem arises from questions such as “Do high-achieving students who are satisfied with the Foundation Program perform better in their courses?” If some students perform poorly in their academic courses, could this be attributed to gaps or problems in the Foundation Phase? Alamri,(2023) Li & Wang,(2024) said Conversely, if the Foundation Program is highly effective, its graduates should be expected to thrive academically, but in the absence of data, this remains purely speculative. In brief, the problem addressed by this research is twofold the need to identify and analyze the key factors influencing international student satisfaction in the Foundation Program at Islamic University of Technology, and the need to determine the extent to which success (achievement) in the Foundation Program is related to success in subsequent academic courses. Addressing this problem is important because it will determine whether the Foundation Program is achieving its objectives and how these objectives can be improved. Ultimately, failure to address low satisfaction or poor preparation in the foundation phase could undermine University educational outcomes, leading to increased dropout rates or lower academic performance among international students. This study was driven by awareness of these issues and aims to provide evidence-based insights to address them.

1.3 Research aims and objectives

The overall aim of this study is to examine factors affecting international students’ satisfaction in the foundation course at IUT and to evaluate how their foundation course experience relates to their success in academic courses. From this broad aim, the study has the following specific objectives of the research are:

- a) To determine the primary factors that influence student satisfaction in foundation courses, including course content, instructional quality, and academic support.
- b) To analyze the relationship between student outcomes in Foundation course and students’ achievement in Academic courses.

Through these objectives, the research seeks to illuminate both the inputs to a successful foundation course (factors driving satisfaction) and the outputs (the connection between the foundation experience and later success).

1.4 Hypotheses

Hypothesis 1: Course content, instructional quality, and academic support in the foundation course significantly predict international student satisfaction.

This hypothesis posits that the major components of the foundation course, specifically the relevance of the course content, the quality of teaching, and the availability of academic support have a significant combined effect on students' satisfaction levels. In other words, if these elements are strong, students will report higher satisfaction; if they are weak, satisfaction will be lower. This will be statistically tested, for instance, by examining the contribution of each factor in a regression model of satisfaction.

H2: Students' achievement in the foundation course has a positive relationship with their academic performance in subsequent engineering courses.

This hypothesis asserts that students who perform well in the foundation course (indicating strong understanding and skills at the foundational level) tend to also perform well in their later academic courses, such as first-year engineering courses. It implies a positive correlation between foundation course grades and later GPA or grades. This will be tested by analyzing academic records to see if higher foundation results are associated with higher outcomes in the degree program.

These hypotheses will be tested using appropriate statistical methods (e.g., multiple regression for H1 and correlation analysis for H2) to determine whether the data support the expected relationships.

1.5 Significance of the Study

This study is important for several reasons, as it addresses both practical and academic needs. Improving educational practices at IUT. The results will provide university administrators and faculty members with evidence-based insights into successful aspects of the Foundation Program and areas that may need improvement. If certain factors (such as teaching quality or academic support) are found to significantly impact student satisfaction, IUT can prioritize investments and improvements in those areas such as training Foundation Program instructors, updating curriculum content, or enhancing support services such as tutoring and language labs. Improving student satisfaction in the Foundation Program is likely to increase student engagement and potentially reduce dropout rates, benefiting the university's overall performance and reputation. The study's focus on international student satisfaction indicates that these students often face unique challenges such as adjusting to a new cultural and academic environment. By identifying weaknesses or success factors, the university can create a more supportive and inclusive environment. This could include, for example, providing mentorship programs between senior students and new international students, or organizing cultural orientation programs steps that foster a sense of belonging and thus increase satisfaction John & Ahsun, (2025). Ultimately, when students feel satisfied and supported, they are more likely to succeed academically and personally, achieving their potential during their time at Islamic University of Technology. From a scholarly perspective, this research will contribute to the knowledge on student satisfaction and academic success in the context of foundation programs, particularly in developing countries. Much of the existing literature on foundation programs and international student satisfaction comes from other countries therefore, a case study from Bangladesh (Islamic University of Technology) adds a new geographical and cultural dimension to this discussion. The study could establish or challenge whether known factors (such as teaching quality or sense of community) hold similar importance in this context, and whether the hypothesized link between early satisfaction and later success is observable.

The findings of this research may extend beyond the confines of IUT. Other institutions in the OIC network or in Asia that host international students and offer foundation courses could benefit from these findings. For example, if the study finds a strong correlation between

foundation program performance and degree performance, it would underscore the importance of investing in high-quality foundation curricula for long-term gains. If specific factors such as “academic support” emerge as a critical factor, universities may develop more robust support infrastructures in the early stages of study. For educational policymakers, the research highlights how student satisfaction measures can be used as early warning signals or performance indicators of student success. Student satisfaction is not just about maintaining student satisfaction in the short term; it is also linked to tangible outcomes such as retention and academic achievement. This perspective could encourage a more student-centered approach to designing foundational education policies and programs.

In summary, this study is significant because it aims to improve an educational program that is at the core of student success at Islamic University of Technology and the universities of the similar context worldwide. By bridging knowledge gaps and providing practical recommendations, this research can benefit students, educators, and the broader academic community concerned with improving international student experiences and outcomes.

1.6 Organization of the thesis

This thesis is organized into six chapters. Chapter 1 gives the background of the study, research aims, hypothesis, significance of the study, assumptions, research questions, and definition of the terms. Chapter 2 examines the relevant literature for the study. Chapter 3 provides the methodologies used in this study. Chapter 4 provides the analysis of data collected from online questionnaires. Chapter 5 presents a discussion of the findings, Chapter 6 Limitations and future research directions.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In particular, the foundation courses and the impact they have on subsequent academic achievement were the focus of this literature study, which attempted to review and synthesize the existing state of information about the academic success of foundation courses and their associated impact on international students Andrade (2006). Students at all levels, particularly those who come from a variety of different backgrounds, are better prepared to meet the academic requirements of higher institutions when they participate in foundation programs. IUT, in particular, being an international university, and its students come from a variety of regions all over the world that are members of the Organization for Islamic Cooperation (OIC). In this particular field, it is impossible to overstate the importance of determining the present state of knowledge and the current state of affairs. In order to gain a better understanding of the relationship between student satisfaction with foundation courses and student success in degree programs, this chapter conducts an investigation into the existing literature and theoretical foundations concerning student satisfaction with foundation courses. There is a separate group of students that are influenced by both general educational elements and those that are specific to their foreign setting. This group is comprised of international students because of the distinctive cultural, social, and academic experiences that they have had. According to Martirosyan et al. (2019). it is essential for international students to enroll in these courses, especially those who encountered linguistic, social, and cultural obstacles or barriers.

2.2 Factors Affecting Student Satisfaction in Higher Education

2.2.1 Teaching Quality and Instructional Methods

According to a study by Maxwell, P. A. A, (2022), the path analysis of the structural model brought to light a number of significant elements, including the institution's policies regarding industry-institution collaboration, faculty engagement, student background, student-teacher ratio, collaborative research, faculty professional capabilities, and the existence of quality assurance cells or agencies. It is important to note that higher education institutions' physical environments have a big positive impact on teachers' performance. The backgrounds of students have no bearing

on the efficacy of professors. In the structural model's path analysis of significant determinants, faculty professional capabilities and collaborative research came in first, followed by student background, quality education, the student-teacher ratio, and faculty engagement; most importantly, the existence of quality assurance cells or agencies, institution policies, industry-institution collaboration, and so forth. The physical environment in colleges affects how successfully instructors perform their duties. The quality of instruction is another critical factor influencing student satisfaction.

A study showed that successful teaching determines how well students understand concepts and creates an environment that is good for learning. A study found that students were more likely to be satisfied with their teachers if they thought they were knowledgeable and interesting Maxwell (2022). Because of this, teachers should be well-trained to deal with the problems by using open teaching methods

2.2.2 Social Integration and Peer Interactions

The results of a study by Hang et al. (2023) that looks at how students go through academic, social, and ethnic cultural changes as they grow up show that these changes help students become more global citizens and build their intercultural identities over time. The results of this study look at how students go through academic, social, and ethnic cultural changes as they grow up show that these changes help students become more global citizens and build their intercultural identities over time. However, this study has problems with the way the samples were chosen. More research needs to be done on how students from other countries make cultural changes and grow as people from different cultures.

2.2.3 Academic Assistance Services

Mangmeechai (2019). discovered that international students' age, continent, income, education level, religion, ethnicity, and status all affect their input, which includes teachers' education, research experience, and teaching methods. Institutional factors like location, climate, and

environment also play a role, as do cultural factors like the opportunity to learn about different cultures, as well as immigration laws and regulations.

2.3 Foundation Programs in Higher Education

The purpose and structure of Foundation Programs are to help international students adapt to a new academic setting. Foundation programs also offer opportunities for social integration and cultural orientation. International students who were recommended to pursue this program by the entrance exam committee must complete the foundation program at IUT to fulfil the academic requirements of their degree programs. The course is designed to fill in the gap in students' knowledge and get them ready for the demanding coursework of engineering and technology programs. For international students at IUT, many of whom come from diverse linguistic and cultural backgrounds, the foundation course is a crucial tool for facilitating this transition.

More context-specific empirical studies are needed, according to some research. The reason behind this is that previous research has shown that foundation programs can help students from a variety of educational backgrounds who may not have received enough cultural integration training. This void is also present at IUT as a place of higher education. The results of a study by Haddad (2021) indicate that it is necessary to establish it as a prerequisite for the enhancement of undergraduate education, as well as the refinement and development of foundational education. This is to enhance the interest and motivation of students during the learning process by refraining from direct instruction and instead focusing on the significance of expanding the diversity of foundation courses to foster a strong connection with the learners. Similarly, the necessity of a comprehensive approach to cultural diversity necessitates the organization of a diverse array of cultural activities that foster a collaborative environment among stakeholders, including student-teachers, national, and international students.

This approach will assist students in overcoming the isolation they experience when living in a different country, thereby fostering a sense of belonging Haddad(2021) Likewise, research by Jones, Fleischer, McNair, & Masika (2020), explains that many first-year international undergraduates experience the following: strong working relationships with peers and staff;

motivating and collaborative learning, teaching, and support during the first-year transition in HE; encouraging social support networks; and a strong sense of student identity, resilience, and engagement linked to success.

The results indicate that international students are more adequately equipped to navigate the initial year of their degrees when they have previously participated in an IFY at a pathway college. Nevertheless, transition can be a difficult process for all international students, as they may encounter significant obstacles. Once more, this is associated with the notion that the evolution of student identity is linked to the development of institutional habitus, which occurs over time. It added that, it is imperative that the United Kingdom and other international universities and partner pathway colleges collaborate to improve the current state of good practice in learning teaching and support, as outlined above, and to address the disparities between students from varying ethnic and national backgrounds. Both partners can accomplish this by promoting student integration within the broader context of internationalization and social justice, thereby assisting all students in becoming global citizens within the future.

2.4 Research on Satisfaction in Foundation Courses

2.4.1 Studies in International Contexts

It was also discovered that factors like peer interactions, language support, and cultural integration all have an impact on satisfaction, all of which are critical for students making the move to a new country for higher education Gee, (2018) Rujiprak (2016). This is quite the case, as a study by Martirosyan et al. (2019) indicates that some U.S. universities that accept more foreign students provide a range of specialized services aimed at assisting students with language development, academic success, and social adjustment in ways that may increase retention and engagement among international students. These efforts demonstrated some level of academic support, language competency, and cultural adjustment, all of which aimed to ensure the smooth running of the programs. As observed in a study by Andrade (2006), such assistance affects how satisfied overseas students are with foundation programs since they frequently come from various educational backgrounds. Impact: According to a study by Martirosyan et al. (2019), both of the top colleges with the most international students are renowned for offering comprehensive academic and social support services to international students, even though the rankings do vary.

Likewise, new student orientations, academic counselling and advice, academic pointers, workshops, and webinars on academic life in the US, tutoring, and extra instruction were all part of the programs. Unsurprisingly, new student orientation, often held when foreign students arrived on campus, was the most popular event. Everyone was required to attend these orientations. Although counselling and advising were also available, some of the sampled institutions did not mention this information on their International Office webpages, making it difficult for international students to obtain. Likewise, the same report also noted that colleges may want to think about providing financial aid in the form of internships and work-study programs. In addition to helping foreign students with their financial requirements, these options would also make it easier for them to adapt socially and actively participate in campus life. Therefore, since IUT is a higher education institution like its global counterparts, international students, especially those from non-English-speaking countries are required to complete foundation courses in chemistry, English, mathematics, and physics before progressing to their main engineering degrees. This requirement is added to the monthly allowances issued to each and every student.

2.4.2 Language Barriers and Their Effect on Satisfaction

Language proficiency is one of the most significant barriers for international students. Hang (2023) argue that students who are not proficient in the language of instruction may find it difficult to follow lessons, participate in discussions, and complete assignments. This can lead to feelings of frustration, isolation, and low academic confidence, all of which can decrease satisfaction levels. To address this challenge, many foundation programs, including those at IUT, offer intensive language courses and support to help international students improve their English proficiency before they begin their degree programs. By focusing on language development alongside academic subjects, these programs aim to reduce the impact of language barriers on students' satisfaction and academic success.

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2.6 Research on Satisfaction in Foundation Courses

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It was also discovered that factors like peer interactions, language support, and cultural integration all have an impact on satisfaction, all of which are critical for students making the move to a new country for higher education Gee,(2018) Rujiprak,(2016). It has been demonstrated that the level of academic support, language competency, and cultural adjustment all affect how satisfied overseas students are with foundation programs in Bangladesh, since they frequently come from various educational backgrounds. This chapter's subsequent sections will look at research conducted at IUT, including studies that aim to give a deeper regional knowledge of these aspects. sounds.

2.7 Summary and Research Gaps

This chapter examines key elements that affect the satisfaction of international students with foundation courses. It emphasized that factors such as the general classroom environment, the efficacy of teaching methods, the quality of academic and language support services, and the readability and relevance of materials all influence students' perceptions of the world. Much of the existing literature has concentrated on western institutions or generalized higher education settings, offering limited insight into the distinctive challenges and support needs of international students at institutions in the developing countries like the Islamic University of Technology (IUT) in Bangladesh. This gap is particularly evident in the lack of empirical studies that examine how satisfaction during the foundation course relates to academic performance in later undergraduate courses Martirosyan et al., (2019). This study aims to address this gap by examining the factors that influence international students' satisfaction in foundation courses at an engineering focused University and analyzing the correlation between satisfaction in the foundation course and academic achievement in the engineering degree programs.

Chapter 3: Methodology

3.1 Introduction

This chapter describes the approach used to investigate the elements affecting the Islamic University of Technology (IUT) in Foundation Program satisfaction of international students and how it relates to their academic achievement in later undergraduate courses. In order to address the study objectives and hypotheses outlined in Chapter One, the methodologies selected are based on best practices in educational research. The research design, population, sample, instruments, data collection methods, and data analysis techniques are all covered in detail in this chapter.

3.2 Research Design

This investigation used a quantitative correlational research design. In a non-experimental context, this approach works well for testing hypotheses and investigating correlations between variables. The researcher can use it to ascertain whether and how much factors including student accomplishment, academic support, teaching quality, and course content are statistically associated with academic outcomes and satisfaction (Creswell, 2009). When used with large student populations, quantitative methods also yield results that are statistically sound and generalizable (Bryman, 2016). In order to facilitate comparison and correlational analysis, academic achievement records were supplemented with self-reported data on satisfaction and influencing factors obtained using a survey approach. And for Research Site The study was conducted at the Islamic University of Technology (IUT), located in Gazipur, Bangladesh. IUT is a subsidiary organ of the Organization of Islamic Cooperation (OIC), serving students from over 57 member states. It provides both undergraduate and postgraduate education in engineering, science, and technical education. The university's Foundation Program was chosen as the focal point of this study because it serves as a preparatory stage for international students entering undergraduate programs. This site was selected as it offers a diverse student body representing multiple cultural, linguistic, and academic backgrounds, thereby making it a suitable environment for investigating the relationship between student satisfaction and subsequent academic success.

3.3 Research Population

All International undergraduate students at IUT who have finished the Foundation Program and are presently enrolled in academic programs make up the study population. These students add to the multicultural atmosphere at the university because they are from different OIC member nations. This group was chosen as the perfect subjects for this study because they had firsthand knowledge of both the Foundation Program and the shift to academic coursework.

3.4 The Sampling Method and Sample

The sample will include all existing international students who attended the foundation course at IUT. To ensure diversity in the sample, students of different geographical locations, linguistic backgrounds, and genders will be included. Purposive sampling, a type of non-probability sampling that is suitable when the research calls for particular knowledge or experience from participants, was employed in this study Bryman,(2016) Etikan et al., (2016). The only pupils considered were those who had finished the Foundation Program and continued on to their undergraduate studies. Out of the approximately 150 qualified pupils, 104 students were involved in total, guaranteeing a manageable and representative sample for statistical analysis. To guarantee equitable representation, departmental and academic year stratification was used.

3.5 Resources for Research

To gather primary data, a systematic questionnaire was created. There were two portions to it: Section A: Information on demographics (gender, age, nationality, etc.) Section B: Factors influencing satisfaction, assessed using a 5-point Likert scale, include instructional quality, academic support, and overall satisfaction. Course content and Instructional quality, academic support, and satisfaction the items were modified for the IUT setting based on validated scales that had been utilized in earlier research. In order to facilitate the examination of performance continuity, academic records were also gathered with the participants' consent in order to determine the students' Foundation program and their academic year CGPA.

3.6 Data collection

A survey instrument was used to gather data related to each construct, such as course content, instructional quality, academic support, and satisfaction Al-Sheeb et al.,(2018). The data collection was done with consent from the relevant authorities. The consent to administer the questionnaire to the students was sought from either the heads of department or lecturers of participating sections of students. The questionnaire was distributed. The questionnaire online Google form was sent through their email and WhatsApp group, and was adapted from the work of Weerasinghe and Fernando (2017) and Wilkins et al. (2012). The questionnaire consists of 20 items seeking to investigate and examine the factors affecting international students' satisfaction in foundation courses and their success in academic courses at IUT.

3.7 Data analysis

For the first hypothesis, multiple regression analysis was used to predict the factors responsible for student satisfaction. For the second hypothesis, Pearson's correlation test was used to verify the relationship between students' achievement in the foundation course and their achievement in the academic course. SPSS version 27 was used to administer these tests and to analyze the data. The following statistical methods were used: Descriptive statistics for demographic and satisfaction information (mean, standard deviation, and frequencies). Multiple linear regression was used for testing. Hypothesis 1: Does student happiness generally depend on peer interaction, academic support, teaching quality, and course content? Pearson's correlation coefficient to test the second hypothesis: The relationship between the cumulative GPA of the academic years and their achievement in the foundation course. Key assumptions of the regression model were evaluated, such as multicollinearity, linearity, and homogeneity of variance. A p-value of less than 0.05 was considered statistically significant.

CHAPTER 4: DATA ANALYSIS AND INTERPRETATION

This chapter presents the findings of the statistical analyses conducted to examine the hypotheses formulated in this study. The primary objective is to evaluate how factors such as course content, instructional quality, and academic support influence international students' satisfaction with the Foundation Program, and to assess whether achievement in the Foundation course predicts subsequent academic performance in undergraduate engineering courses.

The analysis is organized around the two hypotheses. For Hypothesis 1, reliability testing, correlation analysis, and multiple regression were employed to determine the extent to which course-related factors explain student satisfaction. For Hypothesis 2, Pearson correlation and simple linear regression were used to test the relationship between Foundation Course marks and cumulative grade point average (CGPA). Statistical assumptions were examined prior to the analyses to ensure validity and reliability of results. The chapter is structured to first present results for Hypothesis 1, followed by Hypothesis 2, with tables and figures included to illustrate key findings and their interpretation.

Hypothesis 1 (H1): *Course content, instructional quality, and academic support in the foundation course significantly predict international student satisfaction.*

Table 1

Reliability of Study Constructs

Scale	Cronbach's α	No. of Items
Course Content	.797	5
Instructional Quality	.766	5
Academic Support	.760	5
Student Satisfaction	.803	5

Table 1 shows the reliability of the constructs. All scales demonstrated acceptable to good internal consistency ($\alpha = .76-.80$), exceeding the recommended .70 threshold. Item-total statistics showed

that deleting items would not substantially improve alpha values, indicating that all items contributed positively. Therefore, the scales were considered reliable for subsequent analyses.

Table 2

Correlations Among Variables

Variable	1	2	3	4	No. of Items
1. Student Satisfaction	—	.630**	.668**	.760**	5
2. Course Content		—	.721**	.685**	5
3. Instructional Quality			—	.645**	5
4. Academic Support				—	5

Note. $p < .01$.

Table 2 shows the correlation among the variables. Student satisfaction showed strong, positive correlations with course content ($r = .63$), instructional quality ($r = .67$), and academic support ($r = .76$). These findings suggest that as students' perceptions of these factors improve, their overall satisfaction also increases. The predictors were also interrelated, which justifies the use of regression to examine their unique effects.

Table 3

Multiple Regression Predicting Student Satisfaction

Predictor	B	SE B	β	t	p
Constant	.342	.252	—	1.36	.177
Course Content	.064	.101	.061	0.63	.529
Instructional Quality	.297	.098	.276	3.02	.003
Academic Support	.557	.090	.540	6.20	.000

Model summary: $R = .796$, $R^2 = .633$, Adjusted $R^2 = .622$, $F(3,100) = 57.60$, $p < .001$.

Table 3 shows the multiple regression result predicting student satisfaction. The regression model was significant and explained 63.3% of the variance in student satisfaction. Academic support (β

= .54, $p < .001$) and instructional quality ($\beta = .28$, $p = .003$) were significant predictors, while course content was not ($\beta = .06$, $p = .53$). This indicates that student satisfaction is strongly driven by **academic support** and **instructional quality**, while course content plays only an indirect role. Regression diagnostics confirmed that assumptions of normality, linearity, and multicollinearity were adequately met.

Table 4

Independent Samples t-test for Student Satisfaction by Gender

Gender	N	M	SD
Male	92	3.43	.91
Female	12	3.48	.60

There was no significant difference in student satisfaction between male and female students, $t(102) = -0.19$, $p = .85$. The effect size (Cohen's $d \approx -0.06$) was negligible, indicating that gender does not meaningfully influence satisfaction. The relatively small female sample ($n = 12$) reduces power, but the confidence interval suggests that even with more participants, gender differences would likely remain minimal.

Conclusion for H1

Student satisfaction is strongly driven by academic support and instructional quality, while course content plays only an indirect role.

Hypothesis 2 (H2): *Student achievement in the Foundation course has a positive relationship with their academic performance in engineering courses.*

In this study, Foundation Course marks served as the predictor, and cumulative grade point average (CGPA) served as the outcome.

To evaluate H2, we first examined the bivariate association using Pearson's product-moment correlation, which is appropriate when both variables are continuous, and the relationship is expected to be linear. We then estimated a simple linear regression model (CGPA predicted by

Foundation Course marks) to quantify the extent to which achievement in the Foundation course explains variance in CGPA and to obtain an interpretable slope (i.e., expected CGPA change per one-point increase in marks). This two-step approach (correlation → regression) provides both strength/direction of association and predictive utility.

Assumption Checks (conducted prior to analyses)

All assumptions for Pearson correlation and OLS regression were assessed before running the main analyses:

Level of measurement & independence. Both variables are continuous and represent independent observations (student-level data with no clustering by section/instructor).

Linearity. A scatterplot of CGPA (Y) on Foundation Course marks (X) indicated an approximately linear upward trend; no curved pattern was evident.

Normality of residuals (regression). The standardized residuals were approximately normally distributed based on Q–Q plot inspection; the Shapiro–Wilk test was non-significant at $\alpha = .05$, supporting normality for purposes of inference.

Homoscedasticity (regression). The plot of standardized residuals versus fitted values showed roughly constant spread across the range of predicted CGPA, indicating homoscedasticity.

Outliers and influence. No case exceeded $|3.0|$ on standardized residuals; Cook's distances were all < 1.0 , suggesting no influential observations driving the results.

Given these checks, the data met the assumptions for both Pearson correlation and simple linear regression; therefore, planned analyses proceeded.

Bivariate Association

A Pearson correlation analysis tested the directional hypothesis that higher Foundation Course achievement is associated with higher CGPA. Results showed a statistically significant, positive association, $r = .416$, $p < .001$, $N = 104$, indicating that students with stronger performance in the

Foundation course tend to achieve higher CGPAs in engineering coursework. By conventional benchmarks (small $\approx .10$, medium $\approx .30$, large $\approx .50$), $r = .416$ reflects a moderate relationship.

Table 1

Bivariate Correlation Between Foundation Course Marks and CGPA (N = 104)

Correlations		CGPA	FC_marks
CGPA	Pearson Correlation	1	.416**
	Sig. (2-tailed)		.000
	N	104	104
FC_marks	Pearson Correlation	.416**	1
	Sig. (2-tailed)	.000	
	N	104	104

** . Correlation is significant at the 0.01 level (2-tailed).

Predictive Model (Simple Linear Regression)

To quantify predictive utility, an Ordinary Least Squares (OLS) regression was fitted with CGPA as the dependent variable and Foundation Course marks as the sole predictor. The model was **statistically significant**, $F(1, 102) = 21.34$, $p < .001$, and explained **17.3%** of the variance in CGPA ($R^2 = .173$; adjusted $R^2 = .165$). The unstandardized slope was **B = 0.017** (SE = 0.004), 95% CI [0.009, 0.024], indicating that each additional **1 point** in Foundation Course marks was associated with an expected **0.017 increase in CGPA**, holding other factors constant. The standardized coefficient was **$\beta = .416$** , $t = 4.62$, $p < .001$. These findings corroborate H2 and suggest that Foundation Course achievement is a meaningful predictor of subsequent academic performance.

Comprehensive model statistics (Model Summary, ANOVA, and Coefficients) are reported in Table 2

Table 2

SPSS output of the Model Summary, ANOVA and Coefficients Table Simple Linear Regression Predicting CGPA From Foundation Course Marks (N = 104)

Model Summary

Model	R	R Square		Std. Error of the Estimate	R Square Change	Change Statistics			Sig. F Change
			Adjusted			F Change	df1	df2	
1	.416 ^a	.173	.165	.65199	.173	21.341	1	102	.000

a. Predictors: (Constant), FC_marks

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.072	1	9.072	21.341	.000 ^b
	Residual	43.360	102	.425		
	Total	52.432	103			

a. Dependent Variable: CGPA

b. Predictors: (Constant), FC_marks

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	
		B	Std. Error	Beta			Lower Bound	Upper Bound
1	(Constant)	1.039	.238		4.364	.000	.566	1.511
	FC_marks	.017	.004	.416	4.620	.000	.009	.024

a. Dependent Variable: CGPA

Note. SEE = standard error of estimate. CI = confidence interval. Statistics reproduce the SPSS output for Hypothesis 2.

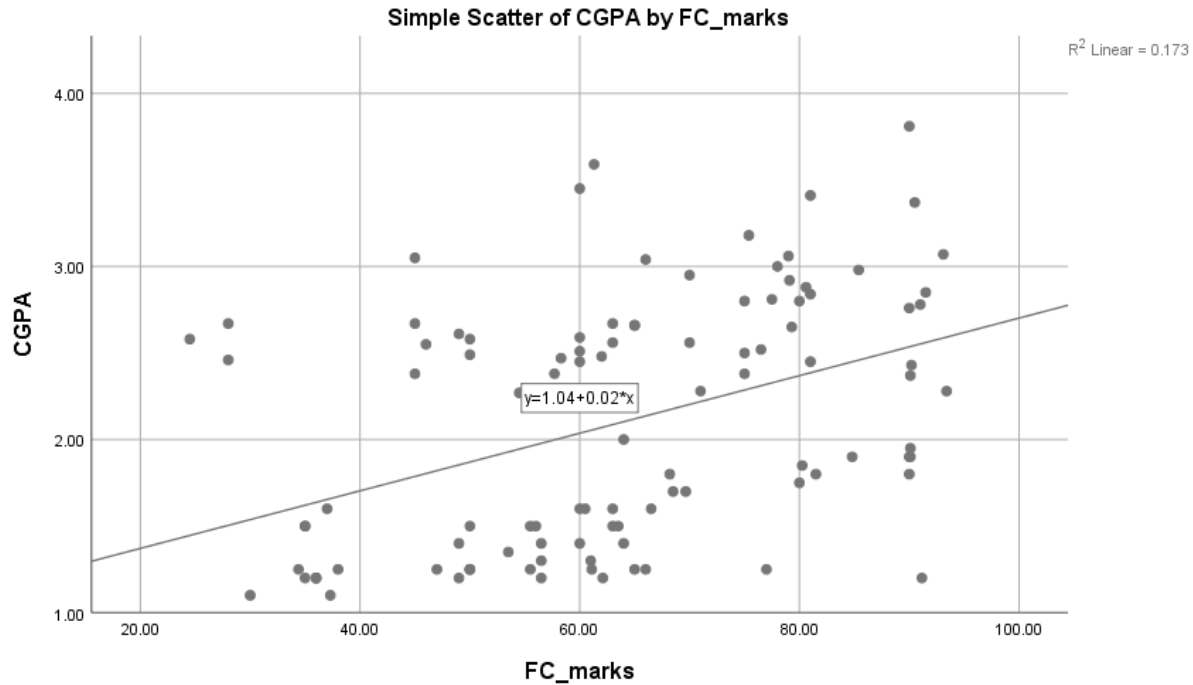


Figure 1. Scatterplot of CGPA by Foundation Course marks with fitted regression line. *Caption.* Points represent individual students (N = 104). The fitted line illustrates the positive linear relation between Foundation Course achievement and CGPA.

A Pearson correlation indicated a significant positive association between Foundation Course marks and CGPA, $r = .416$, $p < .001$ (N = 104). A subsequent simple linear regression confirmed the model's significance, $F(1, 102) = 21.34$, $p < .001$, explaining 17.3% of the variance in CGPA ($R^2 = .173$). Foundation Course marks significantly predicted CGPA ($B = 0.017$, $SE = 0.004$, $\beta = .416$, 95% CI [0.009, 0.024], $p < .001$), such that each additional point in Foundation Course marks was associated with an expected 0.017-point increase in CGPA. These results support Hypothesis 2, indicating that stronger performance in the Foundation course is linked to higher academic performance in engineering courses.

Conclusion for H2

Both the correlation and regression analyses support **Hypothesis 2**: higher Foundation Course marks are positively and significantly related to and predictive of higher CGPA in engineering courses. The effect size indicates a practically meaningful association in this context.

Conclusion

The analyses conducted in this chapter provide strong evidence in support of the study's hypotheses. Results from Hypothesis 1 revealed that international student satisfaction in the Foundation Program is significantly predicted by academic support and instructional quality, while course content, although positively correlated, was not a significant independent predictor. This finding underscores the critical role of institutional and instructional support in shaping the student experience.

For Hypothesis 2, the results confirmed a significant, positive relationship between Foundation Course achievement and undergraduate academic performance (CGPA). Students who performed better in the Foundation Program tended to achieve higher grades in their engineering courses, demonstrating the preparatory program's importance in building a strong academic foundation.

Taken together, these findings highlight the dual importance of both academic support mechanisms and students' foundational performance in influencing long-term academic success and satisfaction. The chapter establishes that while effective teaching and support services directly enhance satisfaction, the Foundation Program's role as a predictor of future academic performance is equally crucial. These results provide an empirical basis for the recommendations and implications discussed in the next chapter.

CHAPTER 5: DISCUSSION

5.1 Overview and Summary of Key Findings

This study aimed to identify the features of the Foundation Program at Islamic University of Technology (IUT) that most influence international student satisfaction and whether performance in this program predicts subsequent academic success in engineering programs (Umar & Hasan). Analyses reveal three main findings. First, the questionnaire measures demonstrated acceptable internal consistency (Cronbach's alpha values ranging from 0.76 to 0.80). Second, academic support and teaching quality were the most statistically significant predictors of student satisfaction, while course content did not contribute significantly when other indicators were included in the model (academic support $\beta \approx 0.54$; teaching quality $\beta \approx 0.28$; course content $\beta \approx 0.06$). The model explained approximately 63% of the variance in satisfaction ($R^2 \approx 0.633$). Third, foundation course grades were positively related to subsequent GPA ($r = 0.416$) and accounted for approximately 17.3% of the variance in GPA in a simple linear regression ($R^2 = 0.173$).

5.2 What the predictors tell us about the student experience

5.2.1 Academic support as a primary driver

That academic support came out as the strongest predictor is an important and practically useful finding. International students entering the Islamic University of Technology (IUT) are heterogeneous in prior schooling, language skills, and familiarity with local pedagogic conventions; accessible, timely support in the form of targeted tutoring, language help, mentoring, and academic advice and therefore appears to be what students notice first and value most (Al-Sheeb et al., 2018; Biswas et al., 2023). In short, when students feel they can find help easily and that help addresses their immediate learning gaps, their overall judgment of the Foundation experience improves substantially. This is consistent with studies showing that early scaffolding reduces anxiety and improves engagement for international cohorts.

5.2.2 Instructional quality: the multiplier effect

Instructional quality also made an independent contribution. Where instructors present material clearly, scaffold learning, and use student-centered techniques, students are more satisfied. Good teaching does more than convey content: it helps students make sense of material, use available supports more effectively (for example, clearer feedback reduces the frequency of repeat consultations), and fosters a classroom climate that promotes confidence and participation Apolot, (2022). In the IUT context, improving pedagogical practice for Foundation teachers therefore has the potential to amplify the benefits of academic support.

5.2.3 Why the course content did not appear as a unique predictor

Course content showed bivariate associations with satisfaction but lost statistical significance in the regression model. There are several plausible reasons. One is conceptual: content relevance matters only to the extent students can access, understand, and apply it tasks that depend on teaching and support Wang & Song, |(2022). Another reason is measurement overlap students' judgments about content may be conflated with judgments about how the content was taught (instructional quality) or whether help was available (academic support).

Finally, for incoming international students confronting immediate linguistic and study-skill barriers, judgments about curricular breadth may be secondary to concerns about clarity and support. This does not imply content is unimportant; rather, its effect on satisfaction seems to operate largely through teaching and support mechanisms.

5.3 Practical implications for IUT (and similar institutions)

1. Invest in structured academic support. Given the outsized effect of support on satisfaction, IUT should consider scaling peer tutoring, regular drop-in clinics for mathematics and English, and a formal mentoring program for new internationals.
2. Targeted faculty development. Short, hands-on training for Foundation instructors on inclusive pedagogy, formative feedback, and language-sensitive instruction is likely to raise instructional quality quickly.
3. Integrate content, pedagogy, and support, not only curriculum revision. Rather than remodeling syllabus topics alone, align curriculum sequencing with scheduled support sessions and assessment practices so that difficult topics have immediate scaffolding.

4. Use Foundation marks as an early-warning system. Because Foundation performance predicts CGPA to a meaningful degree, academic counsellors can use low Foundation marks to triage interventions in the first year.

5.4 Concluding Comments

Overall, the evidence from this study suggests that **human and structural support for learning**, along with the **quality of instruction**, are just as critical as the curriculum itself in shaping international students' satisfaction within the Foundation Program at the Islamic University of Technology (IUT). The findings demonstrate that student satisfaction is not determined solely by the course content but is deeply influenced by the effectiveness of instructional delivery, the accessibility of academic support services, and the overall educational environment provided to learners. Students who receive engaging instruction, constructive feedback, and consistent academic guidance are more likely to develop confidence, satisfaction, and motivation that lead to improved performance in their subsequent academic programs. In contrast, even a well-designed curriculum may fall short of achieving its goals if it is not supported by competent instruction and adequate learning resources.

Therefore, program improvements that prioritize **academic support mechanisms**, **faculty professional development**, and **student-centered pedagogical approaches** represent the most effective and sustainable path toward enhancing both student satisfaction and academic achievement. The findings further imply that investment in faculty capacity-building, structured mentoring, and tutoring programs can significantly contribute to a supportive learning ecosystem for international students.

In conclusion, aligning human, structural, and instructional elements with the academic objectives of the Foundation Program will ensure that international students are not only equipped with the necessary academic knowledge but also supported holistically throughout their educational journey. Such alignment will enhance their overall satisfaction, strengthen their preparedness for undergraduate studies, and ultimately promote long-term academic success at IUT.

CHAPTER 6: LIMITATIONS AND FUTURE RESEARCH DIRECTION

6.1 Summary of Key Limitations

6.1.1 Individual Sample and Purposive Sample

This research relied on a sample of international students at a single university (IUT) using the purposive sampling procedures described in Chapter 3. Because the sample comes from a single institutional context with a specific student body and program structure, the results should be generalized to other universities, different countries, or to domestic students with caution Bryman, (2016) Kineber et al., (2024). Institutional differences in curriculum design, support systems, and student services may produce different patterns elsewhere.

6.1.2 Sample Composition and Power of Subgroups

Although the overall sample size ($n \approx 104$) was sufficient for the main regression and correlation analyses, some subgroups were small, particularly female students ($n = 12$). Small subgroup sizes reduce the statistical power to detect differences between groups and limit confidence in subgroup inferences. When comparisons of gender or nationality are important, a larger, more balanced sample is required to make strong claims.

6.1.3 Cross-sectional Design and Causal Inference

Because the study is cross-sectional and measured at a specific point in time, caution must be exercised when making causal claims. While Foundation Stage grades predict subsequent GPA in the available data, alternative explanations (such as prior differences in the quality of prior education, motivation, or unmeasured factors) may account for some of this association. Longitudinal designs that follow students from pre-admission through successful semesters would allow for stronger causal inference Creswell, (2009).

6.1.4 Reliance on Self-Report for Key Predictors

Many predictors (educational quality, perceptions of academic support, and satisfaction) were obtained through self-report. Self-report measures are susceptible to social desirability bias and shared methodological variance, which can inflate associations between concepts. Although objective outcomes (foundation grades and GPA) were included to validate the findings, future studies should combine self-report with observational or administrative measures whenever possible.

6.3 Concluding Comments on Future Directions

This study provides a solid and realistic starting point for understanding how academic support, instructional quality, and course structure influence international students' satisfaction and academic success at the Islamic University of Technology (IUT). The evidence clearly indicates that academic support and instructional quality play a more significant role than course content in shaping students' satisfaction in the Foundation Course. Furthermore, the positive relationship between foundation achievement and subsequent academic performance underscores the critical role that well-designed preparatory programs play in facilitating long-term academic success.

Future research should aim to extend these findings beyond the current single-institution, cross-sectional design. Longitudinal studies tracking students from their foundation phase through their undergraduate programs would help to better establish causal relationships between satisfaction, support, and achievement. Additionally, multi-site studies across other universities offering similar foundation programs could enhance the generalizability of the findings, allowing for comparative analysis across different cultural and institutional contexts.

Methodologically, future studies may also adopt mixed-method approaches, integrating qualitative interviews or focus groups to capture students' lived experiences and contextual nuances that quantitative data alone may overlook. Moreover, interventional studies that test the effectiveness of specific academic support strategies—such as mentoring systems, peer-assisted learning, or faculty development programs—could provide valuable, evidence-based guidance for policy and curriculum reform.

At a practical level, IUT and similar institutions should continue to invest in faculty training, structured academic support, and student-centered pedagogical innovations. These modest yet evidence-based initiatives represent low-risk, high-return strategies to strengthen students' satisfaction, retention, and academic success. By embracing these directions, the Foundation Program can evolve from a transitional phase into a strategic platform for sustained academic excellence and global competitiveness among international students.

References

- Aicha, O. A. (2018). *The effects of service quality on students' satisfaction, associated with the academic performance in higher education*
- Al-Sheeb, B., Hamouda, A. M., & Abdella, G. M. (2018). Investigating determinants of student satisfaction in the first year of college in a public university in the state of Qatar. *Education Research International*, 2018(1), 7194106.
- Alamri, M. S. (2023). *Higher Education Internationalization and Institutional Quality of Saudi Colleges and Universities in Light of the Saudi Vision 2030 of Educational Improvement*. Wayne State University.
- Albazie, H. A. (2023). *Factors affecting the use of e-learning in Saudi Arabia: an analysis of academics' perspectives* University of Glasgow].
- Alqurashi, E. (2016). Self-efficacy in online learning environments: A literature review. *Contemporary Issues in Education Research (Online)*, 9(1), 45.
- Andrade, M. S. (2006). International students in English-speaking universities: Adjustment factors. *Journal of Research in International education*, 5(2), 131-154.
- Apolot, J. M. (2022). *Quality indicators for sustainable early childhood education programmes from a community perspective: a case of Karamoja region* Kyambogo University [unpublished work]].
- Biswas, K., Bose, S., Chang, M., & Shams, S. (2023). Determinants and consequences of student satisfaction in Australian Universities: Evidence from QILT Surveys. *Accounting & Finance*, 63(2), 1821-1850.
- Bryman, A. (2016). *Social research methods*. Oxford university press.
- Cai, L., Wilkins, S., Zhao, L., & Zhang, Y. (2024). Student identity in transnational higher education: International branch campuses versus Sino-foreign institutes. *Compare: A Journal of Comparative and International Education*, 1-19.
- Creswell, J. W. (2009). Research designs. Qualitative, quantitative, and mixed methods approaches.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. *American journal of theoretical and applied statistics*, 5(1), 1-4.
- Gee, N. C. (2018). The impact of lecturers' competencies on students' satisfaction. *Journal of Arts and Social Sciences*, 1(2), 74-86.
- Hang, Y. (2023). *Undergraduate Students' Intercultural Transitional Competence Development and Habitus Change During Academic, Social, and Ethnic Cultural Transitions* The University of Liverpool (United Kingdom)].
- Haddad, N., 2021. Philanthropic foundations and higher education: The politics of intermediary organizations. *The Journal of Higher Education*, 92(6), pp.897-926.
- John, A., & Ahsun, A. (2025). The Efficacy of University-Based Mentorship Programs in Enhancing the Socio-Cultural Acclimation of First-Year International Graduate Students in the USA.
- Jones, J., Fleischer, S., McNair, A. and Masika, R., 2020. The International Foundation Year and first year transition: building capital, evolving habitus, developing belonging, preparing for success. *Teaching in Higher Education*.
- Kineber, A. F., Elshaboury, N., Mostafa, S., Alasow, A. A., & Arashpour, M. (2024). Influence of massive open online courses implementation on satisfaction and continuance intention of students. *International journal of educational management*, 38(4), 1241-1261.

- Kocsis, Á., & Molnár, G. (2025). Factors influencing academic performance and dropout rates in higher education. *Oxford Review of Education*, 51(3), 414-432.
- Land, S., & Jonassen, D. (2012). *Theoretical foundations of learning environments*. Routledge.
- Letcher, D. W., & Neves, J. S. (2010). Determinants of undergraduate business student satisfaction. *Research in Higher Education Journal*, 6, 1.
- Li, Y., & Wang, C. (2024). Foundation programmes and international student satisfaction: Cases from the United Kingdom, Australia, and China. *Compare: A Journal of Comparative and International Education*, 54(8), 1290-1307.
- Martirosyan, N. M., Bustamantea, R. M., & Saxona, D. P. (2019). Academic and Social Support Services for. *Journal of international Students*, 9(1), 172-191.
- Maxwell, L. S. (2022). *Online Undergraduate Student Comfort, Community, Facilitation, and Collaboration as Predictors of Student Satisfaction*. Grand Canyon University.
- Mangmeechai, A., & Jirapornvaree, I. (2019). Factors influencing ASEAN and international students of higher education programs in Thailand. *Asian Social Science*, 15(9), 1-67.
- Petty, R. E., Luttrell, A., & Teeny, J. D. (2025). *The Handbook of Personalized Persuasion: Theory and Application*. Routledge.
- Rujiprak, V. (2016). Cultural and psychological adjustment of international students in Thailand. *The Journal of Behavioral Science*, 11(2), 127-142.
- Serrano-Sánchez, J., Zimmermann, J., Hahn, E., & Kuhlee, D. (2025). Life Satisfaction of International Students:(How) Do Study Demands, Institutional, and Individual Resources Matter? *Education Sciences*, 15(7), 918.
- Setiawan, M. E., Suwono, H., Alias, S. H., Sulisetijono, S., & Nur, H. (2025). Qualitative exploration of factors influencing the development of entrepreneurship courses in select Indonesian universities with fuzzy logic integration. *Qualitative Research Journal*, 25(2), 203-226.
- Smith, R. A., & Khawaja, N. G. (2011). A review of the acculturation experiences of international students. *International Journal of Intercultural Relations*, 35(6), 699-713.
- Umar, M., & Hasan, M. Predicting Students' Satisfaction with Academic Services at a Multicultural Engineering University in Bangladesh: A Multiple Regression Analysis. *PLoS ONE*.
- Wang, Y., & Song, J. (2022). The success of massive open online courses (MOOCs): An investigation on course relevance. *Communications of the association for information systems*, 51(1), 40.
- Weerasinghe, I. S., & Fernando, R. L. (2017). Students' satisfaction in higher education. *American journal of educational research*, 5(5), 533-539.
- Wilkins, S., Stephens Balakrishnan, M., & Huisman, J. (2012). Student satisfaction and student perceptions of quality at international branch campuses in the United Arab Emirates. *Journal of Higher Education policy and management*, 34(5), 543-556.
- Wolf, H.-H., Leithäuser, M., Maschmeyer, G., Salwender, H., Klein, U., Chaberny, I., Weissinger, F., Buchheidt, D., Ruhnke, M., & Egerer, G. (2008). Central venous catheter-related infections in hematology and oncology: guidelines of the Infectious Diseases Working Party (AGIHO) of the German Society of Hematology and Oncology (DGHO). *Annals of hematology*, 87(11), 863-876.
- Wong, W. H., & Chapman, E. (2023). Student satisfaction and interaction in higher education. *Higher Education*, 85(5), 957-978.

APPENDIX A: Letter to the Participants

Title of Thesis: Investigating the Factors Influencing International Students' Satisfaction in
Foundation Course and their success in academic Courses: A case of IUT

Dear participant,

My name is Najm Mogalli Nasser Nasser, Student ID:221031204, a national of Yemen. I am currently pursuing my master's degree at the Islamic University of Technology in Bangladesh. As part of my program requirements, I am required to conduct a study to find out the factors Affecting International Students' Satisfaction in Foundation Course and their success in academic Courses: A case of IUT

You are a part of a very small fraction of students that got the opportunity to study abroad. So, for my study, I am trying to find out Factors Affecting International Students' Satisfaction in Foundation Course and their success in academic Courses: A case of IUT and you being one of these lucky students, your response is very important to this research. therefore, your participation can help to further improve Study. Therefore, kindly, take your time and fill out the survey as carefully as you can.

Yours sincerely,

Najm Mogalli Nasser Nasser,

Student ID:221031204,

Department of Technical and Vocational Education,

Islamic University of Technology.

E-mail: najmmogalli@iut-dhaka.edu

APPENDIX B: Questionnaire

Questionnaires-adopted to a modified version of the Investigating Determinants of Student Satisfaction in the First Year of College in a Public University in the State of Qatar Developed by (Al-Sheeb et al., 2018) While the core structure of the original questionnaire is maintained, certain modifications have been made to align with the specific objectives of this research.

Likert scale used as follows:

[5] Strongly agree [4] Agree [3] Neutral [2] Disagree [1] strongly disagree

Gender: Male [] Female []

What are the primary factors that influence student satisfaction in foundation courses, including course content, instructional quality, and academic support?

1. Course content

No	Items	SA	A	N	D	SD
1.	The course content was well-organized and easy to follow.					
2.	The topics covered in this course were relevant to my academic and career goals.					
3.	The course materials (e.g., readings, handouts, slides) effectively supported my learning.					
4.	The course content was delivered in a way that kept me engaged and motivated.					
5.	The amount of content covered in this course was appropriate for its duration.					

2. Instructional quality

No	Items	SA	A	N	D	SD
1	The instructor communicated course objectives and expectations clearly					
2	The instructor demonstrated a strong understanding of the subject matter.					
3	The instructor effectively used examples and real-life applications to explain concepts					
4	The instructor provided timely and constructive feedback on assessments and assignments					
5	The instructor created a supportive and inclusive learning environment					

3. Academic support

No	Items	SA	A	N	D	SD
1	Academic support services (e.g., tutoring or writing labs) were accessible when I needed them					
2	The guidance provided by academic advisors helped me make informed decisions about my studies.					
3	The university offered sufficient resources to address my academic challenges					
4	I felt supported by the academic staff in achieving my learning goals.					
5	The availability of academic support services enhanced my overall learning experience					

4. Satisfaction

No	Items	SA	A	N	D	SD
1	I am satisfied with the overall quality of instruction in this course.					
2	I felt that my instructor was approachable and willing to help.					
3	I found the course content engaging and relevant to my interests or future goals.					
4	I was able to access all the necessary resources and support services during the course.					
5	Overall, I am satisfied with my experience in this course.					