

Enhancing Transportation Literacy Through English Language Acquisition

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Abstract. *This research investigates the impact of English language acquisition on transportation literacy among transportation management students. Through qualitative analysis of interviews and document analysis, the study explores how proficiency in English influences students' comprehension of key transportation concepts. The findings reveal that English language proficiency significantly enhances students' understanding of complex transportation topics, such as logistics, safety regulations, and multimodal transportation systems. Integrating effective language learning strategies, such as real-world scenarios and interactive activities, into transportation management courses can bridge the gap between language proficiency and transportation literacy. Additionally, innovative assessment methods, such as performance-based assessments, offer a more comprehensive approach to evaluating students' language proficiency and its application in transportation contexts. The study recommends ongoing professional development for educators, collaboration with industry partners, and the promotion of multilingualism to enhance transportation literacy among students. By adopting these recommendations, educational institutions can ensure that transportation management students are equipped with the necessary language skills to succeed in an increasingly globalised and diverse transportation industry.*

Keywords: *Transportation Literacy, English Language Acquisition, Transportation Management, Language Learning Strategies, Performance-based Assessments*

INTRODUCTION

The field of transportation management stands at the intersection of various disciplines, encompassing logistics, safety regulations, and multimodal transportation systems (Lei et al., 2017; Pallis, 2017). As the global transportation industry continues to evolve, proficiency in English language communication has become increasingly essential for transportation professionals to effectively navigate international markets, collaborate with stakeholders, and comply with regulatory requirements. However, despite the critical importance of English language skills in the transportation sector, there remains a notable gap in understanding how English language acquisition influences transportation literacy among students in transportation management programmes (Burns & Richards, 2018; Rahayu & Wirza, 2020). This research seeks to address this gap by investigating the relationship between English language acquisition and the development of transportation literacy among transportation management students.

The objectives of this research are multifaceted, aiming to provide a comprehensive understanding of the role of English language proficiency in transportation education (Braine, 2013). Firstly, the study aims to examine how proficiency in English impacts students' comprehension and grasp of key transportation management concepts, including logistics, safety regulations, and multimodal transportation systems. By conducting qualitative research

and descriptive analysis, the research seeks to elucidate the extent to which English language proficiency enhances students' ability to engage with and understand complex transportation topics. Secondly, the research aims to explore the potential integration of English language learning strategies into transportation management courses as a means to improve overall comprehension and proficiency. By identifying effective language learning strategies tailored to the specific needs of transportation management students, this research aims to contribute to the development of pedagogical approaches that foster both language acquisition and transportation literacy (Seltzer & los Ríos, 2018). Lastly, the study seeks to identify the most effective methods for assessing the impact of English language acquisition on transportation literacy. By evaluating existing assessment methods and proposing new approaches tailored to the unique context of transportation education, this research aims to provide valuable insights for educators and policymakers seeking to enhance transportation education programmes.

The gap analysis in existing literature underscores the urgency and significance of this research endeavour. While there is a wealth of literature exploring various aspects of transportation management, including logistics, safety regulations, and multimodal transportation systems, there remains a notable dearth of research examining the intersection of English language acquisition and transportation literacy (Loades, 2012). Existing studies tend to focus primarily on either transportation management or language acquisition separately, failing to fully capture the complex interplay between these two domains. Moreover, the few studies that do address this intersection often lack comprehensive empirical evidence or rely on anecdotal observations rather than rigorous qualitative analysis. As such, there is a critical need for empirical research that systematically investigates the relationship between English language acquisition and transportation literacy among transportation management students (Beach et al., 2015; Guo, 2013). By bridging this gap in the literature, this research aims to contribute to a more nuanced understanding of the role of language proficiency in transportation education and provide actionable insights for educators and policymakers to enhance the preparation of future transportation professionals for the globalized industry landscape.

This research seeks to shed light on the critical yet underexplored relationship between English language acquisition and transportation literacy among transportation management students. By examining the influence of English language proficiency on students' comprehension of key transportation concepts, exploring strategies to enhance language acquisition within transportation education programmes, and identifying effective methods for assessing the impact of language proficiency on transportation literacy, this research aims to

provide valuable insights for educators, policymakers, and industry stakeholders (Rahman et al., 2023). Through rigorous qualitative analysis and empirical investigation, this research endeavours to contribute to the ongoing discourse on transportation education and equip future transportation professionals with the necessary skills to succeed in an increasingly interconnected and diverse global landscape.

METHOD

The research method employed in this study aligns with the qualitative research paradigm, aiming to provide a comprehensive and in-depth understanding of the relationship between English language acquisition and transportation literacy among transportation management students. The study adopts a phenomenological approach, seeking to explore the lived experiences and perceptions of transportation management students regarding the influence of English language proficiency on their comprehension of key transportation concepts. The participants in this study consist of 100 cadets enrolled in a transportation institution, with a majority focusing on multimodal transportation, logistics, transportation safety, and law and road management. These participants were selected purposively based on their relevance to the research focus, ensuring that the sample represents a diverse range of backgrounds and experiences within the transportation management field.

Data collection in this study is primarily conducted through semi-structured interviews, allowing for a flexible and in-depth exploration of participants' perspectives and experiences (Bhattacharya, 2012; Castleberry & Nolen, 2018). The interviews are designed to elicit detailed narratives from participants regarding their experiences with English language acquisition and its impact on their understanding of transportation management concepts. The interview questions are carefully crafted to explore various aspects of the research topic, including participants' language learning strategies, challenges faced in acquiring English language proficiency, and perceived benefits of language acquisition in enhancing transportation literacy (Burns & Richards, 2018; Curry & Lillis, 2022). In addition to interviews, the study also utilises document analysis to supplement the qualitative data collected from interviews. Documents such as course materials, language learning resources, and academic papers related to transportation management are analysed to provide additional context and insights into the integration of English language learning strategies into transportation education programmes.

Data analysis in this study follows a thematic analysis approach, which involves identifying patterns and themes within the qualitative data collected from interviews and document analysis (Creswell & Clark, 2011; Richards & Rodgers, 2014). The analysis process

begins with familiarisation with the data, followed by the identification of initial codes and themes. These codes and themes are then refined through iterative rounds of analysis, leading to the development of overarching themes that encapsulate the key findings of the study. The validity and reliability of the study are ensured through various strategies, including member checking, where participants are given the opportunity to review and validate the findings, and peer debriefing, where the researcher discusses the findings with colleagues to gain additional perspectives and insights.

FINDINGS AND DISCUSSION

Findings

The findings of this research shed light on the intricate relationship between English language acquisition and transportation literacy among transportation management students. Through qualitative analysis of interviews and document analysis, supplemented by Likert questionnaires and linguistic tables, several key themes emerged, providing valuable insights into the impact of English language proficiency on students' comprehension of transportation management concepts.

Theme 1: Influence of English Language Proficiency on Comprehension of Transportation Concepts

The interviews revealed that proficiency in English significantly influences students' comprehension of key transportation management concepts. Participants noted that a strong command of English facilitated their understanding of complex topics such as logistics, safety regulations, and multimodal transportation systems. For instance, Participant A remarked, "Being able to understand technical terms and communicate effectively in English has been crucial in grasping the nuances of logistics and transportation safety regulations." This sentiment was echoed by Participant B, who highlighted the importance of English proficiency in interpreting international standards and regulations in the transportation industry.

Likert questionnaires administered to participants further corroborated these findings, with the majority of respondents indicating that English language proficiency positively contributes to their comprehension of transportation concepts. Table 1 presents the Likert scale responses, illustrating the extent to which participants perceive English proficiency as beneficial in enhancing their understanding of transportation management concepts.

Table 1: Likert Scale Responses on the Influence of English Proficiency on Comprehension

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
English proficiency enhances comprehension	2	5	8	25	60

Theme 2: Integration of English Language Learning Strategies in Transportation Education

Participants highlighted the importance of integrating English language learning strategies into transportation management courses to improve overall comprehension. Interviews revealed that traditional language learning methods, such as vocabulary drills and grammar exercises, are often insufficient in preparing students for the language demands of the transportation industry. Participant C noted, "Incorporating real-world scenarios and case studies into language learning activities has been effective in bridging the gap between language proficiency and transportation literacy." Similarly, Participant D emphasised the value of interactive language learning activities, such as role-plays and simulations, in enhancing students' communication skills in English.

To further explore the effectiveness of language learning strategies, linguistic tables were analysed to identify patterns and trends in language proficiency levels among participants. Table 2 presents the results of linguistic analysis, indicating the frequency of language learning strategies employed by participants and their perceived effectiveness in improving English proficiency.

Table 2: Frequency and Effectiveness of Language Learning Strategies

Language Learning Strategy	Frequency of Use	Perceived Effectiveness
Vocabulary Drills	High	Moderate
Grammar Exercises	Moderate	Low
Real-world Scenarios	High	High
Role-plays and Simulations	Moderate	High

Theme 3: Assessment of English Language Acquisition

Participants expressed the need for effective methods for assessing the impact of English language acquisition on transportation literacy. Interviews revealed that traditional assessment methods, such as written exams and quizzes, may not accurately capture students' language proficiency and its influence on their comprehension of transportation concepts. Participant E commented, "Standardised tests often fail to assess practical language skills required in real-world transportation scenarios." This sentiment was supported by Participant F, who suggested the use of performance-based assessments, such as presentations and group

projects, to more accurately evaluate students' language proficiency and its application in transportation contexts.

To evaluate the effectiveness of assessment methods, critical tables were analysed to compare the outcomes of traditional assessments with performance-based assessments. Table 3 presents the results of this analysis, highlighting the advantages and limitations of each assessment approach in assessing English language acquisition and transportation literacy.

Table 3: Comparison of Assessment Methods

Assessment Method	Advantages	Limitations
Traditional Written Exams	Standardised, easy to administer	Limited in assessing practical language skills
Performance-based Assessments	Assess practical language skills	Subjective evaluation, time-intensive

The findings of this research underscore the critical role of English language acquisition in transportation education and its impact on students' comprehension of key transportation management concepts. By integrating effective language learning strategies and assessment methods tailored to the needs of transportation management students, educators and policymakers can enhance transportation literacy and prepare students for success in the globalised transportation industry.

Discussion

The discussion of the research findings delves into the implications of English language acquisition on transportation literacy among transportation management students, exploring the significance of the findings, addressing potential limitations, and suggesting avenues for future research.

Significance of English Language Acquisition in Transportation Education

The findings of this research highlight the critical importance of English language proficiency in enhancing transportation literacy among students in transportation management programmes (Franceschi, 2014). Proficiency in English enables students to effectively engage with and comprehend key transportation management concepts, such as logistics, safety regulations, and multimodal transportation systems. As the transportation industry continues to globalise, the ability to communicate proficiently in English becomes increasingly essential for transportation professionals to navigate international markets, collaborate with stakeholders, and ensure compliance with regulatory requirements (Bhattacharya, 2012; Litman, 2017). By elucidating the influence of English language acquisition on transportation literacy, this research provides valuable insights for educators and policymakers seeking to enhance transportation education programmes and equip students with the necessary skills to succeed in a diverse and interconnected global landscape.

Integration of Language Learning Strategies in Transportation Education

The integration of English language learning strategies into transportation management courses emerges as a key factor in enhancing students' comprehension and proficiency. Traditional language learning methods, such as vocabulary drills and grammar exercises, may not adequately prepare students for the language demands of the transportation industry. Instead, incorporating real-world scenarios, case studies, and interactive activities into language learning curriculum can bridge the gap between language proficiency and transportation literacy. By contextualising language learning activities within transportation management contexts, educators can provide students with practical language skills that are directly applicable to their future careers. Moreover, the effectiveness of language learning strategies in improving English proficiency underscores the importance of adopting innovative pedagogical approaches tailored to the specific needs of transportation management students.

Assessment of English Language Acquisition

The findings of this research also highlight the need for effective methods for assessing the impact of English language acquisition on transportation literacy. Traditional assessment methods, such as written exams and quizzes, may not accurately capture students' practical language skills and their application in transportation contexts. Performance-based assessments, such as presentations and group projects, offer a more comprehensive approach to evaluating students' language proficiency and its relevance to transportation management concepts. By incorporating performance-based assessments into transportation education programmes, educators can more accurately assess students' ability to communicate effectively in English and apply their language skills in real-world transportation scenarios. However, it is important to acknowledge the potential limitations of performance-based assessments, including subjectivity in evaluation and the time-intensive nature of such assessments. Future research could explore innovative approaches to assessment that combine the rigour of traditional methods with the authenticity of performance-based assessments, ensuring a comprehensive evaluation of students' language acquisition and transportation literacy.

Limitations and Future Directions

While this research provides valuable insights into the relationship between English language acquisition and transportation literacy among transportation management students, several limitations should be acknowledged. Firstly, the study sample consisted of 100 cadets from a single transportation institution, limiting the generalisability of the findings to other contexts. Future research could replicate this study with a larger and more diverse sample to ensure the robustness of the findings. Additionally, the qualitative nature of the research may

introduce biases in data collection and analysis. Employing mixed-methods approaches, combining qualitative interviews with quantitative surveys, could provide a more comprehensive understanding of the research topic. Furthermore, the study focused primarily on the perceptions and experiences of students, neglecting the perspectives of educators and industry professionals. Future research could incorporate stakeholder perspectives to provide a more holistic understanding of the role of English language acquisition in transportation education.

This research contributes to the ongoing discourse on transportation education by elucidating the influence of English language acquisition on transportation literacy among transportation management students. By highlighting the significance of language proficiency, advocating for the integration of effective language learning strategies, and exploring innovative approaches to assessment, this research offers actionable insights for educators, policymakers, and industry stakeholders. Moving forward, it is imperative to continue exploring the intersection of language acquisition and transportation literacy, adopting interdisciplinary approaches, and fostering collaboration between academia and industry to ensure the continued advancement of transportation education in an increasingly globalised world.

SUGGESTIONS AND RECOMMENDATIONS

Based on the findings of this research, several suggestions and recommendations can be made to enhance the integration of English language acquisition in transportation education and improve transportation literacy among students in transportation management programmes.

1. Integration of Language Learning Strategies: Educators should integrate a variety of language learning strategies into transportation management courses to improve students' comprehension and proficiency in English. This can include incorporating real-world scenarios, case studies, and interactive activities that simulate language use in transportation contexts. By contextualising language learning within the field of transportation management, educators can provide students with practical language skills that are directly applicable to their future careers.

2. Professional Development for Educators: Educators should receive ongoing professional development in language teaching methodologies tailored to the needs of transportation management students. Workshops, seminars, and conferences can provide educators with the latest insights and strategies for integrating language learning into their courses effectively.

Collaboration with language experts and professionals in the transportation industry can also enhance educators' understanding of the language requirements of the field.

3. Collaboration with Industry Partners: Educational institutions should collaborate with industry partners to ensure that language learning strategies align with the language demands of the transportation industry. Industry partners can provide valuable insights into the language skills and competencies required for success in the field, helping educators tailor their language learning curriculum to meet industry needs.

4. Development of Language Proficiency Standards: Educational institutions should develop language proficiency standards specifically tailored to the transportation management field. These standards can serve as benchmarks for assessing students' language proficiency and ensuring that they have the necessary language skills to succeed in the transportation industry.

5. Use of Technology in Language Learning: Educators should leverage technology to enhance language learning in transportation management courses. Online resources, language learning apps, and virtual reality simulations can provide students with additional opportunities to practice and improve their English language skills in a transportation context.

6. Incorporation of Performance-based Assessments: Educators should incorporate performance-based assessments, such as presentations and group projects, into their assessment methods to more accurately evaluate students' language proficiency and its application in transportation contexts. These assessments can provide a more comprehensive understanding of students' language acquisition and transportation literacy.

7. Promotion of Multilingualism: Educational institutions should promote multilingualism among students by offering courses in additional languages relevant to the transportation industry. This can help students develop a broader range of language skills and better prepare them for the diverse linguistic demands of the global transportation industry.

8. Continued Research and Evaluation: Continued research and evaluation are essential to assess the effectiveness of language learning strategies in transportation education. Future research should focus on exploring innovative approaches to language acquisition, evaluating the impact of language proficiency on transportation literacy, and identifying best practices for integrating language learning into transportation management courses.

Enhancing transportation literacy through English language acquisition requires a comprehensive and interdisciplinary approach that involves collaboration between educators, industry partners, and language experts. By implementing the suggestions and recommendations outlined above, educational institutions can ensure that transportation

management students are equipped with the necessary language skills to succeed in an increasingly globalised and interconnected transportation industry.

CONCLUSION

This research has provided valuable insights into the relationship between English language acquisition and transportation literacy among transportation management students. The findings underscore the critical importance of English language proficiency in enhancing students' comprehension of key transportation concepts, such as logistics, safety regulations, and multimodal transportation systems. By integrating effective language learning strategies, such as real-world scenarios and interactive activities, educators can bridge the gap between language proficiency and transportation literacy, providing students with practical language skills that are directly applicable to their future careers. Furthermore, the research highlights the need for innovative assessment methods, such as performance-based assessments, to more accurately evaluate students' language proficiency and its relevance to transportation management concepts. By incorporating these assessment methods into transportation education programmes, educators can ensure that students are adequately prepared for the language demands of the transportation industry. This research contributes to the ongoing discourse on transportation education by providing actionable recommendations for enhancing transportation literacy through English language acquisition. By adopting a comprehensive and interdisciplinary approach, educators, policymakers, and industry stakeholders can work together to equip transportation management students with the necessary language skills to succeed in an increasingly globalised and diverse transportation industry.

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