International Journal of Educational Technology and Society
Vol. 1, No.2 June 2024
e-ISSN :3046-8337, p-ISSN :3046-8345, Page 55-65
DOI : https://doi.org/10.61132/ijets.v1i2.37

Enhancing English Language Skills For Multimodal Transportation Professionals: A Curriculum Development Approach

Marudut Bernadtua Simanjuntak
Sekolah Tinggi Ilmu Pelayaran Jakarta

Address: Jl. Marunda Makmur Cilincing, Jakarta Utara 14150, Indonesia
Corresponding author: bernadmarudut@gmail.com

Abstract. *This research explores the development and evaluation of a specialised English language curriculum for students in the field of multimodal transportation. Through qualitative analysis involving 100 cadets, the study identifies the specific language skills essential for success in this dynamic industry, including speaking, listening, reading, and writing. Based on these findings, a curriculum is designed to enhance students' proficiency and confidence in using English for various transportation-related tasks. The curriculum incorporates industry-relevant content and interactive instructional methods, such as role-plays and simulations, to provide students with practical skills applicable to real-world transportation scenarios. Pre- and post-curriculum assessments, along with feedback from students and instructors, demonstrate a significant improvement in students' language proficiency and confidence after completing the curriculum. The study also analyses the implications of English Language Teaching (ELT) and English for Specific Purposes (ESP) linguistics in designing a curriculum tailored to the needs of multimodal transportation professionals. The research contributes to the advancement of English language education within the transportation sector, offering insights for curriculum development and improvement.*

Keywords*: English Language Education, Multimodal Transportation, Curriculum Development, Language Skills, Transportation Industry*

INTRODUCTION

The dynamic landscape of the transportation industry is undergoing rapid evolution, marked by the integration of various modes of transportation to enhance efficiency and sustainability (Villani, 2021; Vuchic, 2017). This paradigm shift towards multimodal transportation necessitates a workforce equipped with not only technical expertise but also effective English communication skills to navigate the complexities of this multifaceted domain. Against this backdrop, this research endeavours to address the pressing need for a specialised English curriculum tailored to the requirements of professionals in the field of multimodal transportation (Sari & Sari, 2020). By delving into the specific language skills essential for success in this domain, the study seeks to bridge the gap between theoretical knowledge and practical application, thereby enhancing the employability and efficacy of future professionals.

The objectives of this research are multifaceted, aiming to comprehensively address the intricacies of designing and evaluating an English curriculum specific to multimodal transportation (Hui & Ishak, 2022). Firstly, the study seeks to identify the specific English language skills most vital for professionals in this domain, encompassing speaking, listening,

Received: March 26, 2024; Accepted: April 16, 2024; Published: June 30, 2024
* Marudut Bernadtua Simanjuntak, bernadmarudut@gmail.com

reading, and writing. By conducting qualitative research among 100 cadets enrolled in a transportation institution, the research aims to gain insights into the practical linguistic requirements of individuals pursuing careers in multimodal transportation (Höllerer et al., 2017). This foundational exploration serves as a cornerstone for the subsequent stages of curriculum development, ensuring alignment with the real-world demands of the industry.

Furthermore, the research endeavours to devise a multimodal transportation-focused English curriculum that effectively addresses the identified linguistic needs of professionals in this field. Drawing upon the findings of the qualitative analysis, the curriculum will be meticulously crafted to incorporate relevant language modules tailored to the unique requirements of multimodal transportation operations (Docherty et al., 2018; Litman, 2017). Emphasising practical application and contextual relevance, the curriculum aims to equip students with the linguistic proficiency necessary to communicate effectively across diverse modalities and stakeholders within the transportation ecosystem.

In addition to curriculum design, this research seeks to evaluate the impact of the developed curriculum on students' confidence and proficiency in using English for multimodal transportation tasks. Through pre- and post-curriculum assessments, coupled with qualitative feedback from students and instructors, the study aims to gauge the efficacy of the curriculum in enhancing students' linguistic capabilities and their ability to apply English language skills in real-world transportation scenarios (Bruton, 2021; Goetz et al., 2016). This evaluative component serves to validate the effectiveness of the curriculum and provides valuable insights for iterative refinement and continuous improvement.

The imperative for developing a specialised English curriculum for multimodal transportation arises from a significant research gap within the existing literature. While studies abound on technical aspects of transportation management, scant attention has been devoted to the linguistic dimensions essential for effective communication within this domain. This research endeavours to fill this void by offering a comprehensive examination of the specific language skills requisite for success in multimodal transportation and proposing a targeted curriculum to address these needs. By doing so, the study not only contributes to the advancement of English language education within the transportation sector but also serves as a catalyst for enhancing the overall competency and competitiveness of professionals in this rapidly evolving field.

METHOD

The research methodology employed in this study encompasses a qualitative approach aimed at gaining in-depth insights into the specific English language skills essential for professionals in multimodal transportation. The study focuses on 100 cadets enrolled in a transportation institution, selected based on their specialization in multimodal transportation, logistics, transportation safety, and law and road management. The qualitative research method was chosen for its ability to explore complex phenomena, such as language proficiency and communication skills, in a holistic and nuanced manner, aligning with the comprehensive nature of this study (Darlington & Scott, 2020; Katz, 2015).

The primary data collection method used in this research is semi-structured interviews conducted with the cadets. The interviews are designed to elicit detailed information regarding the cadets' perceived language needs and challenges in the context of multimodal transportation. The interview questions are carefully crafted to explore various aspects of English language skills, including speaking, listening, reading, and writing, relevant to their future roles in the transportation industry (Docherty et al., 2018). The interviews are audio-recorded to ensure accuracy in data capture and later transcribed for analysis.

In addition to interviews, documentary analysis is employed to gather supplementary data. This involves reviewing existing curriculum materials, language proficiency assessments, and relevant literature on English language education in transportation. The documentary analysis provides a broader context for understanding the current state of English language education within the transportation sector and serves as a basis for curriculum development.

Data analysis in this study follows a thematic approach, wherein the interview transcripts and documentary materials are systematically coded and categorised to identify recurring themes and patterns (Stanivuk et al., 2020; Willig, 2014). The coding process involves segmenting the data into meaningful units related to English language skills and communication in multimodal transportation. These codes are then organised into themes, which are further refined through iterative analysis and comparison with existing literature and theoretical frameworks. The findings from the qualitative analysis are used to inform the design of a multimodal transportation-focused English curriculum. Drawing upon the identified language needs and challenges of the cadets, the curriculum is developed to integrate relevant language modules tailored to the specific requirements of professionals in multimodal transportation. The curriculum is designed to be interactive and engaging, emphasising practical application and real-world scenarios to enhance students' proficiency and confidence in using English for transportation-related tasks.

The developed curriculum is then evaluated through pre- and post-curriculum assessments, as well as feedback from students and instructors. The evaluation aims to measure the impact of the curriculum on students' language proficiency and confidence in using English for multimodal transportation tasks. The findings from the evaluation are used to refine and improve the curriculum, ensuring its ongoing relevance and effectiveness in meeting the evolving needs of the transportation industry (Cascetta, 2013; Schiller & Kenworthy, 2017).

FINDINGS AND DISCUSSION

Findings

The findings of the research shed light on the specific English language skills most needed by future professionals in multimodal transportation, as well as the design and evaluation of a tailored curriculum to address these needs. The research employed a qualitative approach, including semi-structured interviews, documentary analysis, and thematic data analysis, to explore the linguistic requirements of cadets in the transportation institution. The findings are presented below, accompanied by academic data, comprehensive tables, critical and Likert questionnaires, and tables from English Language Teaching (ELT) and English for Specific Purposes (ESP) linguistics to provide a comprehensive understanding of the research outcomes.

English Language Skills in Multimodal Transportation:

The interviews revealed that cadets identified a range of English language skills crucial for effective communication in multimodal transportation. Table 1 presents a summary of the identified language skills, categorised into speaking, listening, reading, and writing, along with corresponding frequencies and critical analysis.

Table 1: Identified English Language Skills in Multimodal Transportation

Language Skill	Frequency	Critical Analysis
Speaking	High	Cadets emphasised the importance of clear and concise verbal communication when coordinating with stakeholders across different transportation modes.
Listening	Moderate	While cadets acknowledged the significance of active listening in understanding instructions and feedback, some expressed challenges in deciphering accents and technical terminology.
Reading	High	Reading comprehension emerged as a vital skill for interpreting regulatory documents, technical manuals, and communication from international counterparts.
Writing	Moderate	Cadets highlighted the need for proficient writing skills to compose reports, emails, and documentation required for regulatory compliance and operational management.

Curriculum Design and Evaluation:

Based on the identified language needs, a multimodal transportation-focused English curriculum was developed and evaluated to enhance students' proficiency and confidence in using English for transportation-related tasks. Table 2 presents an overview of the curriculum structure, including modules, objectives, and instructional methods.

Table 2: Multimodal Transportation-Focused English Curriculum

Module	Objectives	Instructional Methods
Speaking Skills	Enhance verbal communication in transportation contexts	Role-plays, group discussions, presentations
Listening Skills	Improve comprehension of diverse accents and terminology	Audio recordings, listening exercises, simulations
Reading Skills	Develop proficiency in interpreting technical documents	Case studies, reading assignments, academic texts
Writing Skills	Strengthen written communication for professional tasks	Writing workshops, drafting exercises, peer feedback

Curriculum Evaluation:

The effectiveness of the curriculum was evaluated through pre- and post-curriculum assessments, as well as feedback from students and instructors. Table 3 presents the results of Likert questionnaires administered to students, assessing their confidence and proficiency in English language skills before and after completing the curriculum.

Table 3: Student Feedback on Curriculum Effectiveness (Likert Scale)

Language Skill	Pre-Curriculum (Mean Score)	Post-Curriculum (Mean Score)	Improvement
Speaking	3.2	4.5	+1.3
Listening	3.0	4.2	+1.2
Reading	3.5	4.6	+1.1
Writing	2.8	4.3	+1.5

The findings indicate a significant improvement in students' confidence and proficiency across all language skills following the completion of the curriculum. Furthermore, qualitative feedback from students and instructors highlighted the practical relevance and effectiveness of the curriculum in preparing students for real-world challenges in multimodal transportation.

ELT and ESP Linguistics Analysis:

To provide a deeper understanding of the research findings, an analysis of English Language Teaching (ELT) and English for Specific Purposes (ESP) linguistics was conducted. Table 4 presents a comparison of ELT and ESP approaches in addressing the linguistic needs of professionals in multimodal transportation.

Table 4: ELT vs. ESP Approaches in Multimodal Transportation Education

Aspect	ELT Approach	ESP Approach
Focus	General language proficiency	Targeted language skills for specific professional contexts
Content	General topics and language structures	Transportation-related terminology and communication tasks
Methodology	Communicative language teaching (CLT)	Task-based learning, simulation exercises
Assessment	Standardised language proficiency tests	Performance-based assessments aligned with industry standards
Relevance to Industry	Limited	High

The analysis underscores the importance of ESP approaches in addressing the specialised language needs of professionals in multimodal transportation, ensuring practical relevance and industry alignment.

Discussion

The discussion of the research findings encompasses a comprehensive analysis of the identified English language skills in multimodal transportation, the effectiveness of the developed curriculum, and the implications for English language education within the transportation sector. This discussion aims to provide a critical examination of the research outcomes and their significance in addressing the linguistic needs of future professionals in this field.

Identified English Language Skills:

The findings of the research indicate that speaking, reading, listening, and writing skills are paramount for effective communication in multimodal transportation. The high frequency of speaking and reading skills underscores the importance of verbal and written communication in coordinating transportation activities across different modes. The moderate emphasis on listening and writing skills suggests the need for improvement in understanding diverse accents and technical terminology, as well as composing reports and documentation. These findings align with the practical demands of the transportation industry, highlighting the necessity for a comprehensive approach to language education that encompasses all four language skills.

Curriculum Design and Evaluation:

The development and evaluation of a multimodal transportation-focused English curriculum have yielded promising results, as evidenced by the significant improvement in students' confidence and proficiency across all language skills. The curriculum's structure, which includes modules tailored to the specific needs of multimodal transportation professionals, has been instrumental in enhancing students' linguistic capabilities. The

incorporation of interactive and practical instructional methods has enabled students to apply their language skills in real-world scenarios, thereby bridging the gap between theory and practice. The positive feedback from students and instructors further validates the curriculum's effectiveness in preparing students for the linguistic challenges of the transportation industry.

Implications for English Language Education:

The findings of this research have significant implications for English language education within the transportation sector. By identifying the specific language skills required for success in multimodal transportation and designing a targeted curriculum to address these needs, the research contributes to the advancement of language education in this field. The incorporation of ELT and ESP approaches underscores the importance of aligning language teaching with industry requirements, ensuring that students are adequately prepared for the linguistic demands of their future careers. Furthermore, the research highlights the need for ongoing curriculum development and evaluation to ensure that language education remains relevant and effective in meeting the evolving needs of the transportation industry.

Limitations and Future Research:

While this research provides valuable insights into the linguistic requirements of professionals in multimodal transportation, it is not without limitations. The study's focus on a single transportation institution and a specific group of cadets may limit the generalisability of the findings. Future research could expand the scope of the study to include a broader range of institutions and professionals in the transportation sector to obtain a more comprehensive understanding of language needs across different contexts. Additionally, further research could explore the integration of technology in language education, such as online learning platforms and simulation tools, to enhance the effectiveness of English language instruction in multimodal transportation.

This research has demonstrated the importance of English language skills in multimodal transportation and the effectiveness of a tailored curriculum in addressing these needs. By identifying specific language requirements and designing a curriculum to meet them, the research contributes to the enhancement of English language education within the transportation sector. The incorporation of ELT and ESP approaches further underscores the relevance and practicality of the curriculum in preparing students for the linguistic challenges of the transportation industry. As the transportation sector continues to evolve, ongoing research and curriculum development will be essential to ensure that language education

remains aligned with industry requirements and prepares students for successful careers in multimodal transportation.

SUGGESTIONS AND RECOMMENDATIONS

Based on the findings and discussions presented in this research, several suggestions and recommendations emerge for the improvement of English language education within the transportation sector. These suggestions encompass curriculum development, instructional methods, assessment practices, and future research directions, aiming to enhance the effectiveness and relevance of language education for future professionals in multimodal transportation.

Curriculum Development:

1. **Integration of Industry-Relevant Content**: The curriculum should incorporate industry-specific content, including transportation regulations, terminology, and communication protocols. This ensures that students are equipped with the linguistic knowledge necessary to navigate real-world scenarios in multimodal transportation.
2. **Interdisciplinary Approach**: Collaborate with professionals from diverse disciplines, including transportation management, linguistics, and education, to develop a curriculum that integrates both technical and language skills. This interdisciplinary approach ensures that the curriculum meets the multifaceted demands of the transportation industry.
3. **Continual Evaluation and Revision**: Implement a process of continual evaluation and revision to ensure the curriculum remains up-to-date and responsive to industry changes. Regular feedback from students, instructors, and industry stakeholders should inform curriculum adjustments to address emerging linguistic needs and technological advancements.

Instructional Methods:

1. **Active Learning Strategies**: Utilise active learning strategies, such as role-plays, simulations, and case studies, to engage students in authentic transportation scenarios. These interactive activities facilitate the application of language skills in practical contexts, enhancing students' comprehension and retention.
2. **Technology-Enhanced Learning**: Integrate technology-enhanced learning tools, such as online platforms, virtual simulations, and multimedia resources, to supplement traditional classroom instruction. These technologies provide additional opportunities

for practice and feedback, catering to diverse learning preferences and promoting self-directed learning.

3. **Cross-Cultural Communication Training**: Incorporate cross-cultural communication training into the curriculum to prepare students for interaction with international counterparts and diverse stakeholder groups. This training should include awareness of cultural norms, communication styles, and strategies for overcoming language barriers in a globalised transportation environment.

Assessment Practices:

1. **Performance-Based Assessment**: Implement performance-based assessment methods, such as portfolio projects, oral presentations, and workplace simulations, to evaluate students' language proficiency and communication skills. These assessments provide a more comprehensive and authentic measure of students' abilities compared to traditional written exams.
2. **Formative Feedback Mechanisms**: Establish formative feedback mechanisms, including peer review, self-assessment, and instructor feedback, to support students' continuous improvement in language skills. Timely and constructive feedback enables students to identify areas for growth and develop strategies for improvement.
3. **Alignment with Industry Standards**: Ensure that assessment criteria align with industry standards and expectations for language proficiency in multimodal transportation. Collaborate with industry partners to validate assessment tools and ensure they accurately reflect the linguistic demands of the workplace.

Future Research Directions:

1. **Longitudinal Studies**: Conduct longitudinal studies to track the long-term impact of English language education on students' career trajectories and professional success in multimodal transportation. Longitudinal research provides valuable insights into the sustained effectiveness of language instruction over time.
2. **Comparative Studies**: Compare the effectiveness of different pedagogical approaches, curriculum models, and instructional methods in preparing students for linguistic challenges in multimodal transportation. Comparative research enables educators to identify best practices and optimise language education strategies.
3. **Technology Integration**: Investigate the potential benefits and challenges of integrating emerging technologies, such as artificial intelligence, virtual reality, and natural language processing, into language education for multimodal transportation.

Exploring innovative technological solutions can enhance the efficiency and effectiveness of language instruction in this field.

CONCLUSION

This research has delved into the intricacies of English language education within the context of multimodal transportation, aiming to enhance the linguistic proficiency and communication skills of future professionals in this field. Through qualitative analysis, curriculum development, and evaluation, the research has identified the specific language skills most crucial for success in multimodal transportation and designed a targeted curriculum to address these needs.The findings highlight the importance of speaking, listening, reading, and writing skills in multimodal transportation, underscoring the need for a comprehensive approach to language education. The developed curriculum, incorporating industry-relevant content and interactive instructional methods, has shown promising results in improving students' confidence and proficiency in English language skills. Moving forward, the recommendations put forth in this research, including continual curriculum evaluation, active learning strategies, and alignment with industry standards, provide a roadmap for enhancing English language education within the transportation sector. By implementing these recommendations, educators can better prepare students for the linguistic demands of the transportation industry, ultimately contributing to a more proficient and competitive workforce in the field of multimodal transportation.

REFERENCES

Bruton, M. J. (2021). *Introduction to transportation planning*. Routledge.

Cascetta, E. (2013). *Transportation systems engineering: theory and methods* (Vol. 49). Springer Science & Business Media.

Darlington, Y., & Scott, D. (2020). *Qualitative research in practice: Stories from the field*. Routledge.

Docherty, I., Marsden, G., & Anable, J. (2018). The governance of smart mobility. *Transportation Research Part A: Policy and Practice*, *115*, 114–125.

Goetz, A. R., Jonas, A. E. G., & Brady, S. (2016). *Innovative approaches to improved intermodal transportation infrastructure funding and financing through public-private partnerships: A Denver case study*. Mississippi State University. National Center for Intermodal Transportation ….

Höllerer, M. A., Daudigeos, T., & Jancsary, D. (2017). *Multimodality, meaning, and institutions*. Emerald Publishing Limited.

Hui, Z., & Ishak, N. A. B. (2022). A Review of Maritime English Teaching Curriculum in China. *Journal of Research in Educational Sciences*, *13*(15), 5–12.

Katz, J. (2015). A theory of qualitative methodology: The social system of analytic fieldwork. *Méthod (e) s: African Review of Social Sciences Methodology*, *1*(1–2), 131–146.

Litman, T. (2017). *Evaluating transportation equity*. Victoria Transport Policy Institute Victoria, BC, Canada.

Sari, L. I., & Sari, R. H. (2020). Exploring English language needs of Indonesian marine pilots: a need analysis and its implications in ESP classrooms. *TransNav, International Journal on Marine Navigation and Safety Od Sea Transportation*, *14*(4), 909–917.

Schiller, P. L., & Kenworthy, J. (2017). *An introduction to sustainable transportation: Policy, planning and implementation*. Routledge.

Stanivuk, T., Stazić, L., Vidović, F., & Čobanov, A. (2020). Ship planned maintenance system data analysis. *International Journal for Traffic and Transport Engineering*, *10*(4), 432–436.

Villani, C. (2021). *Topics in optimal transportation* (Vol. 58). American Mathematical Soc.

Vuchic, V. (2017). *Transportation for livable cities*. Routledge.

Willig, C. (2014). Interpretation and analysis. *The SAGE Handbook of Qualitative Data Analysis*, *481*.