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The Role of English Speaking Skills in Career Readiness: Building Information Modeling (BIM) Students

Neng Sri Siti Rahma*, Riki Ruswandi, Leny Saili Rahmah
English Education, Universitas Islam Nusantara (UNINUS), Bandung, Indonesia

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*Corresponding Author Email:
rahmasri603@gmail.com

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Abstract: In the era of globalization, English language skills are crucial for career readiness, especially in technical fields such as Building Information Modeling (BIM). However, vocational high school students often face challenges in developing these skills due to curricula that prioritize technical expertise over professional communication. This study examines BIM students' perceptions of the importance of English language skills for their career readiness and the challenges they face in acquiring them. The study collected data using a descriptive, quantitative approach through a questionnaire that had been previously validated by 30 respondents. This was then distributed to 72 BIM students at a public vocational school in Bandung. The results showed that the majority of students (97.3%) recognized a competitive advantage in finding employment due to their English language skills, but 84.7% lacked confidence in using English professionally, largely due to a lack of learning opportunities that fostered confidence in speaking English. Furthermore, 94.4% of students felt that their English lessons did not fully focus on the speaking skills needed in the workplace. These findings highlight the need for vocational education to adopt a more practical and interactive English curriculum that integrates job interview simulations, project presentations, and direct exposure to professional communication in English. This study showed that increasing students' confidence and competence in speaking English can improve their career prospects in an increasingly internationalized job market.

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INTRODUCTION

English as an international language is increasingly important in today's era of globalization (Gustanti & Ayu, 2021). In the global world of work, English language skills, especially speaking skills, have become an essential asset for career readiness in various industries (Damayanti & Gafur, 2020). Along with the increase in international cooperation and global projects, the demand for workers who have communication skills in English is increasing (Beer & Mulder, 2020). It is particularly relevant for students in the Building Information Modeling (BIM) program, where English language proficiency is beneficial in an academic environment and plays a crucial role in their future career prospects.

The construction and design industry is increasingly adopting Building Information Modeling (BIM) technology, which involves cross-border collaboration, making effective English communication necessary. Industry trends show that many construction and design companies are now prioritizing a bilingual workforce to bridge communication in international projects (Ahmed et al., 2022). BIM graduates must have adequate technical and language skills to work in a multinational environment (Sifa et al., 2022).

Although English-speaking skills are important, many vocational school students, especially those majoring in BIM, still face limitations in developing these abilities. This issue is because vocational schools' curriculum focuses more on technical skills than professional communication (Fitriyanti Zulaikha et al., 2021). As an institution that aims to equip students with job-ready skills, vocational schools must adapt their curriculum to respond more to industry demands (Young & Hordern, 2022).

Several studies have discussed the importance of English language skills in vocational education. English-speaking skills can improve job opportunities and communication in the workplace, especially in

technical fields (Chan, 2021). Students with good speaking skills have better career prospects (Succi & Canovi, 2020). However, most research has focused on general vocational education, rather than specific technical fields such as BIM. Existing studies have placed more emphasis on reading and writing skills, while speaking skills, critical in client interactions, project presentations, and teamwork, have received less attention. For example, Lestari & Priyana, (2020) research aimed to develop EFL materials for automotive engineering students at vocational schools. Her research focused on reading technical instructions and writing reports and letters. While successfully meeting the curriculum, this study completely neglected the speaking aspect, which is considered crucial in technical instruction, typically delivered face-to-face rather than in written form. Although the materials aligned with curriculum requirements, they neglected speaking skills, which are vital in technical instructions typically delivered through oral communication.

While the literature clearly acknowledges the importance of English proficiency in vocational contexts, it tends to overlook the specific demands of technical programs such as BIM. There is a notable gap in understanding how students in specialized fields perceive English-speaking skills and the extent to which they are prepared to meet communication expectations in globalized technical industries. Existing English materials also appear to be more theory-driven and text-oriented, rather than emphasizing the practical speaking experiences required in real-world settings.

To address this gap, the present study explored how students in a vocational BIM program perceive the role of English-speaking skills in their future careers. By understanding students' perspectives, this research aims to provide insight into the challenges they face in developing these skills and offer recommendations for improving English instruction in vocational schools.

Specifically, this study seeks to analyze BIM students' perceptions of the importance of English-speaking skills for career readiness, especially in the design and construction industry, and to explore the barriers they encounter in developing these skills. Theoretically, this study contributes to the growing body of research on English language needs in specific technical education. Practically, the findings aim to support curriculum developers, educators, and policymakers in designing more relevant and effective English language training programs that align with industry standards and increase students' competitiveness in the job market.

METHOD

Research Design

This study used a descriptive quantitative approach to measure and describe students' perspectives on the role of speaking skills in English in their career readiness. Quantitative methods involve collecting, analyzing, interpreting, and writing the results of a study (Creswell & Creswell, 2017). The researchers chose this approach because it aimed to collect a large amount of data and analyze it statistically to get an overview of student perceptions (Aithal & Aithal, 2020). The type of research used was survey research, where researchers collect data by distributing questionnaires (Kent, 2020). The survey aimed to identify various aspects, such as students' awareness of the importance of English-speaking skills, their experience using English in academic and industrial contexts, and their challenges in developing these skills.

The collected data will be analyzed using descriptive statistical methods, such as percentages, frequency distributions, and averages, that provide an overview of student perception trends and patterns (Cooksey & Cooksey, 2020). This study also used statistical descriptive analysis to interpret the data obtained from the questionnaire (Ravid, 2024). Inferential statistical tests, such as simple linear regression or Pearson correlation, can examine the relationship between English-speaking skills and students' career readiness (Malone & Coyne, 2024). The study's results aimed to provide data-informed recommendations for teachers, schools, and education policymakers to improve teaching English-speaking skills in vocational schools.

Research Participants

Participants in this study were students from the Building Information Modeling (BIM) department at a public vocational school in Bandung. Participants were students with more experience in vocational-based learning, and some had undergone Field Work Training in related industries. This study determined

its participants using the random sampling method (Stratton, 2021). This method aimed to ensure a broader representation of the student population in the BIM department. The sample comprised 72 participants, sufficient to produce valid results and allow for generalization within the school context. The participant criteria included students who have worked with or were familiar with street vendors, as well as those with experience in communicating in English through various academic and non-academic activities, such as presentations, discussions, or interactions with the industrial world.

The selection process began with the distribution of an initial questionnaire to all BIM students. In this questionnaire, there were several screening questions, such as: "Have you ever done a project presentation in English?", "Have you ever participated in a discussion or group work using English?", and "Have you ever interacted with industry professionals using English during your internship?" Only students who answered "yes" to at least two of these questions were selected as final participants. To ensure the accuracy of the data, student claims were also verified through confirmation with subject teachers and internship supervisors who were directly aware of their activities. Table 1 presents the characteristics of the respondents in this study.

Table 1. Respondent Characteristics (n= 72)

Respondent Characteristics	Category	Frequency	Percentage
Gender	Male	38	52.8
	Female	34	47.2
Age	16	16	22.2
	17	47	65.3
	18	9	12.5

Research Instrument

The instrument used in this study was a questionnaire (quantitative survey) (Sürücü & Maslakci, 2020). The questionnaire was compiled by referring to the variables of this study, which covered two main topics: the importance of English speaking skills in career readiness and perceptions of English learning in schools. This questionnaire consisted of 2 questions, which contained information on respondents' data and eight main statements from the questionnaire. The questionnaire utilized a 5-point Likert scale, allowing students to indicate their level of agreement or disagreement with the provided statements (Alabi & Jelili, 2023). Previously, this questionnaire underwent validity and reliability tests with 30 respondents. The results of the validity and reliability tests showed a Cronbach's Alpha value of 0.802, which means it has a good level of reliability (Barbera et al., 2020). Table 2 below provides a summary of the number of respondents (data) used in this study.

Table 2. Case Processing Summary

		N	%
Cases	Valid	72	100.0
	Excluded[a]	0	0
	Total	72	100.0

Table 3 contains the output used to measure the internal consistency of this research instrument. This measurement used Cronbach's Alpha, with results with good reliability.

Table 3. Reliability Statistics

Cronbach's Alpha	N of Items
0,802	8

Table 4 presents statistical data for each question item in this study, using the scale or questionnaire employed in reliability testing, particularly with Cronbach's Alpha.

Table 4. Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Item_1	29.69	7.539	0.660	0.754
Item_2	29.65	8.540	0.616	0.767
Item_3	29.39	8.797	0.500	0.782
Item_4	29.82	8.488	0.543	0.775
Item_5	29.51	8.366	0.570	0.771
Item_6	29.78	8.401	0.535	0.776
Item_7	29.83	8.845	0.296	0.819
Item_8	29.47	8.788	0.456	0.788

Note: Item_1: English speaking skills are essential for Building Modeling and Information Design job readiness. Item_2: The ability to speak English is one of the skills that must be possessed to prepare for entering the world of work. Item 3: The ability to speak English gives a competitive advantage in the world of work. Item_4: The ability to speak English will increase the chances of getting a better job. Item_5: In Modeling Design and Building Information, many materials are available in English, so English-speaking skills are indispensable. Item_6: Not confident when speaking English technically in a work context. Item_7: The current English speaking skills are insufficient to support a future career. Item_8: English lessons given in schools are less focused on speaking skills for the needs of the world of work..

Research Procedure

This research followed multiple systematic stages, including preparation, data collection, data analysis, and the reporting of research results. The preparation stage begins with questionnaires based on relevant literature studies and previous research (Elangovan & Sundaravel, 2021). Next, the questionnaire was tested on a small group of students to measure its reliability and validity (Pallant, 2020). After that, applied for permission from the school to conduct research and recruit participants. The researchers collected data by distributing questionnaires online to all participants, totaling 72 people, through the Google Forms platform.

Students had sufficient time to complete the questionnaire calmly and honestly. If there is a question that is not clear, the researcher will provide clarification. After one week, the researcher distributed the questionnaire and reminded the respondents to complete it. After the data was collected, the data analysis stage used descriptive statistical techniques, such as frequency distribution, percentage, and average, to describe the pattern of student responses to each question (Babbie et al., 2022). The results of this analysis were then interpreted to find the main trends in student perception (Dziak et al., 2020).

Data Analysis Techniques

The data collected from the questionnaire will be analyzed using descriptive statistics, including percentages, frequencies, means, and standard deviations, to identify patterns and trends in students' perceptions of English-speaking skills (Aithal & Aithal, 2020). The first step in the analysis was to clean and filter the data, ensuring that all responses were valid and no data was missing or inconsistent (Ward & Meade, 2023). After that, the researcher categorized the data based on the studied variables and analyzed it using statistical software such as SPSS or Microsoft Excel (Roni & Djajadikerta, 2021). The analysis results will be presented in a table to facilitate understanding of the pattern of findings (Pollock et al., 2023). The data were interpreted by linking the findings with relevant theories and previous research (Bliese et al., 2024). With this approach, the study can provide a clear quantitative picture of how BIM students at a public vocational school in Bandung perceive the role of English-speaking skills in their career readiness.

Table 5 shows how the level of interpretation affects the scores on the student perception questionnaire. This type of scale was a practical extension of the Likert scale—first proposed by Rensis Likert—but the way in which the mean was interpreted was not a decision of Likert's own, but rather a result of developments in survey methodology in education and the social sciences. The interpretive approach using the mean and levels (e.g., Very High, High, etc.) was supported by (Jebb et al., 2021) and (Sun et al., 2025), who asserted that the quantitative interpretation of the Likert scale based on the mean is reliable.

Table 5. Mean Interpretation of Student Perception

Mean Range	Level of Perceived
0.1 – 1.0	Very Low
1.1 – 2.0	Low
2.1 – 3.0	Moderate
3.1 – 4.0	High
4.1 – 5.0	Very High

RESULT

This section presents quantitative data (questionnaire) based on the research objectives. This study highlights students' perceptions of the importance of English language skills in their professional career readiness. Table 6 contained the results of the student perception questionnaire on the importance of English language skills for career readiness. The table includes data from students' perceptions. The data was in the form of an interval scale using the Method of Successive Intervals (MSI), as this allows for more accurate statistical analysis (Febriana & Setiawati, 2024).

Table 6. Students' Perception of the Importance of English Speaking Skills for Career Readiness.

Item Statement	SA		A		N		Mean	Level
	Interval Scale	%	Interval Scale	%	Interval Scale	%		
English speaking skills are essential for job readiness in the field of Building Modeling and Information Design	1,87	37,5	3,26	43,1	4,59	19,4	3,28	High
The ability to speak English is one of the essential skills required to prepare for entering the workforce.	1,59	27,8	3,38	66,7	5,51	5,6	3,40	High
The ability to speak English provides a competitive advantage in the workplace.	2,13	54,2	3,9	43,1	5,94	2,8	3,27	High
The ability to speak English will increase the chances of getting a better job.	1,43	20.8	3,09	63,9	4,78	15,3	3,40	High
In Modeling Design and Building Information, many materials are available in English, so English-speaking skills are indispensable	1,96	43,1	3,58	5	5,3	6,9	3,34	High
Not confident when speaking English technically in a work context.	1,57	25,0	3,15	59,7	4,77	15,3	3,15	High
The current English-speaking skills are not	1,73	29,2	3,06	47,2	4,35	22,2	3,12	High

Item Statement	SA		A		N		Mean	Level
	Interval Scale	%	Interval Scale	%	Interval Scale	%		
sufficient to support a future career.								
English lessons given in schools are less focused on developing speaking skills that meet the needs of the world of work.	1,99	45,8	3,57	48,6	5,2	5,6	3,36	High

The findings of this study indicate that students generally perceive English-speaking skills as a crucial component for career readiness, particularly in technical fields such as Building Information Modeling. A significant majority (80.6%) of students agree that English proficiency is essential for job preparedness, with 37.5% strongly agreeing and 43.1% agreeing. This perception is consistent with the growing demand for English communication skills across various industries, particularly where international collaboration, access to global resources, and competitive performance are expected.

Furthermore, 94.5% of respondents believed that speaking English is a fundamental skill for entering the workforce, indicating that many employment opportunities—particularly in multinational environments—favor candidates with strong oral English abilities. Similarly, 97.3% of students agreed that fluency in English offers a competitive advantage in obtaining better job prospects. This was reflected in a mean score of 3.40, the highest among all items measured.

In addition to its relevance in career advancement, 84.7% of students stated that English-speaking skills contribute significantly to employment opportunities. In comparison, 93.1% emphasized its specific importance in the context of Building Information Modeling. This aligns with the fact that instructional materials, certifications, and technical documentation in fields like engineering, architecture, and design are predominantly presented in English.

Despite recognizing its importance, a large number of students still lack confidence in their ability to use English in professional settings. As many as 84.7% reported feeling insecure when speaking English in a work context. This contrast between awareness and ability suggests that students may lack adequate speaking practice and exposure, with instruction often focused more on grammar and reading rather than communicative competence.

Additionally, 76.4% of students expressed concern that their current speaking skills were insufficient for their future careers. Supporting this, 94.4% felt that their school's English instruction did not adequately prepare them for workplace communication, indicating a gap between curriculum focus and industry needs. These findings highlight both a strong recognition of English's relevance and a clear disconnect in confidence and preparation, underscoring the need for improvements in instructional strategies that prioritize active language use.

DISCUSSION

The survey results demonstrated that students in the Building Information Modeling major at a public vocational school in Bandung possessed a high level of awareness regarding the importance of English-speaking skills for professional readiness. The average scores across questionnaire items fall within the "High" category, ranging from 2.14 to 3.40. These results indicated that students view English communication, especially speaking, as a critical element of career success (Pranawengtias, 2022). Notably, the highest average score (4.51) was recorded for the statement relating to the competitive advantage offered by English proficiency, underscoring students' strong belief in its professional value (Kralova & Dolezelova, 2021).

Despite this awareness, the findings revealed that many students struggle with the actual application of speaking skills. A total of 84.7% admitted feeling unconfident speaking English in work-related contexts. This gap between theoretical understanding and practical ability is significant,

suggesting a need to reevaluate the balance between passive and active language skills in vocational curricula.

Support for this comes from students' responses to statements about the emphasis placed on speaking in school. An average score of 3.15, along with 94.4% agreement, indicated a perceived lack of focus on oral communication in current English lessons. These insights align with research indicating that vocational education often prioritizes reading and writing over speaking, thereby leaving students less prepared for real-world professional interactions.

The demographic data adds further nuance. With a nearly balanced gender distribution—38 male students (52.8%) and 34 female students (47.2%)—the study allowed for comparative insights. Both genders recognized the value of English speaking in career readiness, with similar average scores. However, female students reported slightly lower confidence levels than males, aligning with previous studies that found higher public speaking anxiety among female students due to concerns over evaluation and embarrassment (Hz, 2022). Similarly, another study found that female students exhibited higher anxiety levels in communication apprehension, test anxiety, and fear of negative evaluation (Fauziah et al., 2022). These gender differences may be influenced by sociocultural expectations and should be considered in designing supportive interventions.

Age differences also played a role. The majority of respondents were 17 years old (65.3%), with smaller groups aged 16 (22.2%) and 18 (12.5%). All age groups agreed on the importance of English speaking for employment (mean score 3.40). However, older students—particularly those aged 18—tended to show higher levels of confidence, possibly due to more extensive experience in field training or internships. This trend is supported by (Pontillas & Rodrigo, 2024), who observed a decrease in speaking anxiety with age among high school students.

An examination of the relationships between different questionnaire items revealed positive, though not perfectly linear, correlations. For example, the item "English speaking ability provides a competitive advantage" received a high average score (3.27), while "Not confident when speaking English in a work context" also scored relatively high (3.15), reflecting a disconnect between perception and self-efficacy (Gultom & Oktaviani, 2022).

Furthermore, students who valued English speaking as crucial for employment were also more likely to perceive school instruction as lacking. This was shown by the high score (3.36) on the item stating that current English lessons do not focus sufficiently on speaking. Another key pattern showed that students with real-world experience—such as speaking English in academic or industry settings—held more favorable views and greater confidence, reinforcing the importance of authentic exposure in language development.

These findings were consistent with prior research that emphasized the significance of English speaking for vocational students. Speaking ability significantly increases job opportunities beyond technical skill mastery (Rosida & Sujannah, 2023). Speaking confidence plays a crucial role in job interviews and adapting to multicultural workplaces (Succi & Canovi, 2020). However, vocational curricula still focus heavily on technical content, often at the expense of communication training (Fitriyanti Zulaikha et al., 2021).

Interestingly, this study presented stronger student expectations for curriculum reform compared to earlier findings. While previous studies often report student indifference toward curricular changes (Rosida & Sujannah, 2023), respondents in this study actively expressed the need for more speaking-oriented instruction. This shift may reflect increased exposure to English in digital tools and technical software, particularly within the BIM field (Lee et al., 2020).

Moreover, students increasingly recognized that theoretical knowledge must be supported by speaking practice. (Heritage et al., 2020) and (Garcia-Aracil et al., 2021) argued that skill acquisition requires practical reinforcement. The role of interactive learning in boosting language confidence (Shi, 2024).

International comparisons also shed light on this issue. In several European countries, vocational curricula routinely integrate English communication training, leading to better speaking readiness (Young & Hordern, 2022). In contrast, English instruction in Indonesian vocational schools remains largely theoretical. These global disparities underline the need for curriculum reform that includes job interview

simulations, English project presentations, and partnerships with international industries to provide authentic speaking opportunities.

Limitations

While this study offers valuable insights into students' perceptions and challenges regarding English-speaking skills, several limitations should be acknowledged. First, the sample was limited to 72 students from a single public vocational school and a single major, which restricts the generalization of the findings. Broader representation across multiple schools, majors, and geographic regions would provide more comprehensive insights.

Second, the study relied solely on self-reported questionnaire data. While the instrument demonstrated good internal consistency, self-assessment may be influenced by social desirability bias or students' subjective evaluations. The absence of triangulation—such as classroom observation, interviews, or actual speaking performance tests—limits the depth of understanding about students' true speaking abilities.

Third, although the questionnaire items revealed correlations between perception, confidence, and curriculum, the study did not include inferential statistical analyses such as regression or factor analysis. Such methods would have provided more robust evidence of the relationships among variables and allowed deeper interpretation.

Lastly, sociocultural and individual psychological factors (such as language anxiety, personality, or prior exposure to English) were not explored in detail, though they likely influence students' confidence and performance. Future research may benefit from integrating these dimensions for a more holistic understanding of the issue.

Recommendations

In light of the findings and limitations identified, the following recommendations are proposed for educators, curriculum designers, and policymakers to enhance English-speaking competence in vocational education:

1. Revise the Curriculum to Prioritize Speaking Skills
   Schools should move beyond grammar- and text-heavy instruction by embedding structured speaking activities such as debates, presentations, and group discussions. Teaching modules should reflect workplace communication scenarios relevant to technical fields, such as BIM.
2. Implement Practical Simulations
   Introducing job interview simulations, client presentation exercises, and role-playing tasks in English can help students develop real-world communication abilities and increase their confidence.
3. Strengthen Industry Collaboration
   Partnering with industry professionals to deliver guest lectures or conduct training in English can expose students to the language in a realistic context, providing a valuable learning experience. Industry-linked projects can also integrate English-speaking components for authentic learning experiences.
4. Leverage Technology for Interactive Learning
   Incorporating digital platforms such as AI-based language apps, VR-based speaking simulations, and blended learning environments can provide students with flexible and engaging ways to practice speaking.
5. Provide Differentiated Support Based on Demographics
   Given the variations in confidence levels across gender and age, schools should design interventions that address specific needs—such as confidence-building workshops for female students or advanced speaking modules for older students nearing graduation.
6. Enhance Teacher Training and Assessment Tools
   Teachers should be trained in communicative language teaching and equipped with assessment rubrics that measure not only linguistic accuracy but also fluency, confidence, and technical vocabulary relevant to students' fields.
7. Encourage a Practice-Based Mindset among Students
   Awareness campaigns and extracurricular speaking clubs can motivate students to view English

speaking as a skill that requires regular practice, not just theoretical understanding.

By addressing both the structural and psychological factors that affect speaking ability, these strategies can help bridge the gap between students' awareness of the importance of English and their readiness to use it effectively in professional settings.

Research Strengths

The findings are supported by a Cronbach's Alpha score of 0.802, showing that the questionnaire used was reliable. This study used a descriptive quantitative method, offering clear numerical insight into the trends and challenges students face. It also showed a link between the frequency of students' use of English in speaking activities and their level of confidence in doing so. This adds another layer of understanding to the problem.

From an educational perspective, this highlights the need to revamp the way English is taught in vocational settings. More interactive methods—like task-based or project-based learning—could make lessons more engaging and practical. Tools powered by artificial intelligence, as well as virtual reality simulations, can also help students practice speaking in more realistic situations. Collaborating with industry professionals can further give students the experience they need to communicate confidently in the workplace.

CONCLUSION

This research explored how students from a vocational school in Bandung, specifically those majoring in Building Information Modeling (BIM), view their English speaking skills in relation to career readiness. The results showed that students clearly understand the value of being able to speak English, especially since BIM work often involves international collaboration. Most students believed that having strong English skills gave them an edge when entering the workforce.

However, despite recognizing its importance, a large number—84.7%—said they didn't feel confident speaking English in professional settings. Many also felt that their current English lessons didn't give enough focus to speaking practice, which made them feel underprepared for real-life communication on the job. These results suggest that English instruction in vocational schools needs to shift toward more hands-on practice. This could include activities such as mock job interviews, project presentations in English, and interactions with industry professionals to help students use English more actively and naturally.

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