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Subject-wise English language reading skill of bachelor level engineering students of Mid-West University of Nepal

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Abstract

This research investigates the subject-wise English language reading skills of bachelor level engineering students at Mid-West University in Nepal, aiming to bridge a crucial gap in understanding their comprehension levels, vocabulary acquisition, and reading strategies across various disciplines. Drawing on the specialized form of English language instruction known as English for Academic Purposes (EAP), the study assesses students' proficiency in comprehending academic materials. Despite challenges in implementation, EAP instructors recognize the value of formative assessment in enhancing student learning and academic performance. The findings reveal significant variations in reading preferences and habits across engineering disciplines, highlighting areas for focused assistance and development of reading abilities. Specifically, students studying computer engineering demonstrate higher mean reading proficiency compared to their counterparts in civil and hydropower engineering. The study underscores the importance of English language proficiency for academic success, particularly in fields like engineering where collaboration and communication span global boundaries. It also sheds light on the gradual progress and reforms in English language education in Nepal, emphasizing the need for tailored interventions and resources to enhance reading skills among engineering students. Recommendations include investing in teacher training programs focused on EAP methodologies, developing tailored resources, and promoting interdisciplinary collaborations to address subject-specific reading challenges. By addressing these recommendations, Nepal can better prepare its engineering students to succeed in academic and professional contexts where English proficiency is essential.

Keywords: Bachelor level; EAP; Engineering; English; Mid-West; Nepal; Reading skill

1. Introduction

Language is the means of communication and transformation of information between one to another person. In an increasingly interconnected world, proficiency in the English language is crucial for academic and professional success, particularly in the fields like engineering where collaboration and communication span global boundaries. Despite this recognition, there remains a gap in understanding the specific reading skills of engineering students at the bachelor level, especially in non-native English-speaking regions such as Nepal. This research aims to bridge this gap by investigating the subject-wise reading skills of bachelor level engineering students at Mid-West University, shedding light on their comprehension levels, vocabulary acquisition, and reading strategies across different disciplines.

The research article investigates the subject-wise English language reading skills of bachelor level engineering students at Mid-West University in Nepal. Drawing on the specialized form of English language instruction known as English for Academic Purposes (EAP), the study aims to assess students' proficiency in comprehending academic materials across various engineering disciplines. EAP, emphasizing the importance of language skills for academic success, focuses on

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writing skills tailored to academic and professional contexts. Despite challenges in implementation, EAP instructors recognize the value of formative assessment in enhancing student learning and academic performance. The significance of EAP has grown over the years, reflecting the evolving needs of students in academic settings. By encouraging self-expression, critical thinking, and effective articulation of ideas in English, EAP teaching goes beyond test-taking skills to foster a deeper understanding of academic content. This research contributes to the discourse on English language education in non-native English-speaking contexts and offers implications for curriculum design and educational policy formulation (Kitkauskienė, 2013; Subandowo & Adamova, 2022; Treve, 2021; Jordan, 1989).

Nepal is a multilingual, multi-ethnic, and multi-cultural country. The people of Nepal communicate exclusive languages that belong to numerous ethnic businesses (Tobin, 2011). The Central Bureau of Statistics reports that 44.48% of people speak Nepali as their mother tongue, while 11.05% of people speak Maithili as their mother tongue. According to the 2021 census, the highest percentage of indigenous people who speak their mother tongues are Bhojpuri (6.24%), Tharu (5.88%), Tamang (4.88%), Newar (2.96%), and Magar Dhut (2.78%). Nonetheless, the census indicates that 1323 individuals in Nepal speak English as their first language (National Statistics Office, 2021).

English in Nepal does not hold the status of a second language (Shrestha R. , 1983; Shrestha P. , 2008). It lacks recognition as a global language, a medium of broader communication, or an institutional identity (Shrestha, 1983). Despite its use as a medium of instruction in numerous private educational institutions, including schools and universities, it has not attained equal standing in public higher education institutions in Nepal. The history of English language education in Nepal spans approximately half a century, with the inception of English language classes in 1951, initially limited to members of the royal family. Following the establishment of social equality in the country, Tri-Chandra College began offering English courses in the early 1950s, overseen by Patna University, India (Bista, 2011). Subsequently, in 1981, Tribhuvan University implemented changes to the English syllabus, increasing the weightage to 200 marks at the campus level, up from 100 marks, and reverted from the semester system to the annual system for teaching and assessment. Over the past three decades, English language education has undergone significant development in Nepal, evident in the reforms in educational structure, teaching methodologies, and higher education institutions (Malla K. , 1977).

Ineffective teacher preparation, the medium of instruction, language regulations, and university entrance exams are some of the obstacles that Nepalese students must overcome to study English for Academic Purposes (EAP) (Shrestha, 2008). Students and teachers do not seem to be aware of or comprehend EAP, which emphasizes the need for additional teacher training and assistance. The report also highlights the need for more resources and materials created especially for EAP in Nepal (Paudel, 2022). In EAP studies, practitioners also recognized the most difficult problems as Academic Writing, Curriculum Development, and Critical EAP (Kafle, 2014). So, there is a need to identify the English reading skills of Nepalese students which will give the evidence-based facts of the real field. This study will fill the gap of this study by identifying the English reading skills of Bachelor level engineering students reading under the Mid-West University of Nepal.

This study explores a crucial area of academic growth for students studying engineering at Nepal's Mid-West University: their subject-specific English language reading proficiency. Given the growing emphasis on English as a worldwide language for academic education and communication, it is critical to comprehend students' skill levels in this context. The purpose of this study is to investigate the dynamics of reading comprehension and interpretation among engineering bachelor's degree students in a variety of academic areas. This paper aims to offer educators, policymakers, and stakeholders useful insights through analysis so they can customize efficient ways to improve English language competency among engineering students in Nepal and abroad.

1.1. Research Objective

The main objective of this study is to identify the reading skills of bachelor level engineering students of the Mid-West University of Karnali Province, Nepal.

2. Research Methodology

The study is based on the cross-sectional descriptive design. The data was collected by using the survey questionnaire so it was based on the quantitative design. The study was conducted in the Karanali province focusing on the students reading under the Mid-West University located in Surkhet district. The researcher selected the Surkhet district to collect the data for the research. The research selected the Engineering students from the Engineering campus. Students were selected from bachelor level civil engineering, computer engineering, and hydropower engineering. The sample size was decided based on the standard sample calculation technique. The total sample size of this study was calculated

considering the 95% confidence level, 5% margin of error, and 50% estimated prevalence. So, the total sample size is 385. The study did the Cronbach's Alpha test to check the internal consistency of data. The value of Cronbach's Alpha test of reading skill is 0.609. Statistical models like, mean calculation, and ANOVA are used to analyze the data.

3. Findings of the study

3.1. The subject-wise Reading Skill of Engineering Students

The study has measured the subject-wise reading skills of engineering students. The data of Table 1 presents mean values indicating the reading skills of engineering students across different disciplines, including Civil Engineering, Computer Engineering, and Hydropower Engineering, along with a total mean value. The responses are based on a scale where higher values indicate a more frequent application of the specified reading skill.

Table 1 The subject-wise Reading Skills of Engineering Students

The subject-wise Reading Skill of Engineering Students (Mean Value)	Civil Engineering	Computer Engineering	Hydropower Engineering	Total
I read straight through the text.	3.8898	3.9478	3.7258	3.8571
I check the words and sentences first before reading carefully.	3.5039	3.5821	3.6452	3.5766
I underline or note down keywords or important points.	3.8425	4.0896	3.9435	3.9610
I sum up what I have read, in my mind or writing.	3.8740	3.8358	3.8710	3.8597
I pause frequently while reading to think about what I have read.	3.5748	3.6642	3.4113	3.5532
when I encounter unfamiliar words when reading, I consult a dictionary	3.6693	3.8657	4.0081	3.8468
When I encounter unfamiliar words while reading, I guess the meaning of the word using my knowledge of the subject.	3.5906	3.7687	3.7661	3.7091
When I encounter unfamiliar words while reading, I guess the meaning of the word from the reading context	3.4803	3.6716	3.6694	3.6078
When I encounter unfamiliar words while reading, I ask the lecturer.	3.2283	3.2090	3.1694	3.2026
When I encounter unfamiliar words while reading, I ask other students.	3.1654	3.0075	2.7984	2.9922
When I encounter unfamiliar words while reading, I continue reading.	2.9055	3.1418	2.7097	2.9247
When I encounter unfamiliar words while reading, I give up reading.	2.1102	2.2388	1.9032	2.0883
How often do you read English books?	3.2283	3.4179	3.2823	3.3117
How often do you read English magazines or newspapers?	3.1102	3.3134	3.2419	3.2234
How often do you read English on the Internet?	3.3622	3.5299	3.5484	3.4805
How often do you watch English movies, videos, or TV programs?	3.4646	3.6642	3.7177	3.6156
Total	3.3750	3.4967	3.4007	3.4256

Source: Field Survey, 2023

Regarding the reading styles that students use, it is clear that students studying computer engineering read through the material more often (3.9478), closely followed by students studying civil engineering (3.8898) and hydropower engineering (3.7258). Students studying computer engineering once more lead the way with the highest mean value (3.5821) when it comes to carefully verifying words and phrases before reading, followed by those studying civil engineering (3.5039) and hydropower engineering (3.6452). It is interesting to observe that students studying computer engineering are more likely than those studying civil and hydropower engineering to highlight or jot down keywords (4.0896).

When faced with unknown terms, students studying Hydropower Engineering are more likely to refer to a dictionary (4.0081), but students studying Computer Engineering are more likely to infer the meaning from their familiarity with the field (3.7687). Notably, when encountering unfamiliar words, asking the lecturer or other students is less common across all engineering disciplines.

According to the data on reading frequency, students majoring in computer engineering have the greatest average reading rates for English-language books (3.4179), periodicals or newspapers (3.3134), and the Internet (3.5299). With computer engineering having the highest mean (3.4967), the aggregate total mean value indicates a well-balanced reading frequency across the three engineering disciplines.

The averages that represent engineering students' reading proficiency show significant variations amongst fields. Students majoring in computer engineering have a greater propensity to read a text aloud, highlight or highlight important terms, and check words before closely reading it. Students studying hydropower engineering have a greater propensity to look up uncommon words in dictionaries. When it comes to reading frequency, computer engineering students excel as well. They routinely receive higher scores when it comes to reading English books, periodicals, newspapers, and internet information. Overall, the results highlight the diverse reading preferences and habits of engineering students, offering information on possible areas for focused assistance and the development of reading abilities across disciplines.

3.2. Subject-wise differences in reading skill (ANOVA)

The analysis of variance (ANOVA) was conducted to explore subject-wise differences in reading skills among students majoring in Civil Engineering, Computer Engineering, and Hydropower Engineering.

Table 2 Subject-wise differences in reading skill (ANOVA)

ANOVA						
	Sum of Squares	df	Mean Square	F	Sig.	
Between Groups	276.500	2	138.250	3.596	0.028	
Within Groups	14684.659	382	38.442			
Total	14961.158	384				
Multiple Comparisons						
Dependent Variable: Reading skill LSD						
(I) Subject	(J) Subject	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Civil Engineering	Computer Engineering	-1.94776*	0.76783	0.012	-3.4575	-0.4381
	Hydropower Engineering	-0.41129	0.78275	0.600	-1.9503	1.1278
Computer Engineering	Civil Engineering	1.94776*	0.76783	0.012	0.4381	3.4575
	Hydropower Engineering	1.53647*	0.77259	0.047	0.0174	3.0555
Hydropower Engineering	Civil Engineering	0.41129	0.78275	0.600	-1.1278	1.9503
	Computer Engineering	-1.53647*	0.77259	0.047	-3.0555	-0.0174

*. The mean difference is significant at the 0.05 level.

Source: Field Survey, 2023

The findings show that there was a statistically significant difference in the groups' mean reading skill scores ($F = 3.596$, $p = 0.028$). The substantial F-value indicates that the mean of at least one group differs from the others. Specific differences between the subjects are revealed by additional investigation through numerous comparisons utilizing the Least Significant Difference (LSD) test. Interestingly, the mean reading proficiency of Civil Engineering students is substantially lower than that of Computer Engineering students (mean difference = -1.94776 , $p = 0.012$). On the other hand, compared to students studying hydropower engineering (mean difference = 1.53647 , $p = 0.047$) and civil engineering (mean difference = 1.94776 , $p = 0.012$), computer engineering students have a much higher mean reading capability. Hydropower Engineering and Computer Engineering also differ significantly from one another, with the former having a lower mean reading capability (mean difference = -1.53647 , $p = 0.047$). These results highlight clear differences in reading proficiency across engineering specialties, offering insightful information for focused interventions and customized assistance.

The universal language of academia and business is still English, therefore universities like Mid-West University must make sure that its engineering students have strong reading comprehension abilities appropriate for their academic goals. To facilitate the development of evidence-based interventions and pedagogical strategies to improve English language instruction in Nepal's engineering curriculum, this research aims to provide insight into the subject-wise reading competency of bachelor's level engineering students.

4. Discussion

This research investigates the subject-wise English language reading skills of bachelor level engineering students at Mid-West University in Nepal, aiming to fill a crucial gap in understanding their comprehension levels, vocabulary acquisition, and reading strategies across various disciplines. Drawing on the specialized form of English language instruction known as English for Academic Purposes (EAP), the study assesses students' proficiency in comprehending academic materials. Despite challenges in implementation, EAP instructors recognize the value of formative assessment in enhancing student learning and academic performance. The findings reveal significant variations in reading preferences and habits across engineering disciplines, highlighting areas for focused assistance and development of reading abilities.

5. Conclusion

The study underscores the importance of English language proficiency for academic success, particularly in the fields like engineering where collaboration and communication span global boundaries. Despite Nepal's multilingual landscape, English lacks recognition as a second language and faces challenges in achieving institutional status. However, the history of English language education in Nepal reflects gradual progress and reforms in educational structure and teaching methodologies. The findings of this study shed light on the diverse reading preferences and proficiency levels among engineering students, emphasizing the need for tailored interventions and resources to enhance their reading skills.

Recommendation

Based on the findings, it is recommended that educational institutions, policymakers, and EAP practitioners in Nepal prioritize initiatives to enhance English language proficiency among engineering students. This could include investing in teacher training programs focused on EAP methodologies, developing tailored resources and materials, and promoting interdisciplinary collaborations to address subject-specific reading challenges. Additionally, efforts should be made to raise awareness among students and teachers about the importance of EAP and provide ongoing support to facilitate its effective implementation. By addressing these recommendations, Nepal can better prepare its engineering students to succeed in academic and professional contexts where English proficiency is essential.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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