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Enhancing English language skills for technical professionals

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Abstract

This paper studies the critical role of good communication skills in information technology (IT), specifically in improving the language proficiency of technical professionals.

The research delves into the current obstacles that IT professionals encounter when attempting to communicate successfully in English, ascertains how language competency affects the findings of projects, and examines the many approaches taken to improve communication abilities.

The research's conclusions emphasize the value of effective English communication in the IT industry and provide advantageous recommendations for bridging communication barriers. IT workers may contribute more successfully to international initiatives, promote smooth teamwork, and increase project success by enhancing their language skills. This research is a priceless resource for IT professionals, educators, and businesses looking to strengthen communication in the ever-changing and expanding IT industry.

Keywords: Effective Communication; IT Industry; English Language Skills; IT workers

1 Introduction

Effective communication is the foundation for success in the fast-paced information technology (IT) field. It is a unique gem involving more than just verbal communication - it involves turning concepts into deeds, issues into solutions, and endeavors into victories.

Regardless of its advantages, effective communication is always accompanied by its difficulties. Misunderstandings, misinterpretations, and differences in language proficiency can frequently cause communication failures.

Language proficiency is essential for career advancement, facilitating interaction, compromise, and establishing connections in domestic and global settings. They help professionals navigate the dynamic environment in which their fields are immersed.

Technical professionals are the architects of innovation, the problem solvers behind complex systems, and the engine that propels our contemporary digital world within the dynamic information technology (IT)industry.

Furthermore, the IT service delivery process involves an in-depth exchange of task-related instructions between service providers and clients. To be clear, client-service provider partners are engaged in a highly collaborative relationship rather than a coordinating or cooperative one.

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In conclusion, this study aims to solve the distinct roles, duties, and especially communication difficulties that information technology (IT)technical specialists encounter as they significantly help construct the digital environment that characterizes our contemporary world.

1.1 Objectives

The main goal is to disentangle the complexities of communication in information technology, where timeliness, accuracy, and clarity are critical.

To explore the fundamentals of successful communication in this ever-changing field. To identify the best practices for ensuring that IT language is spoken clearly and purposefully through in-depth research, surveys, and interviews. Looking at IT workers' methods and instruments to communicate their ideas, oversee tasks, and bring disparate groups of people together to achieve shared objectives is essential.

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2 Review of related literature

This study aims to look into and create practical methods for improving technical personnel's English language proficiency. English language competency is essential for career success in technical disciplines as the need for international collaboration and communication grows. Through an assessment of current language enhancement programs and an awareness of the difficulties experienced by technical professionals, this study seeks to provide important information that can guide the development and application of focused interventions. The ultimate objective is to provide technical professionals with the language skills required for productive interaction in multicultural and global work settings.

2.1 English Language Skills

To evaluate technical personnel's present level of English language competency and pinpoint particular areas needing development. This seeks to comprehend the language barriers people encounter in technical domains and how language competency affects their ability to function in their work. English has established itself as a global lingua franca. The worldwide growth of the usage of English has resulted in many reforms within educational institutions. The study aims to ascertain and examine English needs for information technology purposes among professionals and learners on a wide scale. A quantitative descriptive approach with a survey research design was employed in the study, and it applied to the Cross-Sectional survey design. The English learning outcome implied different aims. *(Prasetya, 2021)*

2.2 Technical Professionals

To provide an overview of the particular communication difficulties faced by those in technical professions. By highlighting the significance of customizing language improvement techniques to match the unique needs of professionals in technical disciplines, this aims to identify the particular communication demands and requirements of technical positions. The professionals want to complete language instructions for information technology processing, but students expect information access to the products. Professional speaking abilities are concerned with asking for clarifications in group or personal meetings, yet students take and receive phone calls more often. In the same manner as writing, professionals and students have the same expectation: to produce formal reports in academic or professional situations. This study affirmed an interrelation between the English standing in professional IT and students' IT positions in communication experiences in their present circumstances. *(Prasetya, 2021)*

2.3 Impact of English Proficiency on Professional Success

To explore the relationship between professional performance in technical fields and English proficiency. The goal is to comprehend how improved language proficiency affects prospects for international collaboration, professional growth, and general success in the globalized setting of technological industries.

In many technical professions, the complete focus of education and training is on technical topics directly or indirectly related to a career or discipline. Technical professionals in various disciplines, such as information technology, engineering, architecture, and research and development, are increasingly required to broaden their skill sets and master soft skills. Soft skills are "the cluster of personality traits, social graces, facility with language, personal habits,

friendliness, and optimism that mark people to varying degrees. Soft skills complement hard skills, which are the technical requirements of a job. *(Bancino & Zevalkink, 2007)*

2.4 Technology-Assisted Language Learning for Professionals

This study investigates a series of experiences and benefits of integrating technology into English Language learning in Indonesia. The results show that some benefits of incorporating technology in English language learning are learners can do some coding, practice online quizzes or tests, improve their speed of answering questions, improve scores in English tests, learn another foreign language, do some collaborative learning, encourage independent learning, have opportunities to write, speak, listen, and read in English, do online learning, get online references, use of multiple computer application, obtain the latest information, translate, have opportunities to use multi-media presentation as well as demonstrate new method of teaching. *(Rintaningrum, 2023)*

3 Methodology

This chapter outlines the research approach and methodology used in the study on 'Enhancing English Language Skills for Technical Professionals.' It covers the research design, details about the respondents, the sampling technique used, the method for collecting and gathering data, and the statistical treatment and analysis procedures.

3.1 Research Design

The research study used a non-experimental descriptive research design with a quantitative methodology. Presenting a moment in time of the existing situation without changing factors defines descriptive research. It entails gathering information to provide a thorough account or description of people, organizations, or circumstances.

(May, et al., 2022) presents the methodological design of a large-scale quantitative investigation of research use by school-based practitioners through the "Survey of Evidence in Education for Schools (SEE-S)." It documents the significant technical aspects of SEE-S development, including item development, sample selection, and reliability and validity assessment. Descriptive statistics for data collected during the survey field trial are also detailed in this report. Through the development and validation of multiple survey measures, this study aims to deepen the field's understanding of the actions and activities that educators are involved in concerning the use of evidence in decision-making.

3.2 Sample and Sampling Procedure

This study's primary data sources are the IT students and IT Professionals of Nueva Ecija University of Science and Technology Atate Campus during the First Semester of School Year 2023-2024. The sample size was determined using Sloven's formula:

$$n = \frac{N}{1 + (Ne^2)}$$

Where: n is the sample size;

N is the population, and

e is the margin of error, which is 0.05

According to (Sukmawati, 2023). The study sample is part of the population taken as a data source and can represent the entire population. Disproportionate Stratified Random Sampling Technique Group Sampling (Area Sampling) The area sampling technique determines the sample when the object being studied or the data source is enormous.

Sampling is based on the specified population area to determine the object used as a data source. In a qualitative study, informants were divided into three, namely, key informants, primary informants, and supporting informants. Key informants are informants who have comprehensive information about the issues raised by investigators.

Purposive sampling, namely choosing information-rich cases based on the strategy and objectives set by the reviewer whose numbers depend on the objective and learning resources.

Table 1 Number of Respondents

Section	**N**	**n**	**%**
A	134	38	17.75= 18%
B	101	28	20.80= 21%

Professionals	**N**	**n**	**%**
IT instructors	7	3	60.71= 61%
Total	**242**	**69**	**100%**

Table 1 shows that, with a sample size of 38, the majority of responders were IT students from section A. IT students from section B, who 28 respondents represent, appear next to IT students from section A. Furthermore, 3 IT instructors were represented. There were 69 respondents in this study.

3.3 Statistical Treatment

The researchers used statistical instruments, including the percentage, weighted mean, frequency count, and matrix of correlations.

Frequency counts and percentages were used to describe the respondents' profiles. For this, the formula is:

$$P = \frac{F}{N} \times 100$$

where: F = frequency;

N = number of respondents;

P = percentage

The researchers used the weighted mean. The formula is:

$$WM = \frac{TFV}{N}$$

Where: WM = weighted mean

TFV = total frequency value

F = frequency

V = value

n = sample size

After collecting the required data, the researchers conducted the analysis and interpretation. A correlation matrix was used to analyze the significant relationships between variables in the study of technical professionals' English language skills, which was then integrated into the SPSS application.

The study utilized a non-experimental descriptive research design with a quantitative approach to investigate English language skills among IT students and professionals at Nueva Ecija University of Science and Technology Atate Campus. The sample, determined through Sloven's formula and stratified random sampling, represented diverse sections and included IT instructors. Data was collected using a validated questionnaire, employing statistical treatments such as frequency counts, percentages, and weighted mean calculations. The findings, analyzed through a correlation matrix in SPSS, offer insights into language proficiency, guiding potential enhancements in language programs for IT

professionals to meet industry demands. The results serve as a basis for tailored language education initiatives to ensure ongoing relevance and effectiveness in the dynamic IT landscape.

4 Presentation, Analysis, and Interpretation of Results

This chapter provides an analysis of the study's findings and an interpretation based on how the data was addressed. It also includes illustrative tables.

4.1 Profile of Respondents

This study's first question was regarding the respondents' age, educational background, attainment, current employment status, occupation, industry sector, and years of experience in the IT industry.

Table 2 Distribution of Respondents According to Age

Age	F	%
17-18	11	15.9%
19-20	30	43.4%
22-23	23	33.3%
24 and above	5	7.2%
Total	69	100%

The age distribution of respondents in Table 2 shows that, at 43.4% of all respondents, the 19–20 age group has the highest frequency. The age group of 22–23 comes in close behind with 33.3%. 15.9% of respondents are between 17 and 18, and 7.2% are 24 or older.

This indicates that the targeted demographic for improvement in language proficiency encompasses individuals aged 17 to 18 and 24 and above.

Table 3 Distribution of Respondents According to Industry Sector

Industry Sector	F	%
Information Technology	45	65.2%
Finance	2	2.8%
Healthcare	3	4.3%
Education	3	4.3%
Government	0	0%
Manufacturing	0	0%
Retail	0	0%
Other	16	23.1%
Total	69	100%

Table 3 shows the respondents' industry sector distribution. Information technology accounts for 65.2% of the total, with 23.1% from other sectors. Government, Manufacturing, and Retail are not represented at all.

5 Conclusion

Based on the results and findings, the following conclusions were arrived at:

- Research Question 1. The standard profile of students and IT teachers in Nueva Ecija University of Science and Technology Atate campus is between 19-20 years old, who was at the college level, and also hold a high school diploma; most of them are in the Information Technology sector with less than a year of experience.
- Research Question 2. Most of the findings from all of our questions strongly agree and agree. As a result, everyone answers the questions the researchers provide with agreement.
- Research Question 3. According to the statistical survey, the profile characteristics of technical professionals and their perceptions of the efficacy of the English language skills enhancement program in the IT industry did not significantly correlate. Most believe the program is effective regardless of experience, industry sector, age, education, job, or occupation. This consistent, affirmative response suggests that people with various profiles view the language skills enhancement program as very effective.

5.1 Recommendations

These recommendations were made in the context of the previously mentioned references.

- Provide expert language programs designed according to the unique requirements of IT professionals and students. Take note of the essential areas the survey found, such as improved job performance, increased communication, and productive teamwork.
- Include modules highlighting terms and jargon unique to the information technology and educational sectors. This focused method significantly improves language skills in the context of their jobs.
- Participation in industry conferences, workshops, and online forums should be encouraged to give IT professionals opportunities to practice and improve their English language proficiency.
- To guarantee that IT professionals and students stay current on technological developments and maintain high language proficiency levels, opportunities for continuous language learning should be offered.
- Implement IT workers with the tools and resources to actively participate in their language development, such as online forums and language applications.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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