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" The Relationship Between Functional English and Cognitive Skill of Undergraduate Students: A Case Study of Kohat University"

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Abstract

Proficiency in Functional English not only advances worldwide citizenship but also enables students' stronger competitors in the multinational marketplace. The main objectives of the present research were (a) Explore how Functional English components enhance students' cognitive development, (b) Identify the relationship between Functional English and cognitive abilities. Through the use of a stratified random sampling technique, data was only gathered from 290 KUST undergraduate students through questionnaires. Utilizing Pearson analysis and ANNOVA, the study took a cross-sectional approach. According to research, university students' cognitive capacities are considerably improved by Functional English since it raises their application and comprehension skills. The cognition of KUST undergraduate students was found to have a substantial positive correlation with the grammar, syntax, diction, and communication components of functional English. Significantly these elements improved their ability to analyze critically, comprehend, synthesize, expand their vocabulary, and be flexible with cognition in general. The result indicates that to increase the program's efficacy, learning among peers groups, case studies, and monetary support proposals for policies are advised.

Keywords: Functional English, Cognitive Abilities, Undergraduate Students KUST.

Introduction

Background of the Study: In today's globalized world, English plays a vital role in academics, business, and technology. Understanding its impact on cognitive skills is crucial for preparing students to compete in the international market. Functional English places an emphasis on the practical, everyday use of language, emphasizing the importance of reading, writing, speaking,



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and listening over literary or theoretical elements. It's a communicative strategy, according to Richards & Schmidt (2002) that focuses on language functions, not simply formal grammar, such as making requests for information or expressing ideas. Courses in functional English are designed to improve students' communication skills that are relevant to both academic and professional environments.

Four essential elements of Functional English include, grammar, diction, syntax, and communication skills will be looked at in this study. Each is vital to the efficient use of language.

- Grammar: It is a basic component that gives students the foundation they need to form precise and meaningful sentences, guaranteeing communication that is clear and proper (Adolt et al. 2021).
- Diction; The term "diction" in the context of Functional English refers to the deliberate choice and application of words,. It empowers them to express ideas more effectively, enhancing their interactions in both academic and professional environments (Richards & Schmidt, 2002).
- Syntax is the study of the laws and ideas that determine how sentences are put together in a language, particularly how words and phrases are arranged to produce coherent sentences (Carnie, 2013)
- Communication: The ability to effectively transmit, comprehend, and react to messages in both written and spoken forms is referred to as communication skills.

Literature Review

The cognitive domain encompasses the mental processes associated with acquiring, processing, and utilizing knowledge (Anderson & Krathwohl, 2001). It involves various levels of thinking, from basic recall of information to higher-order skills, including application, synthesis, analysis and understanding. However what exactly do these essential elements of Functional English influence students' cognitive abilities? Four significant components of Functional English are going to be investigated by the researcher: diction, grammar, syntax, and communication (Adolt et al., 2021). In order to provide insight into the possible cognitive advantages of language education, researcher proposes to further explain the connection between Functional English competency and cognitive abilities by integrating the available studies (Allen et al., 2016). Grammar is the fundamental component of language framework, impacting mental processes which involve identifying patterns, analytical thinking, and resolving issues. Syntax and cognitive thinking are closely linked. Syntax influences how words are organized in statements, which in fact defines how sentences are understood and constructed (Brown et al., 2020) underlining how it can assist with efficient understanding and data interpretation. Research indicates the fact that being exposed to a variety of syntactic patterns significantly improves



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flexibility in thinking and language innovative thinking in undergraduate learners (*Finn et al., 2014*). Diction is concerned with the choices and use of terms, which influencing cognitive processes including deductive reasoning, meaning determination, and vocabulary learning.

According to (*Johnson et al., 2021*), a broad and extensive vocabulary provides numerous cognitive advantages, and it is fundamental for increasing students' perspectives as well as strengthening their communication skills (*Welsh et al., 2010*). As a cognitive ability, successful communication comprises thinking strategically, convincing arguments, and attentive listening. Linguistic connection leads to cognitive involvement, which is important for supporting group learning and intelligent discussion (*Davis et al., 2022*). By exploring the ways in which these components interact, research will find out how they could improve undergraduate students' cognitive abilities. The researcher will use knowledge from numerous studies and research articles to further investigate this subject. According to (*Smith's et al., 2019*) functional English instructions has a positive cognitive impact and enables students to raise their ability to analyze and examines the connection between mental development and language syntax, highlighting the influence of sentence structure on the processing of information (*Brown at al., 2020*). The significance that diction skills have in aiding students become more proficient and more cognitively adaptive (*Johnson et al., 2021*)

Research Questions

- What are the components of functional English to develop cognitive abilities of undergraduate students?
- As there any relationship exists among the components of functional English and cognitive abilities of undergraduate students?

Objective Of The Study

- To explore the components of Functional English to develop cognitive ability of undergraduate students.
- To find out the relationship among the components of functional English and cognitive abilities of undergraduate students.

Significance of the study

The Significance for investigating the influence of functional English on the cognitive capacities of KUST undergraduate students consists of various basic factors which permits improved comprehension, involvement, and accomplishment. Examining the impact of functional English on KUST undergraduates is essential because it improves academic performance, global competitiveness, and cognitive abilities which include retention and solving issues. Clear articulation is made easier by good grammar and communication skills, also management and multitasking skills are nurtured by English proficiency. This study tries to provide contextual data, emphasizing the special setting of KUST and the means by which functional English



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enhances students' self-esteem, confidence, and soft skills all of which are vital for success in both the classroom and working environment.

Methodology

Research Design

The research design of this study was a cross-sectional which embraces both quantitative and descriptive analysis.

Population and sample of the Study

The target population consisted of all male and female students enrolled in the social sciences departments at Kohat University of Science and Technology. From KUST, 290 undergraduate students were chosen in a stratified random sample.

Research Instrument and Data Collection

A self-reported questionnaire created by the researcher and validated by language specialists served as the main means of gathering data. These questionnaires were used to collect data, and percentage calculations were used in the research process to identify important findings.

Data Analysis

Relationship among the Aspects of Functional English

		A1. Mean	A2. Mean	A3. Mean	A4. Mean	C Mean
Cog Mean	Pearson Correlation	1.00				
	N	290				
G Mean	Pearson Correlation	.311**	1.00			
	N	290	290			
S Mean	Pearson Correlation	.471**	.528**	1.00		
	N	290	290	290		
D Mean	Pearson Correlation	.772**	.831**	.891**	1.00	
	N	290	290	290	290	
C Mean	Pearson Correlation	.681**	.613**	.559**	.584**	1.00
	N	290	290	290	290	290

*. Correlation is significant at the 0.05 level 2-tailed

During analysis positive relationship were found among the aspects of functional English and cognition of mental process representing the values range i-e (G and A1 r = .681, p = 0.000<0.05),



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(S and A2 $r = .613$, $p = 000 < 0.05$), (D and A3 $r = .559$, $p = 001 < 0.05$), and (C and A4 $r = .584$, $p = 001 < 0.05$) showing positive relationship “to find of the Relationship among the components of functional English and cognitive abilities of undergraduate students”.

Findings of the study

The stratified sample of 290 undergraduate students' respondents was used by the researcher to get the data from the social sciences departments of KUST. The study revealed positive relationship between functional English components grammar, syntax, diction, and communication and the cognitive abilities of undergraduate students at KUST. A significant percentage of respondents reported that these components enhanced their critical thinking, comprehension, synthesizing, vocabulary expansion, and overall cognitive flexibility.

Discussion

This study explores the influence of a Functional English course on the cognitive capacities of undergraduate students at Kohat University of Science and Technology. Bialystok (2022) claims that linguistics competency especially in the second language has an important influence on cognitive development through strengthening essential skills including retention, concentration, and capacity to solve problems. Under the functional English framework, particularly encourages practical communication, the environment has a significant influence on cognitive ability. Students that use functional English not solely obtain academic content more easily but also develop mental agility, which makes it possible for them to think deeply and consume information more quickly (Rosheen et al, 2024). Bak et al. (2021) demonstrate that language learners appreciate more powerful cognitive versatility and leadership authority, essential for academic accomplishment. Students that show competence in English tend to exhibit superior attention management, and general cognitive functioning, consequently positively affecting their performance in academic assignments and troubleshooting settings. As such, thus, functional English plays a role that goes beyond simple communication, establishing it as a vital instrument for improving the intellectual skills of learners at Kohat University of Science and Technology (KUST). When students are required to understand and synthesize complicated material in an academic setting, the educational advantages of functional English are more important.

The results of this study highlight the important influence that functional English makes on KUST undergraduate students' intellectual capacities. A vast majority of respondents said that their ability to organize ideas and reason logically had improved as a result of their increased comprehension of grammar and syntax. Grammar activities, in particular, test student's ability to think strategically and solve difficulties by having young people study sentence patterns and use rules of grammar. This thinking is consistent with studies indicating that learning a language improves managerial abilities and flexibility in thought, which in turn improves brain function as a whole (Bialystok, 2022). The outcomes also show that teaching functional English has been extremely important in improving students' vocabulary



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and analytical abilities. KUST students indicated significant improvement in their ability to comprehend and construct complex concepts through focused vocabulary-building exercises and syntax practice. These developments support professional communication abilities while also facilitating academic achievement. As a result of receiving functional English training, respondents showed more confidence in their capacity of dealing with challenging English structures and to apply their knowledge in a variety of circumstances. The research further implies that teaching functional English directly influences students' cognitive processes, improving their capacity for innovative thinking, figuring out solutions, and successful conversation. This result supports the findings of Kroll and Bialystok's research (2021), which highlights the close connection between learning languages and cognitive growth and the development of intellectual capacity.

Conclusion and Recommendations

The study comes to the conclusion that undergraduate students at KUST have significantly greater cognitive capacities when they are excellent in functional English components (grammar, syntax, diction, and communication). The relationship emphasizes how important language proficiency is for improving intellectual capacities like application, analyzing and synthesizing and comprehension of different concepts. It is clear that developing functional English skills can significantly improve cognitive development and academic achievement since a big proportion of cognitive variable is related to these skills. Consequently, in order to enhance students' cognitive progress, educational programs should place the greatest emphasis on gaining. By considering the above conclusions; the following recommendations have been suggested for future researchers;

1. Create an updated section in the Functional English course of study that emphasizes exercises in analytical thinking and advanced grammar.
2. Provide English instructors with training on how to include the development of cognitive skills into their pedagogy.
3. Provide a workbook with difficult grammar and vocabulary activities so that students get used to speaking complicated words Functional English traits.
4. Set up language labs with software and activities that promote functional English through problem-solving simulations and role-playing.
5. Encourage faculty from other subjects to incorporate functional English assignments, like summarizing research articles.
6. Establish peer learning groups for collaborative English projects, focusing on vocabulary and grammar in real-life contexts.
7. Propose a policy at KUST for funding functional English programs to enhance curriculum development and teacher training resources.



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