

Analyzing the Role of Cognitive Processes in Language Learning: A Psycholinguistic Perspective

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Abstract.

This research paper aims to analyze the role of cognitive processes in language learning from a psycholinguistic perspective. The paper reviews the individual differences in language learning due to cognitive attitude and its role in the cognitive process of individual learning from a psycholinguistic perspective. Quantitative design was selected to review the role of the cognitive process in learning. The analysis approach selected is statistical review which was selected to review the cause-and-effect relationship from the perspective of psycholinguistic learning. Seventy -four students from languages and translation department at Haql College were participated in this study. The findings of the study addressed the role of cognitive learning processes to raise the quality of language learning abilities, the cognitive process's role in improving the psycholinguistic learning perspective such as memory, problem-solving and attention are related factors that affect the cognitive process of psychological learning.

. **Keywords:** Cognitive processes, Learning strategies.

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ملخص

تهدف هذه الورقة البحثية إلى تحليل دور العمليات المعرفية في تعلم اللغة من منظور علم النفس اللغوي. يستعرض البحث الفروق الفردية في تعلم اللغة نتيجة للموقف المعرفي ودوره في العملية المعرفية للتعلم الفردي من منظور علم النفس اللغوي. تم اختيار التصميم الكمي لاستعراض دور العملية المعرفية في التعلم. النهج التحليلي المختار هو مراجعة إحصائية تم اختيارها لاستعراض العلاقة السببية من منظور التعلم النفسي اللغوي. شارك في هذه الدراسة ٧٤ طالبًا من قسم اللغات والترجمة في كلية حقل. تتناول نتائج الدراسة دور معالجة التعلم المعرفي في رفع جودة قدرات تعلم اللغة، دور العملية المعرفية في تحسين منظور التعلم النفسي اللغوي مثل الذاكرة وحل المشكلات والانتباه هي عوامل ذات صلة تؤثر على العملية المعرفية للتعلم النفسي.

الكلمات الرئيسية: العمليات المعرفية استراتيجيات التعلم.

Introduction

Importance of understanding cognitive processes in language learning

The awareness of learning language is termed cognition, and the cognitive process is important to measure the psycholinguistic abilities of the individual. Psycholinguistics is the discipline important to address the process between linguistic process learning and psychological factors affecting cognitive learning. According to Dey (2021), psycholinguistic processes in language learning address the abilities of the individual. For example, in the case of a traumatic condition, it is not possible for a person to understand the language according to the specific manner of learning. Therefore, linguistics is connection-based learning including speaking, writing, and reading patterns. The application of cognitive linguistics is important to mention the second language learning perspectives of the learners. It includes the individual learning perspective regarding cognitive development and psycholinguistic learning. As per the study of Lumentut & Lengkoan (2021), there is a significant relationship between psycholinguistic understanding and the cognitive abilities of the person towards language learning. It is important to improve the awareness of the personal abilities of an individual. The insights into learning mechanisms help an individual uncover the cognitive process and internal linguistic processes necessary for acquiring an understanding of the language process. Aloairdhi & Kahlaoui (2020) examined the perspective of linguistic learning and, the cognitive and psychological abilities of the person. The researcher examined that psycholinguistic learning is important to increase the understanding of a person based on skills and psychological processes. The application of cognitive linguistics includes the second language learning process and teaching aspects (Littlemore, 2023). It enhances the learning outcomes and optimal learning aspects of the individual learning abilities highlighting the proficiency of the psycholinguistic process. Therefore, cognitive abilities play a critical role in improving the psycholinguistic understanding of the person. It is important to address the cognitive abilities of the person from a psycholinguistic perspective. However, recognizing the language learning difference is critical to address the abilities of the person to learn based on psychological factors.

Research problem

Many people in this world live with the desire to learn foreign languages. However, some of them think that learning their mother language is necessary and easy for them as compared to foreign language learning. To mitigate the risks of their cognitive learning, it is necessary to review the role of the cognitive learning process in language learning and psycholinguistic perspectives. According to Issa & Awadh (2021), language and cognition are important perspectives associated with psycholinguistic understanding. Language learning depends on cognitive processes and individual psychological ability to learn. The present research problem uncovers the cognitive process important to mention valuable information regarding the role of psycholinguistic learning. It is important to explore the psycholinguistic perspective of language learning and how the cognitive process and abilities affect the language learning ability of the individual.

Aim of the study

The aim of this study is to analyse the role of cognitive processes in language learning from a psycholinguistic perspective.

Significance of the research

Psycholinguistic learning addresses individual learning abilities. It is significant to mention the information effective for teaching practices and their role in aligning the instructional strategies for learners. Kilmova & Pikhart (2020) mentioned that examining psycholinguistic learning abilities mentioned the cognitive learning behavior of the person. It is significant to highlight the positive perspective of psychological development and the authoritative role of psycholinguistic learning provide to improve their language abilities. It is important to optimize the language learning process because psycholinguistic learning includes the learner's true reflection towards foreign language learning. The role of cognition can't be undermined because it is also important to address the learning abilities of an individual (Belkhi, 2020). Psycholinguistic learning improves the optimal learning condition of a person because language programs offer effective learning outcomes fostering improvement in learning and proficiency. This research is significant to address individual language learning abilities in the context of applied linguistics and psycholinguistics.

Therefore, the study provides a practical review to highlight the aptitude understanding regarding the specific aspects such as attention, memory, and problem-solving abilities of an individual.

Literature Review

The role of cognitive process in language learning is highlighted in the literature review which will also exemplify key theories, models, and experiential research. Various functions of cognitive abilities are recalling, and problem-solving which are vital for language achievement and ability (Wang et al., 2021). For better language learning outcomes, it is essential to understand comprehensive intellectual processes. Various research studies emphasize the importance of the language learning process but still, there the gaps in the study as studies did not identify the diverse mental processes of individuals in different demographics that can affect the language process. It is essential to get more comprehensive research toward understanding the issues of devotion, mental health abilities, and problem-solving tactics to understand languages (Kormos, 2023). It is also essential to examine different approaches that can help to get to know about the significance of cognitive processes. Solving these gaps can help to understand the relationship between the mental health process and language learning abilities.

Cognitive Processes in Language Learning

According to a study by Rowe & Weisleder (2020), the position of cognitive procedures in language learning is paramount. According to a research study, the functioning of the mind is to input data, process it, and provide output. Different actions need to be acknowledged to accomplish the linguistic learning process. For example, cognitive action focuses on helping beginners by giving them assistance to appeal linguistic data. On the other hand, the function of memory is to understand grammar and vocabulary rules. In conclusion, the reason for problem-solving activity is to upgrade language development among people. To accomplish the ideal language capacities, this multitude of activities is important.

Connectionism and Neural Networks

Connectionism is defined as the emotional perspective that people have when learning a language can help them understand the neurological foundations of linguistics. According to a literature review by Mamudu et al. (2021), the motivation behind the connectionism model is to foster the association of the cerebrum

through repeated use and practice of languages. The writing survey features the significance of mental capability in fostering a neurobiological starting point for language learning. The concentrate likewise features the meaning of the model in creating language-related mind associations so that favored dialects can be deciphered without any problem.

Individual Differences in Cognitive Attitudes

According to the research study by Griffiths & Soruç (2020), there is a variety among people toward cognitive perspective. The literature review demonstrates that motivation to learn a preferred language and encouragement to do so can have a positive impact on language learning outcomes. People can learn the languages they want to learn if they are given a lot of support and can learn quickly. To foster a powerful educational experience, conquering the variety of people towards mental viewpoints is fundamental.

Psycholinguistic Abilities and Language Learning

The significance of the link between intellectual capacities to learn the desired language and psycholinguistic information. The literature review's findings demonstrate the significance of language-psychological interrelationships (Lumentut & Lengkoan's 2021). The study features the idea that a complete technique is expected to comprehend the trouble of language getting the hang of concerning mental phonetics.

Impact of Traumatic Conditions on Language Learning

The impact of stressful circumstances on language development is quite evident in the research. As per the study by Ricciardelli & Power (2020), it is recognized that language improvement straightforwardly corresponds with the upsetting states of people. It is featured that individuals who are experiencing different horrible emergencies can only with significant effort comprehend or learn dialects. The purpose of this study is to get to know about the importance of mental health in the language learning process.

Language Learning Strategies and Cognitive Approaches

Oxford's Strategy Inventory for Language Learning (SILL) is one of the major approaches that highlight the importance of different instructional tactics like memory exercises and problem-solving techniques to learn language easily. A study by Zou (2021) highlights the importance of instructional tactics to improve mental wellness

and learn languages easily. This perspective not only helps learners to understand the desired language easily but also helps instructors provide pathways for enhancing language skills among individuals.

Cognitive Linguistic Perspective on Language Proficiency

Cognitive talents are essential to improve brain functioning towards understanding languages easily. According to a literature study by Erton (2020), the cognitive lingual perspective highlights the importance of mental talent in improving language competencies. This study highlights the significance of mental health abilities to enhance language learning tactics and improve the overall language learning skills of individuals.

Theoretical Framework

Information Processing Model (IPM)

This is one of the essential frameworks that helps to understand the connection between cognitive abilities and the language learning process easily. According to this framework, the human mind is considered a computer machine that will first get the input of the data, then interpret that data, and then provide output related to the data. According to a literature review by Wickens and Carswell (2021), IPM can help the brain understand operations like attention, memory, and solving concerns. According to the study, this framework helps to human mind to understand, retain, and provide output towards language learning abilities. Different steps will help to understand the process of language learning. The first steps of concentration or attention will help to find individual attention toward understanding appropriate language information. Second step, memory will help to process data like grammar and wording rules. Thirdly, problem-solving steps help to develop appropriate language easily. This framework will help to identify the complex connection of mental processes with language learning abilities.

Connectionism and Neural Networks

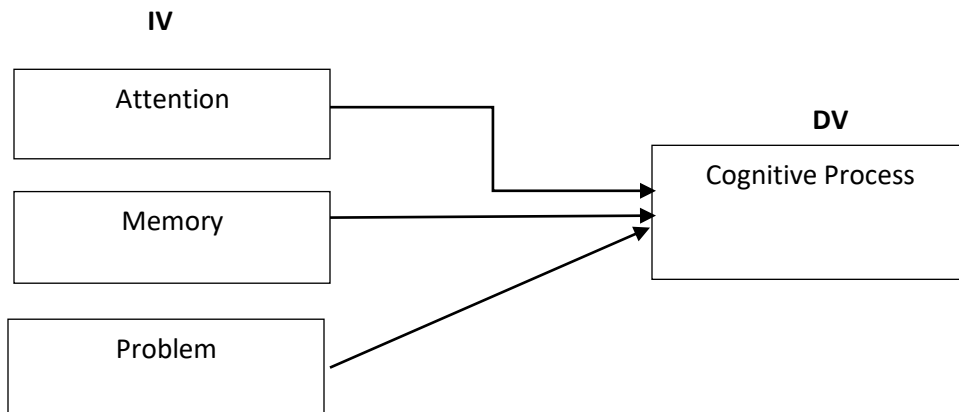
Another theoretical framework connectionism can help to develop language learning abilities easily. The reason for connectionism is to comprehend the neurological arrangement of language learning. As per this idea, to comprehend dialects effectively, brain processes are fundamental as they will assist with grasping language by rehashed practice and utilization. As per a writing survey by Banan, Ridwan, & Adisaputera (2020), a neurobiological establishment is vital for learning wanted dialects

without any problem. This establishment will assist the cerebrum with handling and uniting the mind networks connected with the dialects. This system is fundamental for understanding the natural point of view of language learning capacities among people.

Conceptual Understanding of Cognitive Processes in Language Learning.

To comprehend the complicated interrelationship between psychological well abilities and the language-growing experience, this structure will be fundamental. The motivation behind IPM is to comprehend the psychological prosperity of people in centering, reviewing, and critical thinking skills in the language educational experience (Frauenstein & Flowerday, 2020). Through the brain's input and output processes, this framework aims to help students comprehend language easily. The purpose of other theoretical framework connectionism is to understand the perspective of neurobiological components of language learning. This concept focuses on how brain connectivity will help to understand languages easily (Vestøl, 2023). However, this paper investigates the relationship between Attention, memory, and problems (independent variables) in cognitive process (dependent variable). The conceptual framework primarily aims to interpret the complicated relationship between these variables giving a wide-ranging understanding of key factors impacting cognitive learning within the educational context.

Figure (1) Key Factors Impacting Cognitive Learning



Method

Research design

This study selected the quantitative design to review the role of the cognitive process in learning. The quantitative design was selected to review the cause-and-effect relationship from the perspective of psycholinguistic learning. It is important to mention the relationship between the research variables (Asenahabi, 2019). In the case of the present study, the research to quantitative design justified the empirical reasoning behind the design of questionnaire-based information. The research examined the primary information from the specific research instrument. The quantitative design also allows for to mention of the relationship between study variables and the statistical analysis (Mehrad & Zangeneh, 2019). Therefore, the study examined the quantitative aspects and mentioned the role of the cognitive process in psycholinguistic language learning. This design also mentioned the influential aspects highlighting the validity and dependability of study findings.

Participants

The participants of this research are the students in languages and translation department in Haql college ,50 male and 50 female students A total of 100 participants were selected for this quantitative research while only 74 participants actually responded to the questionnaire.

Data collection methods

This study utilised the primary data collection method and reviewed the role of cognitive processes in psycholinguistic language learning. Primary data offer first-hand information from the participants. It is critical to offer valid measures of study findings and participant responses. This study selected the questionnaire approach under the quantitative method. The researcher designed the questionnaire based on the role of cognitive processes in psycholinguistic language learning. The selection of a Likert scale questionnaire is important to review the variables associated with research. This study utilised the questionnaire based on five options which are strongly agree, agree, neutral, disagree, and strongly disagree (Jebb, Ng, & Tay, 2021). Therefore, the selection of primary data was included in the study. The researcher collects the data using primary information under the questionnaire. The selection of a

questionnaire is important because it is the easiest way to measure the responses of the research participants.

Data analysis procedures

In this paper, the researcher selected the statistical analysis approach. The selection of quantitative data supports the researcher to measure the statistical details and relationship between the study variables involved in the study (Mehrad & Zangeneh, 2019; Lê & Schmid, 2022). According to the selected research design, this paper consists of the analysis of quantitative research findings. Therefore, the data analysis was conducted by using the software SPSS (Statistical Package for the Social Sciences). SPSS offer the quantitative validity of the research and examines the research findings through correlation, frequency distribution, and regression analysis. This research paper utilized the SPSS software which mentioned the different visualization of research. This paper presents the patterns of data in the form of graphs and tables. Therefore, this research examined the statistical relation to review the variables affecting the cognitive process and learning language.

Ethical considerations

This research utilised the ethical specification to review the important aspects of the study. It includes the measures taken to ensure participant confidentiality and informed consent. This paper utilised the questionnaire approach. Therefore, the selection of ethical considerations is important to examine the participant's opinion. The research did not ask for any personal information and only reviewed the purpose of the study. The selection of ethical specifications is important to review the critical aspects of data collection. Therefore, this study includes ethical specifications to maintain the integrity and transparency of information collected for the paper.

Results and Discussion

This section of the research paper presents and interprets the findings of the study. It will analyse cognitive processes in language learning, addressing specific aspects such as attention, memory, and problem-solving. The results of the study are presented in the following sections:

Table (1) Demographics

Gender		Frequency	Per cent	Valid Percent	Cumulative Percent
Valid	Male	41	55.4	55.4	55.4
	Female	33	44.6	44.6	100.0
	Total	74	100.0	100.0	

According to the above-mentioned table, the study selected a sample of 74 university students. The results declared that 33 female and 41 male participants who already reponed to the questionnaire were involved in the study.

Table (2) Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Gender	74	1	2	1.45	.500
Age	74	1	4	2.49	1.126
Valid N (listwise)	74				

The table above presents the descriptive statistics of the minimum and maximum credibility of research participants who participated in the study. The standard deviation of gender-related findings is .500 and the age-related factor is 1.126. It represented the study showed valid results regarding the gender and age-related parameters.

Correlation analysis**Table (3) Correlations**

		Memory	Problems	Cognitive process	Attention
Memory	Pearson Correlation	1	.552**	.447**	.923**
	Sig. (2-tailed)		.000	.000	.000
	N	74	74	74	74
Problems	Pearson Correlation	.552**	1	.722**	.466**
	Sig. (2-tailed)	.000		.000	.000
	N	74	74	74	74
Cognitive process	Pearson Correlation	.447**	.722**	1	.420**
	Sig. (2-tailed)	.000	.000		.000
	N	74	74	74	74
Attention	Pearson Correlation	.923**	.466**	.420**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	74	74	74	74

** . Correlation is significant at the 0.01 level (2-tailed).

The correlation analysis indicated the relationship between the study variables and the correlation factor. The table represented the value of cognitive factor has a value of .923** and included the role of cognitive process in indicating the factors affecting the performance of language learning abilities. The Pearson correlation factor indicates a value of .552** representing that cognitive process has a critical influence on the language learning abilities of the individual. This value indicates the link between the predictor of the research variables including the bare minimum value influencing the cognitive learning process. However, there is a limited influence found on the language learning activities.

Regression Analysis

Table (4) Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	Attention, Problems, Memory ^b	.	Enter

a. Dependent Variable: Cognitive process

b. All requested variables entered.

Table (5) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.730 ^a	.534	.514	.410756154490607

a. Predictors: (Constant), Attention, Problems, Memory

The cognitive process includes different factors such as memory, attention and problem-solving-related parameters affecting the learning abilities of the individual. According to the table stated the findings of the model summary, it is critical to address the value of R-squared value of 0.730 (p 0.53). According to the findings of the model summary, the value of three independent variables present in the study is found. The coefficient of determination mentioned that the selected variables are critical to defining the value of the R-square. It suggested that memory, problem-solving and attention are the different variables affecting the cognitive process of psychological thinking and learning. This value also presented the predictor count of several factors affecting the selection of cognitive learning. The findings of expected values indicated the average deviation in the dependent variables included in the study.

Table (6) ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.513	3	4.504	26.698	.000 ^b
	Residual	11.810	70	.169		
	Total	25.324	73			

a. Dependent Variable: Cognitive process

b. Predictors: (Constant), Attention, Problems, Memory

The findings of the table present the ANOVA summary including the sum of squared and mean square values of regression. It includes the regression with the sum of squares 13.513 and the df value is 3. The sig. value of 0.000 indicated the predictors of the process of cognitive learning's role in improving psycho-linguistic learning. This model showed the link of study variables including the different aspects of cognitive learning and process. It includes the accounted measures important for the selection of factors affecting the cognitive learning process. The regression model highlights the significance of addressing the important factors affecting the role of cognitive development from a psycholinguistic process.

Table (7) Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	.117	.159		.738	.463
	Memory	-.167	.220	-.172	-.758	.451
	Problems	.690	.097	.699	7.076	.000
	Attention	.234	.198	.253	1.182	.241

a. Dependent Variable: Cognitive process

The coefficients table provides important information related to memory, problems, and cognitive processes. The value of sig. indicated the .463 highlighted the cognitive process included to improve language learning abilities. The essential factors affecting the standard deviation of .220 for memory and .097 for problems affecting the language learning strategies during the cognitive process. The results indicated the cognitive process plays a critical role in improving the language learning abilities of the students.

Discussion

The findings of the study indicate the practical applications for language teaching and learning. It includes the effects of cognitive

processes on the learning abilities of the students. The results of the study indicated that attention is important to improve human mind processing regarding language learning abilities. It is important for the language learning providers to address attention, active participation, and memory. The role of cognitive learning processing is important to raise the quality of language learning abilities necessary for the students. The statistical analysis of the study included the important aspects of memory, problem-solving solving and attention-related factors that are affecting the cognitive process of psychological thinking and learning. The cognitive process includes the mind-related operation indicated by the factors involved in changing the role of learning. Vestol (2023) mentioned the importance of information processing memory which is critical to improve the quality of learning abilities of a person. The results also indicate the cognitive learning process includes the memory-related aspects important to increase the level of language acquisition. It also mentioned the cognitive elements of neural pathways included in the interactions of the abilities of students. The level of language learning is important to enhance the connectionism and knowledge of important components of psycholinguistic learning. This is also significant to address the brain-based experiences of the person regarding the role of mental abilities and cognitive development.

The results of the present study indicated that the cognitive learning process plays a critical role in individual learning abilities. The evidence from previous studies indicated that language learning includes the application of information processing and the mental abilities of a person (Wickens et al., 2021). Therefore, the study showed that cognitive processes play a critical role in improving the language learning abilities of the students. It is also important to address the language creation parameters included for the improvement of individual learning abilities. This study mentioned that language learning is critical to addressing the optimal level of personal involvement in learning abilities. The previous research indicated that the cognitive learning process influences psycholinguistic learning abilities (Kilmova & Pikhart, 2020). It is necessary to address the individual learning characteristics for the development of the learning abilities of the person. The results indicated that language learning traits are linked to fostering the improvement in the individual abilities of the person.

The findings of the current study indicate that psycholinguistic learning is important to mention the critical aspects of learning development. These are critical to address the optimal learning procedure and individual level of skills. The previous studies indicated that cognitive procedures are important to address the language learning abilities of the students (Rowe & Wieslder, 2020). Therefore, it is concluded that the language learning abilities of the students depend on cognitive achievement and individual-level learning in the outcomes of learning. It is furthermore mentioned that this study mentioned the critical aspects of the language learning process and their role in the improvement of language abilities. Griffiths & Soruç (2020) mentioned that language learning is also necessary to improve the speaking process because it is the psycholinguistic aspect of learning and development of the individual. The results of the study include the learner's true reflection towards foreign language learning. Therefore, it is concluded that the role of cognition can't be undermined because it is also important to address the learning abilities of an individual.

This research will contribute to the existing research regarding the role of cognitive learning and psychological development. The present research addressed the cognitive process's role in improving the psycholinguistic learning perspective. The teaching-learning providers will address the implementation of critical factors addressing the cognitive development of the students while language learning strategies. It will practically help the teachers to improve the learning strategies implemented to raise the quality of teaching-learning practices. The selection of language learning parameters is significant in increasing the problem-solving aspects affecting language learning traits.

Conclusions

The findings of the study indicated that cognitive processes including language learning abilities affect the students. This study analyses the role of cognitive processes in language learning, addressing specific aspects such as attention, memory, and problem-solving. This study utilised the primary data collection method and reviewed the role of cognitive processes in psycholinguistic language learning. For instance, 41 male and 33 female students from the Languages and Translation Department responded to the

questionnaire. A total of 74 participants were selected for this quantitative research. The findings of the study indicated that cognitive processes include different factors such as memory, attention and problem-solving-related parameters affecting the learning abilities of the individual. The role of cognitive learning processing is important to raise the quality of language learning abilities necessary for the students. Moreover, the results of the present study indicated that the cognitive learning process plays a critical role in individual learning abilities because these strategies are important to foster the improvement in the individual abilities of the person. The findings also indicate that the speaking process is the psycholinguistic aspect of learning and development of the individual.

Based on the research findings of the study, it is recommended that a positive learning environment is important to improve the memory-related abilities of the individual. The role of meaningful learning context is suggested to increase the quality of mental learning abilities. There are different suggestions including the use of critical thinking abilities mentioning the important parameters of language learning improvements. These are suggested to address the integrative application of the learners to increase their academic traits. It is recommended that teaching professionals should implement language learning strategies based on cognitive development and learning as it indicates the important aspects of language learning strategies.

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