

The level of cognitive flexibility of English language teachers in Hebron Governorate

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Abstract

The study aimed to identify the level of cognitive flexibility of English language teachers in Hebron Governorate. To achieve the objectives of the study, the descriptive approach was adopted. The study was applied in the first semester of the academic year (2021/2022) on a stratified random sample, which consisted of (262) male and female teachers from The Directorate of Education of Yatta and the Directorate of South Hebron. A questionnaire was prepared to measure the level of cognitive flexibility of English language teachers in Hebron Governorate, and it consisted of (33) items. (0.81).

The results showed that the cognitive flexibility of the English language teachers in Hebron Governorate was high, with an average of (3.842) and a standard deviation of (0.466).

The results showed that there were no statistically significant differences between the arithmetic averages of the cognitive flexibility of English language teachers in Hebron Governorate, according to the variable (gender, educational qualification, directorate, and stage), while it showed that there were differences according to the variable (years of experience).

Keywords: Flexibility; Cognitive; Cognitive flexibility; English language teachers

1. Introduction

The impact of scientific and technological progress and the massive knowledge explosion on the educational and learning process, where the educational roles of both the teacher and the learner have evolved and changed. He moved from the role of the recipient of knowledge to the role of the researcher and producer of knowledge. Through the global Internet sites, he has become able to obtain information with ease.

E-learning is one of the modern methods of education, which is based on the delivery of information to the learner by means of modern communication mechanisms such as a computer, its networks and its multimedia, i. and assessing the performance of learners [1].

The presence of technology in the field of education has become a must, in order to comply with the development of other fields, such as medicine, engineering, space, agriculture and modern sciences. To be creative effectively in study and in his future work, hence the importance of e-learning [2].

In light of the scientific developments and the great technological progress, it has become necessary for the English language teacher to have the cognitive flexibility that enables him to deal with various educational conditions and

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situations on the one hand, and with the advanced technological developments in the field of teaching and learning on the other hand, and because the English language subject is one of the subjects related to our daily life in a way. Therefore, it is the responsibility of its teachers to possess the capabilities and skills that enable them to transfer the student from superficial knowledge to deep knowledge, and thus lead him to metacognitive thinking. Hence this study came to identify the awareness of English language teachers in Hebron Governorate of the importance of e-learning platforms and its relationship their cognitive flexibility.

Problem Statement

E-learning needs a teacher who manages it effectively, who has skills and experience in dealing with technology, especially with regard to teaching languages such as English, whose teaching requires continuous practice and follow-up, as well as diversification in strategies and the employment of technological innovations in education, as this study came To identify the level of cognitive flexibility of English language teachers in Hebron Governorate.

Study Objectives

The study aimed to identify the level of cognitive flexibility of English language teachers in Hebron Governorate.

1.1. Study Questions

The study sought to answer the following questions:

1.1.1. First Question

What is the level of cognitive flexibility of English language teachers in Hebron Governorate?

1.1.2. Second Question

Does the cognitive flexibility of English language teachers in Hebron governorate differ according to the variable (gender, educational qualification, years of experience, directorate, and stage)?

1.2. Study Hypotheses

The second question was converted to the following null hypotheses:

1.2.1. First Null Hypothesis which states

There are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the means of cognitive flexibility of English language teachers in Hebron Governorate, according to the gender variable.

1.2.2. Second Null Hypothesis which states

There are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the means of cognitive flexibility of English language teachers in Hebron Governorate, according to the educational qualification variable.

1.2.3. Third Null Hypothesis, which states

There are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the variable of years of experience.

1.2.4. Fourth Null Hypothesis, which states

There are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the directorate variable.

1.2.5. Fifth Null Hypothesis, which states

There are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the means of cognitive flexibility of English language teachers in Hebron Governorate, according to the stage variable.

Importance of study

- The importance of this study is shown by:
- Theoretical importance: This study may enrich the educational literature on the subject of cognitive flexibility.
- Research importance: The results of this study may contribute to opening horizons for other future studies related to the variables and the study community.

Limitations of the study

This study was limited to:

- Human limits: All English language teachers in the Yatta Education Directorate and the South Hebron Directorate.
- Spatial boundaries: public schools in yatta and South Hebron districts
- Temporal limits: the first semester of the academic year (2021/2022).

Definition of terms

Cognitive flexibility: It is the individual's ability to act when familiar environmental conditions change, which makes previously acquired skills ineffective in facing new changes in the surrounding environment [3].

It is defined procedurally: it is the individual's ability to adapt his abilities and skills and work on developing them to face new situations in the surrounding environment, and it is measured by the tool that was prepared.

2. Literature Review and Related Studies

2.1. Literature Review

Every person has a stock of knowledge of the information and experiences that he went through during the different situations in his life, and therefore he uses this stock of knowledge to confront and deal with the new situations he is exposed to. That distinguishes a person from others, and this is what we call cognitive flexibility [4].

[5] defines cognitive flexibility as the human ability to move from one idea to another, as well as the ability to deal with new and difficult situations and generate many options.

[3] indicates that cognitive flexibility is the individual's ability to act when familiar environmental settings change, which makes the skills and experiences previously acquired ineffective in facing recent changes in the surrounding environment.

Cognitive flexibility represents one of the important variables that help the individual in living a life characterized by high quality. He who possesses high levels of cognitive flexibility is more able to live successfully, face different situations in his life effectively, and find appropriate solutions for them, whether in his academic or behavioral life within. Outside the classroom, Anderson [6].

A person who possesses cognitive flexibility is able to control and organize his life financially, socially and culturally, in addition to the inner peace that he enjoys, as a result of his ability to deal with various situations with intelligence and calmness.

[7] identified three components of cognitive flexibility:

Flexible Coding: It refers to the ability of an individual to interpret stimuli in several different meanings

Flexible assembly: It refers to the individual's ability to use inductive thinking, which depends on what is available from various and varied elements, in order to generate multiple tactics to solve any problem.

Flexible comparison: It refers to the individual's ability to change and diversify solutions according to the change in tasks and positions.

2.2. The importance of cognitive flexibility

The importance of cognitive flexibility lies in the ability of individuals to apply it in new situations, as well as in its inverse proportion to the level of stress in individuals, that is, the higher the percentage of cognitive flexibility in an individual, the less stress he has, and it also increases the level of attention in the individual, as well as helps him to Full knowledge of the topics, representation of knowledge from several aspects, in addition to facilitating the process of acquiring knowledge, solving complex problems, as well as adapting individual strategies to sudden and unexpected change in the surrounding environment [8].

[9] divided flexibility into:

- **Adaptive Flexibility:** It is the ability of the individual to change his thinking methods when confronted with a specific situation or problem and requires him to solve or take the appropriate decision, and this happens through the individual's openness without being bound by a specific framework or thought, and therefore we can say that adaptive flexibility It is the positive side of mental and cognitive adaptation, and it is also the change in the possible solutions to the problems that the individual is exposed to in the environment in which he lives, as well as the change in his way of thinking in multiple directions, and the ability to analyze and formulate when practicing behavior to deal with daily situations with flexibility and innovation. Changing his thoughts and mental orientation in order to reach a solution to the problem is evidence of lack of intellectual stagnation when dealing with problems, and when an individual changes his mental orientation to deal with a situation, he thus seeks to formulate perceptions about the situation that contribute to its solution, and this indicates the ability of the individual to show behavior Successful in facing the problem, and this is what makes him adapt to the new problem in its different situations, and this is evident when the individual faces practical life situations and comes up with non-traditional solutions to solve problems.
- **Spontaneous Flexibility:** It is the ability of an individual to produce various, different and multiple ideas about a specific situation or a problem, which is flexibility and the ability to move from one idea to another when facing a specific situation or problem, and also it is the diversity of ideas and solutions without being bound by a method Certain thinking, which is the speed of the individual in producing different and varied ideas to face the situation or problem, and also is the spontaneity in issuing solutions and ideas.

Learning is an active process of building knowledge, and it is done by integrating new experiences with previous experiences that exist in the knowledge structure of the learner. The theory of cognitive flexibility is one of the modern theories in the field of teaching and learning. that confronts it through a set of principles that form the basis and essence of this theory [10].

2.2.1. Cognitive theory

Cognitive theory is concerned with mental processes, treatments, and continuous interventions in the subject of learning (thinking), with the aim of organizing and integrating it into the learning environment. And the quality of the scientific material that the individual absorbs, based on his thoughts, beliefs and feelings.

2.2.2. Characteristics of people with cognitive flexibility:

[11] indicated that individuals with a flexible cognitive style have characteristics and advantages, the most important of which is that they are more able to focus in situations because they are not affected by the distractions around them, and they are characterized by mental health, compatibility and control over their actions, and also that they are free people and have high self-confidence, and they are characterized by With intelligence and advanced mental abilities, they are able to adapt to social changes, as they admit their mistakes and accept the correction of others' opinions, especially if they are more experienced than them.

Cognitive flexibility appears in the behavior of individuals permanently, and it is not just a change in behavior as a result of a specific situation, and these individuals are the ones we are looking for to be teachers for this generation, so that education is always for the better, an education that achieves the desired goals of the educational process.

Educational applications of cognitive flexibility:

- The teacher should encourage students to use advanced and modern means, and to stay away from traditional ideas.
- Students' cognitive flexibility can be developed through cultural sessions, through which it is clarified how to use flexible thinking methods, face any problem, and work to develop more than one solution to the problems.

- Encouraging students to perform difficult tasks, and how to get out of them safely.
- Enriching the curricula in the most important ways that help students generate ideas and make appropriate decisions

2.3. Related studies

[12] conducted a study aimed at revealing the relationship between cognitive flexibility, and its sub-dimensions (self-efficacy in cognitive flexibility-thinking in different categories-accepting the viewpoints of others-willingness to adapt to situations), perceived academic competence, and its sub-dimensions (self-confidence, efficiency Affectiveness - planning and self-regulation - persistence and perseverance - academic achievement beliefs and examination attitudes) among mentally gifted students at the Faculty of Education, Helwan University, as well as revealing the possibility of predicting the perceived academic competence of mentally gifted students, given their performance on the cognitive flexibility scale, and the basic research sample consisted of (27 male and female students who are mentally gifted, and to achieve the objectives of the research, the standard progressive matrices test was used, the measure of cognitive flexibility among students of the College of Education, prepared by the researcher, and the measure of perceived academic competence among students of the College of Education, prepared by the researcher, and the descriptive-relational approach was used, and the results revealed that there are A statistically significant relationship between the total score and cognitive flexibility and its sub-dimensions, and the total score of perceived academic competence and its sub-dimensions among mentally gifted students.

[13] conducted a study aimed at knowing the relationship between cognitive flexibility and the professional performance of kindergarten teachers, and she used the descriptive approach. El-Din Abdel-Hamid Ayoub, and the professional performance scale prepared by them, and they were verified for their validity and reliability, and the results showed that there is a correlation between professional performance and the dimensions of cognitive flexibility.

[14] conducted a study aimed at measuring the cognitive flexibility of middle school students, and the two researchers used the descriptive approach. Cognitive flexibility according to the theory of (spiro, 1988), consisting of (30) paragraphs, and consisting of two domains, which are automatic responses and adaptive responses.

[15] The current study aimed to identify the level of psychological security and its relationship to cognitive flexibility among tenth grade students in Al-Balqa Governorate, where the researcher used the descriptive-relational approach to achieve the desired goals. Al-Ardah district in Al-Balqa Governorate in the first semester (2017/2018), 224 questionnaires were distributed due to the absence of 8 students, and 222 questionnaires were retrieved. The level of psychological security and the level of cognitive flexibility, and after verifying the validity and reliability of the scales, they were applied to all members of the study sample. ($\alpha = 0.05$) between psychological security and cognitive flexibility, and there were no statistically significant differences due to the gender variable among tenth grade students in Al-Ardah district in Al-Balqa governorate.

[16]conducted a study aimed at revealing the effect of proficiency in the second language on working memory and cognitive flexibility among bilingual students in the city of Acre. To achieve the objectives of the study, tools were developed to detect working memory capacity, cognitive flexibility and proficiency in the second language. The study consisted of (274) bilingual male and female students, and the results of the study showed that the level of both working memory and cognitive flexibility came to a high degree, and there were statistically significant differences in both working memory and cognitive flexibility due to the effect of gender, and there were statistically significant differences in cognitive flexibility due to the effect of gender. academic branch, and there were no statistically significant differences in both working memory and cognitive flexibility according to the level of proficiency in the second language.

[17] also conducted a study aimed at identifying the relationship between cognitive flexibility and social adaptation. It also aimed to reveal the relative contribution of cognitive flexibility in predicting social and academic adaptation among incoming students at King Saud University. The researcher used the relational descriptive approach, and the study sample consisted of 68 students. request from immigrants. The cognitive flexibility scale, the social adaptation scale, and the academic adaptation scale (prepared by the researcher) were applied to them. The results showed a statistically significant positive correlation between cognitive flexibility and social adaptation among incoming students at King Saud University, and the existence of a direct linear relationship between cognitive flexibility and social adaptation, and a positive correlation. It is statistically significant between cognitive flexibility and academic adaptation among foreign students at King Saud University. The results indicated that there is a direct linear relationship between academic adaptation and cognitive flexibility.

[18] conducted a study aimed at identifying the level of cognitive flexibility among secondary school students in Beersheba and its relationship to self-regulation in the light of the variables of gender and school grade. Beersheba, and two scales of cognitive flexibility and self-regulation were developed, where virtual content validity and constructive validity indicators were used to ensure the validity of the two scales, and Cronbach alpha to ensure their stability.

[19] conducted a study aimed at revealing what is behind memory and cognitive flexibility and the relationship between them among first-year university students in the College of Educational Sciences and University Arts. On the total meta-memory scale according to the variables of specialization and the high school branch and its average, and in favor of the English language specialization and the scientific stream and the higher average, and there were no statistically significant differences between the total meta-memory scale due to the gender variable, and the results also showed a positive relationship between the total meta-memory scale and cognitive flexibility, and between the two dimensions of satisfaction with memory, memory strategies, and cognitive flexibility.

[20] conducted a study entitled the effectiveness of active learning based on electronic educational games in developing cognitive flexibility in individuals' awareness of alternatives to choice and the desire to adapt to new situations. The study sample consisted of a mixed sample of 29 people, including 9 company managers and twenty university students in University of Berlin, Germany, in an experiment that takes 60 minutes to play a computer game, where the participants in the experimental group were subjected to activities in electronic games for a 60-minute session, while the control group had their role limited to watching the games only, and a post-test was applied that measures the flexibility of the members of the two groups, and it showed Results of the study: There are statistically significant differences between the mean scores of the two groups in the post-measurement of cognitive flexibility in favor of the experimental group.

[21] conducted a study aimed at testing the extent to which cognitive flexibility and planning skills predict academic results for students of Spanish-American schools, in addition to examining the extent to which students in these schools can be classified into highly flexible, medium flexible, or weak groups, using cognitive flexibility and planning. The study sample consisted of (113) students of Hispanic origin, ages (6-7) years. The statistical results of the study showed that cognitive flexibility and planning (to a lesser extent) contribute to the results of mathematics, and also contribute to a lesser extent to the results of reading. The results also recommended that the study sample who They have high cognitive flexibility and high academic performance, which can be classified as more flexible, and those with low skills and medium cognitive flexibility can be classified as less flexible.

3. Methodology and procedures

3.1. Methodology

The descriptive method was used due to its suitability to the nature of the study

3.2. Population

The study population consisted of all male and female English language teachers for all educational levels in Hebron Governorate and its directorates: (Directorate of Education of Yatta and Directorate of Education of South Hebron) in the first semester of the academic year (2020/2021 AD), and their number was (285) teachers, including (114 male and 171 female teachers).

3.3. Sample of the study

The study sample was selected in a stratified random way, and its number was (262) male and female teachers, or 50%), from the study population.

3.4. Instruments of the study

After reviewing the educational literature and previous studies, especially the study of Belarabi (2018), and Al-Mayahi and Radi (2019), a questionnaire was prepared to measure the cognitive flexibility of English language teachers, and it consisted in its initial form of (33) items.

3.4.1. Validity of the instrument

The tool was presented in its initial form to a number of arbitrators with expertise and specialization in the field of curricula and teaching methods, where they expressed their opinions, provided observations and suggested the

necessary amendments, and then modified the tool according to the suggestions and amendments of the arbitrators, in order to achieve the desired goals, and the number of paragraphs reached The tool after arbitration (33) items.

- Reliability of the instrument
- The reliability coefficient Cronbach alpha was calculated after applying it to a survey sample consisting of (15) male and female English language teachers who teach the basic stage at the Yatta Education Directorate, where the reliability coefficient was (0.81).

3.5. Variables of the study

3.5.1. The independent variables

The study included the following variables:

- Gender: It has two levels (male, female).
- Academic qualification: It has three levels (diploma, bachelor's degree, master's degree and above).
- Years of Experience: It has three levels (less than 5 years, 5-10 years, and more than 10 years).
- Directorate: It has two levels (Directorate of Education of Yatta and Directorate of Education of South Hebron).
- Stage: It has three levels (lower basic stage, upper basic stage, secondary stage)

3.5.2. The dependent variables

The level of cognitive flexibility of English language teachers in Hebron Governorate

3.6. Statistical treatment

The stability coefficient was found using the Cronbach alpha equation, the arithmetic means and standard deviations were calculated, and the independent t-test and one-way ANOVA were applied, using the statistical software package for social sciences (SPSS) and the following correction key is adopted as on Table 1

Table 1 Arithmetic mean score

The degree	Mean average
Low	Less than 2.33
Medium	From 2.33-3.66
High	More than 3.66

4. Results of the study

4.1. Results related to the first question:

What is the level of cognitive flexibility of English language teachers in Hebron Governorate?

To answer this question, mean and standard deviation were calculated for the cognitive flexibility of English language teachers in Hebron Governorate, as shown in Table 2.

It appears from Table 1 that the cognitive flexibility of English language teachers in Hebron Governorate came to a high degree, as the mean of the total score was (3.842), with a standard deviation of (0.466). It was found that the highest mean was for paragraph (6), which states: "I accept the opinions of others generously when discussing a topic", where the arithmetic average for it was (4.095), and with a standard deviation (0.760), followed by paragraph (30) which states: "I learn more when I am interested in the topic" where average for it was (4.084), with a standard deviation of (0.753), followed by paragraph (29), which states: "I am constantly working on developing my abilities," with an mean of (4.069), and a standard deviation of (0.691), where these paragraphs were of a high degree, while the lowest mean was for the paragraph (18), which states: "I stick to my opinion no matter what the circumstances are," with an average of (2.969) and a standard deviation of (1.035), then paragraph (4), which states: "The single best way to deal with difficult situations facing me," with an mean of (3.011)., with a standard deviation of (0.977), then paragraph (5), which states: "I stop thinking when exposed to difficult situations," with an arithmetic mean of (3.221), and a standard deviation of (0.977), where these paragraphs were of a medium degree.

Table 2 Means and standard deviations for the level of cognitive flexibility of English language teachers in Hebron Governorate

NO	Items	Mean	S.D	Degree
6	I accept the opinions of others generously when discussing a topic.	4.095	0.760	High
30	I learn more when I am interested in the subject	4.084	0.753	High
29	I am constantly developing my abilities	4.069	0.691	High
7	When I am exposed to a situation, I think a lot and in different ways	4.038	0.726	High
31	I focus on the meaning and importance of new information	4.038	0.705	High
2	I invest my previous experiences in solving problems that I face	4.034	0.713	High
10	I am convinced that the individual is distinguished by the diversity of his ideas	4.034	0.708	High
28	I can change my thoughts in a positive direction	4.031	0.677	High
33	I can organize information well	4.027	0.675	High
25	I believe that whenever there is a diversity of thinking, this leads to finding fruitful solutions	3.992	0.700	High
32	I rate well how well I understand things	3.992	0.678	High
9	I do not restrict my thoughts to a specific framework while facing a problem High	3.989	0.681	High
21	I always aspire to get a final solution to any problem I encounter	3.0981	0.686	High
19	I pay close attention when I read a text	3.973	0.680	High
27	I pay close attention when I read a text	3.973	0.680	High
8	I can adapt the idea to suit the situation facing me	3.958	0.685	High
16	I can modify my behavior based on the requirements of the situations I face	3.954	0.6883	High
20	I use my capabilities to propose solutions to the problems I face	3.947	0.641	High
14	My use of various ideas in confronting one situation prompts me to confront other situations	3.935	0.700	High
1	I try to solve any problem I encounter by making options to get as many ideas as possible	3.924	0.679	High
11	I use unconventional ideas in facing a problem as long as they lead to positive results	3.908	0.721	High
17	I seek to form associations between my thoughts about a situation	3.878	0.644	High
24	24 Look carefully at all the information related to a behavior to find out the reasons	3.832	0.696	High
13	13 I insist on repeating the attempt to solve a problem no matter how much time and effort it costs me	3.828	0.771	High
23	Before I respond to any situation, I put several options for it	3.828	0.635	High
3	I am working on reconstructing the problem in order to reach a solution to it	3.802	0.742	High
15	I believe that the individual who adheres to his ideas is intellectually rigid	3.752	0.819	High
12	production of strange ideas do not make me anxious	3.615	0.763	High
26	I have the ability to cope with failure and frustration in different situations	3.615	0.798	High
22	I have trouble with difficult situations that require critical decisions	3.374	0.946	High
5	I stop thinking when exposed to difficult situations	3.221	1.000	Moderate
4	The single best way to deal with difficult situations	3.011	0.977	Medium

18	I stick to my opinion no matter the circumstances 2.969 1.035 Moderate	3.842	0.466	High
	The overall score			
Total		3.842	0.466	High

4.2. Results related to the second question

Does the cognitive flexibility of English language teachers in Hebron governorate differ according to the variable (Gender, educational qualification, years of experience, directorate, and stage)?

To answer this question, it was converted into the following Nullhypotheses:

4.2.1. First Null Hypothesis which states

“There are no statistically significant differences at the level of statistical significance($\alpha \leq 0.05$) between the means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the gender variable.”

To examine the Hypothesis the researchers used independent t-test as in table 3

Table 3 Results of the independent t-test for the level of cognitive flexibility of English language teachers in Hebron Governorate, according to the gender variable

Gender	N	Mean	Stand. Devi.	df	t- value	sig
Male	84	3.821	0.481	260	0.487	0.626
Female	178	3.851	0.459			

As noted from Table 3 that the level of the calculated significance and its value (0.626) is greater than the level of statistical significance ($\alpha \leq 0.05$), and accordingly the hypothesis is accepted that there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the means of the cognitive flexibility of the students. English language teachers in Hebron governorate according to the gender variable.

4.2.2. Second Null Hypothesis which states:

There are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the educational qualification variable.

To examine the hypothesis, the arithmetic means and standard deviations of the cognitive flexibility of English language teachers in Hebron Governorate were calculated according to the educational qualification variable, as shown in Table 4.

Table 4 The numbers, means, and standard deviations of the level of cognitive flexibility of English language teachers according to the educational qualification variable

Educational Qualification	N0	Mean	Standard deviation
Diploma	15	3.927	0.426
Bachelors	229	3.833	0.476
Master and above	18	3.875	0.368
Total	262	3.841	0.466

Table 4 shows that there are no apparent differences between the arithmetic averages of the cognitive flexibility of English language teachers in Hebron Governorate, according to the educational qualification variable. To confirm this, One Way ANOVA was used, and Table 5 shows that

Table 5 Results of One Way ANOVA for the level of cognitive flexibility of English language teachers in Hebron Governorate, according to the educational qualification variable

Source	Sum of square	df	Mean square	f-value	Sig
Between groups	0.145	2	0.073	0.332	.0718
Within groups	56.553	259	0.218		
Total	56.698	261			

It is clear from Table 5 that the level of the calculated significance and its value is (0.718), greater than the level of statistical significance ($\alpha \leq 0.05$), and therefore the null hypothesis is accepted that there are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the arithmetic means of flexibility Knowledge of English language teachers in Hebron governorate according to the educational qualification variable.

4.2.3. Third Null Hypothesis, which states:

“There are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the arithmetic means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the variable of years of experience.”

To test the hypothesis, the means and standard deviations of the cognitive flexibility of English language teachers in Hebron Governorate were calculated according to the variable years of experience, as shown in Table 6.

Table 6 The numbers, means, and standard deviations of the level of cognitive flexibility of English language teachers according to the variable of years of experience

Years of experiance	N	Mean	S.D
Less than 5 years	61	3.910	0.452
5-10 years	56	3.669	0.525
More than 10 years	145	3.868	0.438
Total	262	3.841	0.466

Table 6 shows that there differences between the arithmetic averages of the cognitive flexibility of English language teachers in Hebron Governorate, according to the variable of years of experience. To confirm this, One Way ANOVA was used, and Table 7 shows that

Table 7 Results of One Way ANOVA for the level of cognitive flexibility of English language teachers in Hebron Governorate according to the variable of years of experience

Source	Sum of squares	df	Mean squares	F	Sig
Between groups	1.516	2	0.758	3.558	0.030
Within groups	55.182	259	0.213		
Total	56.698	261			

It is clear from Table 7 that the level of the calculated significance and its value (0.030) is less than the level of statistical significance ($\alpha \leq 0.05$), and therefore the hypothesis is rejected in the presence of statistically significant differences at

the level of statistical significance ($\alpha \leq 0.05$) between the arithmetic means of cognitive flexibility The teachers of English in Hebron governorate, according to the variable of years of experience.

To find the source of the differences, the (LSD) test was used for the post-difference comparisons, as shown in Table 8.

Table 8 Results of the (LSD) post-comparison test of the differences between the means of the level of cognitive flexibility of English language teachers in Hebron Governorate according to the variable of years of experience

Years of experience	Less than 5 years	5-10	More than10 years
Less than 5 years		0.2104*	0.0419
5-10	-0.2104*		-0.1684*
More than10 years	0.0419	0.1684*	

The results of Table 8 indicate that there are differences between the means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the variable years of experience. Other differences were between (5-10 and more than 10 years) and were in favor of more than 10 years.

4.2.4. Fourth Null Hypothesis, which states:

“There are no statistically significant differences at the level of statistical significance between ($\alpha \leq 0.05$) in the arithmetic means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the directorate variable.”

To test the hypothesis, the independent t-test was used, as shown in Table 9.

Table 9 Results of the independent t test for the level of cognitive flexibility of English language teachers in Hebron Governorate according to the directorate variable

Directorate	N	Mean	S.D	df	(t) value	Sig
Yatta	101	3.819	0.477	260	0.627	0.531
South Hebron	161	3.856	0.459			

It is clear from Table 9 that the level of the calculated significance and its value (0.531) is greater than the level of statistical significance ($\alpha \leq 0.05$), and accordingly the null hypothesis is accepted that there are no statistically significant differences at the level of significance ($\alpha \leq 0.05$) between the means of cognitive flexibility of English language teachers in Hebron governorate according to the directorate variable

4.2.5. Fifth Null Hypothesis, which states:

There are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the means of cognitive flexibility of English language teachers in Hebron Governorate, according to the stage variable.

To test the hypothesis, the means and standard deviations of the cognitive flexibility of English language teachers in Hebron Governorate were calculated according to the variable years of experience, as shown in Table 10.

There are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the arithmetic means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the stage variable.

To test the hypothesis, the means and standard deviations of the cognitive flexibility of English language teachers in Hebron Governorate were calculated according to the stage variable, as shown in Table 9.

Table 10 Numbers, means, and standard deviations of the level of cognitive flexibility of English language teachers according to the stage variable

Stage	N	Mean	S.D
Low basic stage	101	3.806	0.445
Higher basic stage	105	3.846	0.466
High school	56	3.897	0.503
Total	262	3.841	0.466

Table 9 shows that there are no apparent differences between the means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the educational qualification variable. To confirm this, One Way ANOVA was used, and Table 10 shows that

Table 10 Results of One Way ANOVA for the cognitive flexibility of English language teachers in Hebron Governorate, according to the stage variable

Source	Sum of square	df	Mean square	f-value	Sig
Between groups	0.303	2	0.152	0.696	0.499
Within groups	56.395	259	0.218		
total	56.698	261			

It is clear from Table 10 that the level of the calculated significance and its value is (0.499), greater than the level of statistical significance ($\alpha \leq 0.05$), and therefore the hypothesis is accepted that there are no statistically significant differences at the level of statistical significance ($\alpha \leq 0.05$) between the arithmetic means of flexibility Knowledge of English language teachers in Hebron governorate according to the stage variable.

5. Discussion

5.1. First Question

What is the level of cognitive flexibility of English language teachers in Hebron Governorate?

The results of the current study showed that the cognitive flexibility of English language teachers in Hebron Governorate was high, with an arithmetic mean of (3.842), and a standard deviation of (0.466). This indicates that English language teachers in Hebron Governorate have cognitive flexibility that enables them to deal with events. Emergency and other situations, perhaps because they possess the information and experience that they gained through different educational situations, and you see that the training courses that the Ministry of Education gives to new teachers, as well as the educational qualification that has become necessary for every teacher, have helped teachers to possess skills and experience that help them in Developing the educational process, so that the employment of these skills and experiences in educational situations helps teachers to develop them and thus gain the cognitive flexibility necessary to deal with different circumstances.

It is noted that English language teachers who have a high degree of cognitive flexibility agreed that they accept the opinions of others with open arms when discussing any topic, that they learn more when they are interested in the topic, and that they work to develop their abilities constantly, and these are the characteristics of the teacher that we need to work on developing The educational process, raising students to the highest levels of knowledge and excellence, and achieving desirable educational outcomes.

The study agreed with the study of Al-Sawalha (2018), and differed with the study of Al-Huzayl (2015), and explained the reason for the difference in the community and the sample.

5.2. Second Question

Does the cognitive flexibility of English language teachers in Hebron governorate differ according to the variable (sex, educational qualification, years of experience, directorate, and stage)?

The results of the current study indicated that there were no statistically significant differences between the arithmetic means of the cognitive flexibility of English language teachers in Hebron Governorate, according to the gender variable.

This result is justified by the fact that all English language teachers have been qualified at the same level and conditions, and therefore they have many experiences and skills that enable them to deal in various circumstances during the teaching process, as teaching English in their environments faces almost the same problems and needs, and therefore the same solutions.

This study agreed with [14] and [15], as well as with the study of [19], while this study differed with [18] and [16].

As for the educational qualification, the results indicated that there were no statistically significant differences between the arithmetic means of the cognitive flexibility of English language teachers according to the educational qualification variable.

The reason for this may be due to the person's possession of skills and experiences, not related to the academic degree or specialization, but rather related to the person himself and how he worked on self-development to access these skills and experiences, which make him a person with cognitive flexibility. The successful teacher is the one who constantly works on himself, develops and refines it. To be an example to others.

As for the years of experience variable, the results indicated that there were statistically significant differences between the arithmetic means of the cognitive flexibility of English language teachers according to the years of experience variable.

The differences were in favor of years of experience (less than 5 years) and also in favor of (more than 10 years). This was explained by the fact that the teacher's possession of cognitive flexibility depends on the person himself and his ability to continuously develop himself, and does not depend on years of work or experience.

As for the directorate variable, the results indicated that there were no statistically significant differences between the arithmetic means of the cognitive flexibility of English language teachers in Hebron Governorate.

This is due to the fact that English language teachers in both directorates work in similar conditions and environments, and face the same problems and conditions, and thus possess similar flexible skills, experiences and capabilities.

As for the stage variable, the results indicated that there were no statistically significant differences between the arithmetic means of the cognitive flexibility of English language teachers in Hebron Governorate.

This result is justified by the fact that the English language teacher's possession of cognitive flexibility is not related to or related to the stage that the teacher teaches, but to the teacher himself and the way he works to develop himself for the better.

Recommendations

Based on the results of the study, it is necessary to develop programs and training courses to develop the skill of cognitive flexibility among English language teachers, and to conduct studies aimed at revealing the level of cognitive flexibility among teachers in general.

6. Conclusion

Our study showed that the cognitive flexibility of the English language teachers in Hebron Governorate was high, with an average of (3.842) and a standard deviation of (0.466). The results showed that there were no statistically significant differences between the arithmetic averages of the cognitive flexibility of English language teachers in Hebron Governorate, according to the variable (gender, educational qualification, directorate, and stage). In addition, the study showed that there were differences according to the variable (years of experience). The results motivate the decision

makers in Hebron Educational Directorate to provide training to the teachers in the directorate and textbooks' authors to incorporate informatics in the these textbooks.

Compliance with ethical standards

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Disclosure of conflict of interest

I declare that there is no conflict of interest.

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