

# Creative Teaching and its Relationship to Chemistry Teachers' Self-Consistency

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**Abstract:** It measure creative teaching skills teachers, measure the level of self-consistency of chemistry teachers, and reveal relationship between creative teaching and self-consistency of chemistry teachers.

Chemistry teachers possess creative teaching skills, in addition to the enjoyment of chemistry teachers of their self-consistency, and the research indicated that there is a correlation between the research variables and the contribution of creative teaching to self-consistency, creative teaching, self-consistency and vice versa.

## 1-1 Introduction and the importance of the research:

The current century witnessed many rapid developments that were reflected on the educational system in all its components and forms, as those working in the field of education were forced to modernize and develop educational systems by designing an educational environment that encourages the practice of creativity and the development of minds capable of thinking and using their abilities efficiently and effectively (Ibrahim, 2006:27).

The development in working with learners depends on the quality of the educational programmers provided by the school and implemented by competent teachers, as a competent teacher provides a safe and stimulating classroom environment and makes the student express his opinion clearly without hesitation or fear. (Al-Taiti, 2007: 148).

Many studies such as (Al-Hammadi, 2019) confirmed that planning for creative teaching and reflective practices of chemistry teachers, using modern teaching methods and adopting educational programmers contribute to the development of creative teaching skills, understanding and creative problem solving skills of their students.

The teacher is interested in developing mental abilities and developing them through understanding the individual's personality, which stands behind the vitality of human behavior and its needs for self-consistency and integration, which is the focus of Leakey's theory of personality (Al-Obaidi, 2005:10).

## 1.2 Research Problem:

The researcher noticed that the relationship between creative teaching and self-consistency has not been addressed in any local, Arab or foreign study, so problem attempting to answer following What is nature of creative teaching and its relationship with self-consistency among chemistry teachers? What is the nature of creative teaching and its relationship with self-consistency among chemistry teachers?

## 1-3 Research Objectives:

1. Measuring the creative teaching skills of chemistry teachers.
2. Measuring the level of self-consistency of chemistry teachers.
3. To reveal the relationship between creative teaching and self-consistency among chemistry teachers.

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## 1-4 Research hypotheses :

1. There are no statistically significant differences in creative teaching skills of chemistry teachers.
2. There are no statistically significant differences in the level of self-consistency among chemistry teachers.

## 5-1 Fields of research:

**1-5-1 Human domain:** Chemistry teachers for the intermediate and preparatory stage of Baghdad Karkh I

**2.5.1 Temporal domain:** The period from 2024-3-1 to 2024-5-1.

**3.5.1 Spatial domain:** Karkh I Education / Baghdad Governorate.

## 2- Research Methodology and Procedures:

### 2.1 Research Methodology:

correlation method because this is one of the most appropriate for educational and humanistic studies.

### 2-2 Research population:

The population consisted of (800) chemistry teachers from the preparatory and intermediate stage in Baghdad Governorate - Karkh I / Centre, for the academic year (2024-2023).

### 2-3 Research sample:

The research sample consisted of (200) male and female teachers from the preparatory and intermediate stage in Baghdad Governorate - Karkh I / Centre, for the academic year (2024-2023).

### 2-4 Research tools:

#### 1- Creative Teaching Skills Scale :

After reviewing creative teaching scales, the researcher adopted Al-Hammadi's (2019) scale. The scale consisted of three domains (planning for creative teaching, implementing creative teaching strategies, and evaluating creative teaching) and each domain consisted of (9,9,9,9) respectively.

- Method of marking the scale  
Five options were identified when answering the scale (very high practice, high practice, medium practice, low practice, and very low practice). with scores of (1,2,3,4,5) respectively.
- Psychometric properties of the scale

\* Validity: It includes face validity and construct validity

\* Apparent validity: The scale was presented to experts and specialists in find out extent of validity of its paragraphs, and it was found that the agreement rate of the arbitrators reached 85%, which kept all the paragraphs in the scale.

\* Construct validity: This validity was investigated through the following indicators: -

**2. The discriminate power of the paragraphs:** The researcher extracted two terminal groups and found that all paragraphs are significant

**3. The relationship between the score of each paragraph and the score of the domain to which it belongs:** The researcher applied Pearson's coefficient to calculate the relationship between the score of each paragraph and the score of the domain to which it belongs and found that all values .

#### 4. Matrix of internal correlations of the scale:

- The final version of the scale: The scale consisted of three domains, the first domain consisted of (9) paragraphs, the second domain consisted of (9) paragraphs, and the third domain consisted of (9) paragraphs, and each domain contains five alternatives.



- - Stability of the scale: The researcher extracted .

**1.Retest:** the centre and after a period of two weeks, she applied the scale to the value for the first domain (0.70), the second domain (0.73), and the third domain (0.75).

**2. Cronbach's alpha method:** The researcher applied (150) forms randomly drawn from the statistical analysis sample, and the value of the scale was 0.86.)

**1.Final application:** -The researcher applied the scale after ensuring reliability and stability of (200) teachers from Karkh I - the centre.

## 2.-Self-Consistency Scale :

The researcher reviewed measures of self-consistency, including Al-Obaidi (2005) and Abdul Sattar and Mehdi (2015), and after the review, the researcher adopted Al-Obaidi (2005) and the scale consisted of three domains (self-awareness, self-actualization, and commitment) and each domain consisted of (10,16,21) respectively.

- Method of Correcting the Scale  
Five alternatives for answering the scale items were identified (always, often, sometimes, rarely, rarely, and never) with scores of (1, 2, 3, 4, and 5) respectively.
- Psychometric properties of the scale

\*Validity: It includes face validity and construct validity

\*Apparent validity: The researcher presented the scale to experts and specialists in educational and psychological sciences to find out the extent of the validity of its paragraphs, and it was found that the agreement rate of the arbitrators reached 85%, which kept all the paragraphs in the scale.

\* Construct validity: This validity was investigated through the following indicators: -

**1. The discriminate power of the paragraphs:** The researcher extracted two terminal groups and found that all paragraphs are significant at (0.05) with a degree of freedom (198).

**2. The relationship of the score of each paragraph to the degree of the domain to which it belongs:** The researcher applied Pearson's correlation to calculate the relationship of each paragraph to the domain score and degree of freedom, (198) where all values of the coefficients were found to be greater than the tabular value.

**3. Matrix of internal correlations of the scale** The final version of the scale: The scale consisted of three domains, the first domain consisted of (21) paragraphs, the second domain consisted of (16) paragraphs, and the third domain consisted of (10) paragraphs, and each domain contains five alternatives.

**1.Retest:-** The applied the test to a sample of (200) male and female teachers from Karkh I - the centre and after a period of two weeks, she applied the scale to the same sample, and used Pearson and the value for the scale (0.79) and the first domain (0.78), the second domain (0.77), and the third domain (0.76).

**2. Cronbach's alpha method:** The researcher applied (150) forms randomly drawn from sample, value scale reached 0.81), the first domain (0.79), the second domain (0.78), and the third domain (0.77).

Final application: -The researcher applied the scale after ensuring reliability and stability of (200) teachers from Karkh I - the centre.

## 2-5 Statistical methods:

The researcher relied on (spss) to analyse the data, Pearson correlation coefficient, Cronbach's alpha, one-sample t-test, analysis of variance, and hypothesis mean equation.)

## 3-1 Presentation and discussion of results:

First objective: Measuring the creative teaching skills of chemistry teachers



The researcher analyzed the answers of the sample to achieve the objective of this research, and used the t-test to know the significance of the difference between the arithmetic and hypothetical means, Table (1).

**Table (1): Test result of the Creative Teaching Skills Scale**

Significance level 0.05	Degree of freedom	T Tabular	Calculated T	The hypothetical middle	Standard deviation	The middle	Sample
Function	198	1.96	43.121	81	10.324	100.652	200

This result agreed with Al-Hammadi (2019), who indicated that there is a high self-consistency among the study sample, and contradicted the result with Al-Mayahi (2020), who indicated a low self-consistency among the sample members.

The second objective: Measuring the self-consistency of chemistry teachers .

to achieve the goal of this research, and used the t-test to know the significance of Table (2).

**Table (2): Results of the t-test for the difference between the mean scores of the sample and the hypothesized mean of the self-consistency scale**

Significance level 0.05	Degree of freedom	T Tabular	Calculated T	The hypothetical middle	Standard deviation	The middle	Sample
Function	198	1.96	40.215	141	22.121	180.68	200

The result of Al-Obaidi (2005) indicated that there is a high self-consistency among the study sample, and the result contradicted the study of Abdul Sattar and Mehdi (2015), which indicated a low self-consistency among the sample members.

The third objective: To find out the relationship between creative teaching and self-consistency among chemistry teachers

The research used Pearson's correlation coefficient (0.16), which is statistically significant, and when using (2.17) is a creative teaching and self-consistency, as the creative teaching, self-consistency vice versa, as shown in Table 3.

**Table (3): Correlation coefficient between creative teaching scores and self-consistency**

Significance level 0.05	Degree of freedom	T Tabular	T Calculated	Correlation coefficient	The sample
Function	198	1.96	2.17	0.16	200

#### 4- Conclusions and Recommendations:

##### 4-1 Conclusions:

- 1.Chemistry teachers do not teach creatively because they do not have enough information about teaching skills.
- 2.Chemistry teachers have a low level of creative teaching.
- 3.Self-consistency can be predicted by creative teaching.
- 4.There is a relationship between creative teaching and chemistry teachers' self-confidence



#### 4.2 Recommendations:

1. Holding training courses for chemistry teachers to develop creativity.
2. The need for educational institutions to develop curricula that stimulate creativity.
3. Include some theoretical and applied topics in teacher preparation programmers.

#### References:

1. Ibrahim, Magdy Aziz (2006): *Creative Teaching and Learning to Think*, World of Books for Publishing and Distribution, Cairo, Egypt, Edition 1.
2. Sabry, Rasha Elsayed (2019): A proposed programme in learning to love mathematics using cloud computing applications and measuring its impact on the development of creative teaching skills, attitude towards online learning and teaching among mathematics teachers and primary school students' attitude towards learning mathematics, *Journal of Mathematics Education*, Vol. (22), No. (4).
3. Al-Taiti, Mohammed Hamad (2007): *Developing Creative Thinking Abilities*, 3rd Edition, Dar Al-Masirah for Publishing and Distribution, Amman, Jordan.
4. Al-Obaidi, Khamayel Khalil (2005): *Fanaticism and self-consistency and their relationship with some defence mechanisms*, Unpublished doctoral thesis, University of Baghdad, Faculty of Arts, Iraq.
5. Al-Hammadi, Abdullah Ali (2019): The reality of creative teaching among Islamic education teachers in the United Arab Emirates, *Jordanian Educational Journal*, vol. (6), p. (3), 145-121.
6. Al-Mayahi, Maysa Abdul Hamza (2020): *Creative teaching and its relationship with cognitive flexibility among middle school teachers*, *Nesq Journal*, Vol. (8), No. (25), 112-90.
7. Abdul Sattar, Muhannad Muhammad, Mahdi, Amer Kanaan (2015): *Measuring the self-consistency of middle school students*, Unpublished master's thesis, Diyala University, Faculty of Basic Education.

