

# A training program based on the theory of cognitive burden to develop theatrical directing skills among art education teachers

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## Abstract

1- Building a training program based on the theory of cognitive load to develop theatrical directing skills among art education teachers.

2- Measuring the effectiveness of the designed program by testing it on a sample of art education teachers.

To achieve the objectives of the research, the researcher developed one main hypothesis.

The investigator used two research methodologies, namely the descriptive approach and the experimental approach, specifically the single sample design, and the research community consisted of professors in the Baqubah district of the graduate center of teacher institutes and institutes of fine arts, numbering (90), distributed in (62) schools, the experimental sample was chosen randomly and formed a percentage of (33%) approximately.

The researcher also prepared a tool consisting of (15) paragraphs and the scientific foundations were extracted, and after the application of the training program was completed, the data was collected and statistically processed by using (SPSS) and the results were extracted. results reached and discussed, of the most important results of accepting the alternative hypothesis.

**Keywords:** *Theory of cognitive load, Theatrical directing skills.*

## INTRODUCTION

The current era is characterized by continuous change, which necessitates that the individual must adopt new rules to keep pace with it, in order to achieve effective production in harmony with the era of technologies and the ease of knowledge that the Internet has provided to everyone without exception.

Although knowledge in all its dimensions is available, attention has become greater in the skillful aspects that enrich the

person performance and achieve excellence for him.

Thus, the art education teacher, as a specialization closely related to both parts of knowledge, must acquire it in order to achieve direct influence and develop the learners' abilities to keep pace with knowledge mutations.

The importance of research and the need for it:

The importance of the research is evident in the following:

1. The current research is useful in learning and developing the foundations and skills of theatrical directing to be a starting point towards opening new horizons for artistic experiences with its emotional, cognitive and skill aspects.
2. The current research provides guidance in preparing a study material for theatrical directing skills.
3. Provides importance to the directorates of school activity in the Ministry of Education in presenting theatrical performances for ministerial festivals.

research aims:

1. Building a training program based on the theory of cognitive load to develop theatrical directing skills of art education teachers
2. Measuring the effectiveness of the program in developing theatrical directing skills of art education teachers.

research assumes:

There are no significant differences at the level of significance (0.05) between the achievement of the experimental group in the pre-skill test and their achievement in the post-skill test.

search limits:

The limits of the current research are limited to the following:

- Human limits: Art education teachers who hold a diploma and who have served less than (5) years.
- Temporal limits: the academic year (2022-2023)
- Spatial boundaries: teachers of Baquba district center in Diyala governorate.

- Objective limits: the training content of theatrical directing skills prepared by the researcher within the training program and includes (text selection - text analysis - composition and its factors - theatrical rhythm formation - dramatic photography - scenographic formation - the director's leadership of the work team)

Define terms:

1. The training program:

- Mahmoud defined it as: "Those organized and planned efforts to provide the trainees with renewed skills, knowledge and experiences, aimed at bringing about continuous positive changes in their experiences, attitudes and behavior in order to develop their performance competencies" (Mahmoud, 2005, p. 16).

- And it was stated in Webster's dictionary that it is: "A summary of the general lines of the vocabulary of a curriculum established for the purpose of persuasion, achievement, or a specific achievement" (Webster.1981.p.674))

The researcher defines it procedurally as: the systematic planning of a number of pre-prepared and sequential procedures such as organizing the content, weighted means, activities and practices, and defining the mechanisms for conducting evaluation based on the theory of cognitive load in order to develop theatrical directing skills and increase the productivity motivation of school activity supervisors.

2. Skill

- It is defined in the (Good) dictionary as: "the thing that the individual learns and performs easily and accurately, whether this performance is physical or mental" (Good, 1973, p.536)

- (Skell) defined it as: "the ability and competence of an individual to perform a

specific  
(Skell, 1970, p. 9)

### 3. Theatrical directing

- Basharef defined it as: "a science based on a planning process and an artistic method to achieve a gap within a specific time and place in all its dimensions". (Basharif, 2019, p. 8)

- Ardash defined it as: "the set of artistic and technical processes that allow the playwright's text to move from the abstract state, the state of the text written on paper, to the state of actual, live life on stage." (Ardish, 1998, p. 140)

Therefore, the researcher defines theatrical directing procedurally as:

The ability of the school activity supervisors who undertake theatrical directing to transform a written text into a live performance that carries an idea does not necessarily match the author's idea.

### 4. Theatrical directing skills:

The researcher defines it procedurally as:

The amount of degrees earned by the art education teacher (research sample) in the application of theater directing to a specific text according to the current research tools in its two forms: the cognitive test and the observation form.

## Theoretical framework and previous studies

### The concept of cognitive load

The cognitive load theory has constituted an important research course in recent years with the aim of addressing failures that may occur during the education process that can be addressed and avoided. However, "it cannot be considered a theory of learning, but it is concerned with clarifying the relationships between the learner's cognitive structure and

work."

educational design and how the learning process takes place." (Moreno, R, Park, B, 2010, p.98)

Therefore, "the theory of cognitive load has been formulated and built on scientific proposals in the field of educational psychology and cognitive psychology, and the research (Miller) and (Badley) research on working memory were among the most important researches that were a scientific cognitive starting point". (Elliott & Others, 2009, p. 2)

As "the main concern of this theory is based on the necessity of adapting education in accordance with the rules and limitations of the learner's cognitive system". (Schnitz, Kurschner, 2007, p.469)

The cognitive load theory indicates that "the overloading of working memory occurs when the problem presented to the learner is difficult in relation to his level of understanding, which requires greater mental effort on the part of the learner directed to solve the problem facing him, and at the same time will cause the absence of any effort directed at learning the material." Accordingly, this theory seeks to try to reduce the unwanted and non-essential cognitive burden so that it does not constitute an overload of working memory and results in what will hinder the learning process". (Kaluga, 2010, p.51)

### Director's job and duties:

Theatrical directing is a complete system, the director engineers the work of every part of it and leads it to show us an integrated theatrical show, so the first question that can come to mind about the function of the director is what does the theatrical director do in order for the theatrical show to appear? Therefore, we should get to know precisely the function of the director and his importance in the theatrical performance as a whole, and this will be presented through what (Alexander

Dean) referred to in writing the foundations of theatrical directing.

"It has become agreed upon that the director is the artist who unites the artistic elements that participate in theatrical production and directs them to pour into one tributary, which is a vision towards delivering the ideas he wants to the spectators. Administrators and spectators as well, for he is not an interpreter, but a creator and organizer as well." (Farid and Sami, 1980, p. 33)

previous studies:

The researcher presented previous studies according to the following:

First: A study on the training program

Study (Aziz, 2014): The thesis tagged (the effectiveness of a proposed training program in developing the skills of creative expression and the attitude towards the material among the students of the fifth scientific grade) was conducted at the University of Baghdad, College of Education Ibn Rushd.

The study aimed to build a training program and measure the effectiveness of the proposed program and the attitude towards the subject.

The researcher set two zero hypotheses and followed two educational research approaches, specifically the descriptive approach, and this was related to the first objectives of the study, i.e. (building the training program) and the experimental approach - specifically the two-eye experimental design (experimental and control) - to achieve the second objective of the study, and the research community consists of middle school students (5th grade middle school) as a sample, then the researcher rewarded between the two groups in some variables

While the tools of the study were two tools, one of which was to measure the development of creative expression skills, consisting of two questions, the first was multiple choice and

included (20) items, and the second was writing on an expressive topic. The second tool was a measure of attitude towards the subject, consisting of (37) items, and applied The researcher used these tools at the beginning and end of the experiment, with writing on eight expressive topics throughout the duration of the experiment.

The duration of the experiment was a full academic year, and the researcher extracted the outcome of his study by applying some statistical methods, which proved the superiority of the experimental group in the two variables and formulated recommendations and proposals according to the results.

Second: A study dealing with the cognitive load theory

Study (Al-Rawi, 2020): The thesis tagged (the effectiveness of an educational program based on the burden strategy in the achievement of the fifth literary students in the subject of history and the development of their skills in drawing cognitive maps) was conducted in the College of Educational and Psychological Sciences, University of Tikrit. It aimed to build an educational program based on the cognitive load strategy, and to measure the effectiveness of the program

The researcher adopted the experimental approach to know the effectiveness of the training program, and applied the experimental design with two groups, the experimental and the control, with a pre and post test.

The study was conducted on middle school students in the academic year (2018-2019), a random sample was selected from two equal groups, the researcher conducted a reward between the two groups in some variables, and the researcher prepared two tools, namely (the achievement test and a note card), and their validity and reliability were verified.

The experiment was applied at the rate of (3) lessons per week, and the researcher used the statistical package (SPSS), and the results proved the effectiveness of the training program and the increase in the attitude towards the profession. (Al-Rawi, 2020, pp. 1-212).

### Third: A study on theatrical directing skills

Study (Al-Alawi 2015): This study entitled (The effectiveness of a training program in acquiring theatrical directing skills among students of the Department of Art Education) was conducted at Al-Mustansiriya University, College of Basic Education.

The researcher applied the experimental research method, specifically the experimental design with two groups (experimental and control). The research sample was from the students of the College of Basic Education at Al-Mustansiriya University, who numbered (68) male and female students, distributed into two experimental groups. Equivalence between the two research groups in some variables, and the duration of the experiment was (10) weeks. The results proved the effectiveness of the prepared training program, and based on the researcher's findings and conclusions, he developed a set of recommendations.

### Research Methodology:

The researcher applied two educational research approaches, which were as follows:

a. The descriptive approach: The researcher adopted the analytical descriptive approach, and this was imposed by the procedures for building the program from analyzing the characteristics of the trainers, identifying the training needs, and determining the skills of theatrical directing, so the application of this type of scientific methodology was an urgent necessity identical to the procedures of the current research.

b. The experimental method: The researcher also relied on the experimental method, specifically the experimental design known as the design (with one group with a pre-test and a post-test), to measure the effectiveness of the program.

### Research community:

The current research community consisted of teachers in Baquba District, the center, of the General Directorate of Education of Diyala Governorate, who numbered (120) teachers distributed in (62) schools. Either their service is more than (10) years or the highest certificate.

**Table 1: Describes the research community**

total number	excluded	The total number after exclusion	Reason for exclusion	percentage of the original population
120				100%
-	30		More than (5) years or higher certificate	25%
-	-	90		75%

### Research sample:

The researcher chose a sample for his research using the (simple random sample) method, and this was done after visiting a number of primary schools, before starting the experiment, with the aim of conducting an exploratory experiment, and determining the research sample, according to a questionnaire to conduct the scientific sorting of the statistical analysis sample, and according to which the teachers were excluded Those whose attainment of a Bachelor's degree in Art Education or their years of service were more than (5) actual years. And as shown in Table (2).

**Table (2) Description of the research sample selection**

research community	males	Reason for exclusion	percentage
The total number of the sample	90		100%
survey sample	20		22%
The number of excluded	3	repeated absence	3%
The sample to which the program was applied	30		33%

Exploratory experiment:

After preparing the skill test, he applied it to a random, exploratory sample consisting of (20) teachers on Wednesday corresponding to (10/12/2022) to benefit from knowing the time it takes to perform the test. Set search parameters:

1. Previous experience: This variable was isolated when determining the research community and before selecting the research sample, by excluding any teacher with experience of more than (5) years or entering development courses in the field of theater directing that are evaluated by the school activity directorates, and the researcher also prepared a closed questionnaire It is presented to the members of the research sample with the aim of ensuring that the researcher himself does not have any teacher with previous experience, and the questionnaire contains the following question: Question / Have you ever entered a developmental course in the field of theater directing? Or participated in presenting a theatrical show inside or outside educational institutions?

2. Academic Achievement: This variable was isolated when defining the research community, by excluding any teacher with a university degree, as the researcher identified his research sample with diploma holders from art institutes or teachers.

3. Experimental extinction: that is, the extinction resulting from leaving a number of (the research sample), or their interruption during the experiment, and the researcher excluded (3) individuals, as shown in Table (2).

Research tool: The objectives of the research necessitated building the search tool for his research, which consisted of (15) paragraphs and consisted of a triple scale (weak and takes one degree - average and takes two degrees - and good and takes three degrees), so the highest degree obtained by the sample is (45) degrees and the lowest degree is (15) And as shown in Table (3)

**Table (3) Explain the search tool**

no	Theatrical directing skills	weak	middle	good
1	Knowledge of text selection			
2	Knowledge of text analysis			
3	Knowledge of character analysis in the play			
4	Know the mechanism of assigning roles to actors			
5	Knowledge of the nine theater geography distribution			
6	Know the formation of the movement rhythm of the play			
7	Knowledge of forming the vocal rhythm of the play			
8	Knowledge of the rules and techniques of diction and vocal performance			
9	Formation of theatrical composition by applying its four factors			

10	Formation of movement appropriate to the dramatic situation			
11	Implementation of the scène graphic formation of the show			
12	Determine the entry and exit of actors for each scene			
13	Shaping the rhythm of the play and the movement of the characters according to each scene			
14	Manage and direct the work of technicians in all production details			
15	Theatrical directing skills			

a. Validation of the tool: The researcher relied on the virtual validity of the test, by presenting the training program, the educational content, the research tool, and the lesson plans to a group of arbitrators.

#### B. Tool stability:

1- Tool stability coefficient: The tool stability coefficient was found by applying the test and retest (test-retest) on a second survey sample consisting of (20) teachers, as the test was applied on the day corresponding to (10/15/2022) and they were retested In the same circumstances, after a period of time not exceeding two weeks, on Tuesday (10/24/2022), the researcher used the Pearson correlation coefficient to identify the correlation coefficient between the test and the re-test conducted by the researcher on the respondents, whose percentage was (0.86). between the two tests.

2- The stability coefficient of analysis: The researcher extracted the stability coefficient with the help of two observers after the researcher provided the observers with the

research tool and trained them on how to use it. It is good and a very sufficient percentage to ensure confidence in the stability of the correction, according to what (Cooper) indicated that stability whose percentage is less than (0.70) is considered weak, as it indicates “a high level of stability as the percentage of agreement reached (0.85) or more.” (Cooper, 1963, p. 27)

#### Stages of preparation of the training program:

In preparing the training program, the researcher relied on the theory of cognitive burden, as it is compatible with the privacy of the members of the research community and is compatible with the research variables, whether the first variable (theatrical directing skills)

#### Stages of building the training program (designed by the researcher)

The researcher sought to identify the rules and controls for building programs, so the process of building the training program went through the following steps:

First: the analysis (includes everything related to the analysis of the characteristics of the trainees, the environment, and the like)

Second: Synthesis (performing the process of synthesizing the results of what has been analyzed)

Third: Evaluation (this stage includes evaluation procedures and the related determination of the type and mechanisms of evaluation). In addition, attention was paid to the feedback and its inclusion in the training program. Therefore, the steps of the training program were as follows:

First: The analysis stage: This stage is the first stage of building the program, which is based on the process of (analysis) of the educational process, and through it a set of steps are taken that form the basis for the steps that will be built upon in the implementation and

evaluation stage, since the process of building the training program is based on the principle interdependence and sequencing.

Second: The installation stage: This is the second stage of the stages that should be worked on in building the program, which is based on the installation process of what was done in terms of analysis in the educational process in the first stage, through which a set of steps that constitute the applied reflection of what is in the first stage are conducted. The analysis is one of the steps of this on the one hand, and the practical measures will be the most prominent and clear in the implementation of the training program, on which the third phase of the training program is built.

Third: The evaluation stage: Determining a step for evaluation is one of the foundations that should be available in building training or educational programs, as this step gives a measure of the occurrence of development or not among the members of the experimental sample, and the evaluation processes are linked to the general objectives that were formulated in the first stage (analysis). So it was formulated as a first step.

The final application of the experiment:

1. Application of the pre-test: The researcher applied the pre-test to the research sample, on Wednesday, 10/25/2022.

**Table (4) It shows the average standard deviations of the experimental group in the pre and post test.**

2. Application of the experiment: The researcher taught the research sample members the units of the training program for a period of (8) weeks, and the start date for applying the experiment was on Thursday 10/26/2022, and the end of its implementation was on Wednesday 12/23/2022.

3. Application of the post-test: The researcher conducted the post-test at the end of (8) weeks after the beginning of the application of the experiment, and this was done on Wednesday 12/24/2022.

Statistical means:

The researcher used the (SPSS) program to extract the search results.

### **Presentation and interpretation of results**

First: presenting and interpreting the results:

This chapter includes a presentation of the results of the research and an explanation thereof, to know the effectiveness of the training program prepared according to the theory of cognitive load by the researcher, to prove the two research hypotheses as follows:

Show result: Presentation and analysis of the arithmetic mean and standard deviations of the experimental group for the pre and post tests.

significance level 0.05	t-test		dt	standard deviation of the difference	arithmetic mean of difference	difference between the two tests	Total scores	Arithmetic mean	Size the sample	application
	Tabular	calculated								
statistically in favor of Post application	2,04	17,55	29	4,569	14,65	437	547	18.21	30	Tribal application
							987	6.31		Post application



Table (4) shows the values of the arithmetic mean, standard deviations, and the arithmetic mean of the difference between the two tests of the experimental group in theatrical directing skills. The arithmetic difference of (14.656) and a standard deviation of (4.569), while the value calculated for the t-test was (17.55), while the tabular value of the test was (2.04) with a degree of freedom (29), which means that there has been a development in theatrical directing skills of the research sample, so it was rejected The original hypothesis and the acceptance of the alternative.

#### Second: Interpretation of results:

The results of the current study resulted in a statistically significant difference at a level in favor of the achievement of the experimental group in the post-test, and the researcher believes that this superiority may be attributed to the following reasons:

1. The application of the cognitive load theory in building the training program in presenting and presenting theatrical directing skills as the most appropriate theory for the research community played an important role in achieving these results.
2. The process of defining goals as a starting point for the program contributed to the research sample knowing what is required of them without ambiguity on the one hand and facilitating the construction of measurement and evaluation procedures on the other hand, which became clear in the collection.
3. The researcher prepared educational content according to the quality of the sample and what is required of it to reach it in terms of cognitive and skillful performance, and organized it according to the cognitive burden theory, which gave a positive role to organize the content.
4. Applying a variety of methods, strategies and teaching methods that created a positive

interaction with the trainees, and clearly contributed to the researcher's positive results in developing theatrical directing skills.

5. The use of different evaluation methods (pre, post, and feedback) leads to the evaluation of the educational process in all its stages, and works to identify its strengths and weaknesses and gives it a positive dimension.

#### Conclusions:

A- The effectiveness of the cognitive load theory in developing theatrical directing skills for art education teachers.

B- The diversification of the methods of teaching the educational content has a major role in making the trainees more prepared to receive information, which increased their motivation towards studying and achieving the goals of the research.

C- The contribution of (feedback) as one of the paragraphs of the training program contributed to the development of the skills of the research sample and drew them to the information and its application because it clearly contributes to the defects through it.

D - The preparation of lesson plans according to the steps of the program contributed to reducing the percentage of wastage in time and effort and preventing falling into the events of the burden on the trainees.

#### Recommendations:

In light of the results and conclusions reached by the current research, the researcher recommends the following:

A- Adopting the training program prepared according to the cognitive load theory in teaching technical skills because of its effectiveness in skill achievement.

B - Training art education teachers to use models and theories that contribute to the implementation of knowledge and skill lessons

without creating any level of burden on their students through holding training courses.

### Proposals:

As a complement to the current research, the researcher suggests conducting the following studies:

A- Conducting a study similar to the current study in other subjects.

B- Conducting a study similar to the current study with other variables not covered by the current study

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