

Meditative teaching practices in chemistry teachers

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Article History: Received: 11 January 2021; Revised: 12 February 2021; Accepted: 27 March 2021;
Published online: 4 June 2021

Abstract:

In the light of recent developments in educational systems, teachers are required to reshape their beliefs, ideas, and methods to develop the educational process, and they also have to constantly improve their contemplative teaching practices, based on the increasing developments in education that have caught the attention of educators and to build their programs in the light of educational policy (Ryan, 2014:2). It shows the need for an educated learner to adapt to the changes that occur according to the desired goals and values and to contribute in one way or another to solving problems and meeting the needs of the learner himself and society on the other. Meditation is one of the most important modern trends for teachers, it contributes to increasing their level of motivation, increasing their willingness to teach, increasing self-confidence, understanding the challenges facing them, developing teachers' knowledge and skills, refining classroom practice and developing decision-making skills (Pollard, 2003, 12-13), and demonstrating the importance of contemplative teaching practices for all teachers regardless of their level of experience, these practices have a deeper understanding of many educational issues, This helps them to make conscious decisions about these issues, especially if they are in a position of responsibility in order to move to a higher level of competence, as for junior teachers, these practices increase their understanding and awareness, instead of teaching performance based on simulation and imitation and when they reach the stage of expert teachers are properly prepared in all from professional independence, and enabling them to develop a willingness to teach they have, And critically analyze their beliefs in teaching, and increase their level of motivation. (Hafnawi and others, 7:2015).

Research extract:

Current search target checking

meditative teaching practices in chemistry teachers1-

2-statistically significant differences in contemplative teaching practices according to the variable of gender (Male, Female) and years of service (less than 15 years) and (more than 15 years) at the level of indication (0.05) In order to achieve the objectives of the research, the researcher adopted the descriptive research approach and the research community was identified and selected a sample of teachers of chemistry in middle, middle and high schools, affiliated to the Baquba district center, for the academic year (2020-2021) and the research sample consisted of (230) teachers and chemistry school, by (100) are the basic research sample (50 teachers) and (50 schools) after checking the psychometric properties, the scale was applied to the basic research sample, The results showed that the contemplative teaching practices in chemistry teachers were good for them and not affected by the change of sex, and affected by the change of years of Service and for the benefit of chemistry teachers whose years of service (more than 15 years) in light of these results the researcher developed many recommendations and proposals

Problem statement

Teachers must develop their skills and methods in their field of work, and because there are successive and significant changes in the learning environment as well as technological developments, they are required first and from the institutions in which they work second to improve the quality of education through joint work to achieve this orientation, Therefore, it is necessary to know the meditative teaching practices of chemistry teachers inside the classroom, which facilitates the process of Education, which leads to the advancement of the educational level and achieve the educational goals that it seeks, and this requires the chemistry teacher to

be able to meditative teaching practices that qualify him to provide a good educational climate to achieve the best educational, Which could cause a weakness in their meditative teaching practices.

What are the meditative teaching practices of chemistry teachers?

Importance of research:

In the light of recent developments in educational systems, teachers are required to reshape their beliefs, ideas, and methods to develop the educational process, and they also have to constantly improve their contemplative teaching practices, based on the increasing developments in education that have caught the attention of educators and to build their programs in the light of educational policy (Ryan, 2014:2). it shows the need for an educated learner to adapt to the changes that occur according to the desired goals and values and to contribute in one way or another to solving problems and meeting the needs of the learner himself and society on the other. Meditation is one of the most important modern trends for teachers , it contributes to increasing their level of motivation, increasing their willingness to teach, increasing self-confidence , understanding the challenges facing them, developing teachers ' knowledge and skills , refining classroom practice and developing decision-making skills(Pollard,2003,12-13), and demonstrating the importance of contemplative teaching practices for all teachers regardless of their level of experience, these practices have a deeper understanding of many educational issues, This helps them to make conscious decisions about these issues, especially if they are in a position of responsibility in order to move to a higher level of competence, as for junior teachers, these practices increase their understanding and awareness, instead of teaching performance based on simulation and imitation and when they reach the stage of expert teachers are properly prepared in all from professional independence, and enabling them to develop a willingness to teach they have, And critically analyze their beliefs in teaching, and increase their level of motivation. (Hafnawi and others, 7:2015).

(Meditative teaching practices): this is the process that takes place before, during, and after the teaching process, during which teachers examine their daily teaching practices, to identify strengths and weaknesses, work on strengthening or improving them, counter future teaching attitudes, and reach quality standards in teaching

- Procedural definition of meditative teaching practices: - a degree that chemistry teachers receive, through their response on the meditative teaching practices scale for current research purposes

Chapter 2: background of theory and previous studies

Theoretical background:

First: historical roots

John Dewey is considered one of the most prominent educational philosophers in the twentieth century, as well as one of the first educational theorists in the United States of America and a great credit in enriching educational thought, and he is one of those who advocated the need for the teacher to reflect on what he practices during the teaching process because it is the cornerstone this orientation on the part of Dewey returns Slim and Michelle,2020: 16-17)(

Second: patterns and levels of contemplative teaching practices

1-Descriptive meditation: where the teacher describes the subject he is contemplating and thinking about. It means answering the question (what happened?), But the process of meditation not only stealing the facts as they are rather interested in my descriptions important meaningful, to know the basic characteristics of the position or situation in which to reflect.

-2-comparative meditation: where the teacher compares several interpretations of the topic from different perspectives, and the benefit of the comparison it opens the field of multiple possibilities from many sources VV view the topic from the point of view of the parent or the principal or the student mentor or the students themselves VVT comparative meditation seeks to seek other opinions.

3_ Almanac meditation: where the contemplative teacher seeks not to give judgments and looks at the subject in the light of other interpretations and taking into account its change for the better so that the question arises after this, What better way to do this work?

(Jay,1999: 2)

Third: stages of contemplative teaching practices

1-planning stage: this is the stage in which the contemplative teacher works hard to identify the possibilities and equipment available in the classroom before using them and prepare in a planned, organized, and thoughtful manner for successive actions before implementing them during the lesson and flexibility in planning to allow modification of the teaching plan in the event of a change in the execution stage.

Implementation phas

A phase in which meditation teacher through hearing the views of learners multiple attentively and communicate their ideas with an open mind, and I opposed his ideas and constant change and consult with them during a lesson to identify their expectations and their needs in the classroom.

The calendar:

A stage in which, encouraged by her teacher, meditator learners to review their previous experience in a way to detect strengths and their need to enhance their learning of the study and received feedback from learners after the completion of each molecule in the lesson. (Ali,2018:16)

Chapter 3

Research methodology and procedures:-

Research methodology:

The method used in the current research is the descriptive method (relational studies), which tries to determine the current state of the phenomenon studied, and then describe it, the result is the study of the phenomenon on what it exists, and is interested as an accurate description, (Melhem, 2000: 32), as relational studies are studies by which it is possible to find out whether there is a relationship between

Research community: the research community consists of all (230) teachers and teachers of chemistry in the middle, middle and high schools affiliated to Baquba district center in Diyala for the academic year 2021-2022, according to the Planning Department statistics division

Research sample: - the research sample was selected in a comprehensive inventory method: it is the collection of data from all the vocabulary covered by the research (Al-Khanani, 2010: 2)

Construction Management Research:-in order to achieve the goals of the current research, we provide the management of the properties, measurement of trauma and discrimination, and are directors of research objective way to assess where a sample of Suki, the test evidence of major importance to get to know the property to be measured (15: Anastasi,1976)

-Measure of meditative teaching practices: the researcher prepared the measure after familiarizing herself with previous studies and educational literature related to meditative teaching practices such as the study (Obaidat, 2017), (Shaheen, 2012), (Rashidi, 2018), and the measure consisted of(39) paragraphs divided into three areas (planning, implementation, calendar), and each area(13)paragraph in exchange for each paragraph five alternatives apply always, apply often, apply sometimes, apply rarely, never apply she 5) ,4 ,3 ,2 ,1(

The researcher built a measure of meditative teaching practices in chemistry teachers like Alati:

: .formulation of the paragraphs of the scale and the inclusion of the answer- 1-

After determining the area of the plugs, the researcher formulated a set of paragraphs which represent areas of practice teaching contemplative

.2-opinions of arbitrators and specialists in the paragraphs and areas of the measure of contemplative teaching practices:

To identify the validity of the paragraphs of the scale of (39) paragraphs in its initial form Appendix(6)was presented to (16) experts of specialists with experience in the field of methods of teaching chemistry, measurement and evaluation the researcher took (80%) above as a percentage of approval of the paragraphs, and the researcher adopted the test of the square Kay (for good conformity) and found that all paragraphs are statisticallyindicative, i.e. their level of significance is less than (0.05) and thus the differences are in favor of the experts who approve the disapproval Table 1 makes this clear,

Table1

Paragraphs of the reflective teaching practices scale that won the approval of the majority of experts, the percentage of those who agreed and disagreed, and the chi-square value

Statistic al significa nce	Test significan ce level	degree of freedom	Kai Calculate	disapproves		Agrees		number of paragra phs	Vertebrae	Fields
				percentag e	the numb er	percentage	the numbe r			
function	0.000	1	16.000	0%	0	100%	16	6	9,8,7,6,5,13	planni ng
function	0.000	1	15.250	6.25%	1	93.75%	15th	7	10,4,3,2,1,12 ,11	
function	0.000	1	16.000	0%	0	100%	16	5	10,9,7,21,11	Execut ion
function	0.000	1	15.250	6.25%	1	93.75%	15th	4	3,2,1,13	
function	0.003	1	9.000	12.5%	2	87.5%	14	4	8,6,5,4	
function	0.000	1	16.000	0%	0	16	16	7	10,6,5,4,3,2, 1	Calend ar
function	0.000	1	15.250	6.25%	1	93.75%	15th	2	9,8	
function	0.012	1	6.250	18.75%	3	81.25%	13	4	7 13,12,11	

exploratory experience: - 3

The researcher conducted the exploratory experiment, the purpose of which is to identify the clarity of instructions and paragraphs and the appropriateness of the proposed alternatives and to calculate the time needed to answer through the application of the scale to a sample consisting of (30) teachers and schools within the research community of (15) teachers and (15) schools, at Al-adnaniya high school for girls, on Thursday, 14/1/2021

.-:correction of the measure of contemplative teaching practices- 4

It is intended to put the response score of each respondent on each of the alternatives of the paragraphs of the scale, and then extract the total score by collecting the responses scores on the paragraph of the scale, identified for the scale five alternatives (apply to me very much, apply to be relatively large, apply to my medium, apply to me relatively little, apply to

)1,2,3,4,5 (from highest grade to lowest grade by alternatives where the respondent selects one of the five alternatives in each of the 39 paragraphs

.statistical procedures for the analysis of paragraphs: 5-

(Ebel, 1972) indicates that the goal of the analysis of paragraphs is to keep the good paragraph in the scale, and the method of the two extreme groups and the relationship of the paragraph to the total degree are two appropriate procedures in the process of analysis of paragraphs

*The discriminatory power of paragraphs (extreme groups)Discrimination power of Items

The researcher used the T-test of two Independent t-test samples to test the significance of differences between the upper and lower group scores and the T-value returned an indicator to distinguish the paragraph by comparing it with the tabular value, and that the paragraphs that get a calculated t-value (2.000) and more They are distinctive; because they are statistically significant at the level of (0.05) degree of freedom (52) and comparing the calculated t value of each paragraph with the tabular value it turned out that all paragraphs of the measure of contemplative teaching practices, were distinctive and statistically function.

*Internal consistency: internal consistency was calculated as follows

Relationship of the degree of the paragraph to the overall degree (internal consistency)

One of the advantages of this method is that it provides a homogeneous measure in its paragraphs, since the greater the coefficient of correlation of the paragraph to the total degree, the greater the probability of inclusion in the scale, and for this purpose used forms number (100) for teachers and female teachers, and statistical processing showed that the paragraphs of the scale are all 0.195) and Table (2) shows correlation values between the paragraph degree and the overall scale degree of the scale.

Table (2)

Correlation coefficients between paragraph score and total score of the meditative teaching practice scale when compared to Tabular value (0.195) and at the indicated level of 0.05

The value of the paragraphs' correlation coefficient in the total score	Paragraph sequence	Paragraph correlation coefficient value in total degree	Paragraph sequence	Paragraph correlation coefficient value in total degree	Paragraph sequence
0.272	27	0.715	14	0.412	1
0.267	28	0.430	15th	0.339	2
0.666	29	0.666	16	0.718	3
0.365	30	0.641	17	0.352	4
0.255	31	0.629	18	0.365	5
0.514	32	0.203	19	0.669	6
0.705	33	0.264	20	0.425	7
0.407	34	0.202	21	0.686	8
0.514	35	0.397	22	0.681	9
0.594	36	0.376	23	0.470	10
0.614	37	0.311	24	0.554	11
0.519	38	0.816	25	0.221	12
0.578	39	0.304	26	0.485	13

B. relation of the degree of paragraphs to the area to which they belong:

Calculate the value of the coefficient of step degrees paragraphs pages that belong to him, has been applied Pearson correlation coefficient was all paragraphs statistically significant and positive, and the table (3) shows that

Table (3)Correlation of the degree of the paragraph with the field to which it belongs

Correlation coefficient values for paragraphs in the total score of the field	Paragraph numbers	number of paragraphs	the field	field number
0.445	1	13	Planning	1
0.336	2			
0.543	3			
0.498	4			
0.298	5			
0.435	6			
0.328	7			
0.276	8			
0.675	9			
0.675	10			
0.710	11			
0.376	12			
0.754	13			

0.342	14	13	Execution	2
0.345	15th			
0.342	16			
0.376	17			
0.354	18			
0.387	19			
0.453	20			
0.299	21			
0.789	22			
0.653	23			
0.524	24			
0.345	25			
0.345	26			
0.451	27	9	Calendar	3
0.397	28			
0.309	29			
0.298	30			
0.764	31			
0.765	32			
0.409	33			
0.301	34			
0.312	35			
0.542	36			
0.620	37			
0.721	38			
0.302	39			

C. the internal correlation matrix between areas and the overall degree of the scale

To calculate the value of the internal correlation matrix between the fields and the total scale degree, Pearson correlation coefficient was applied and all paragraphs were statistically positive, and Table 4 shows this.

Table (4)Matrix of internal correlation between fields and the total degree of the scale

Total marks meditative teaching practices	Calendar	Execution	planning	Fields
0.422	0.497	0.563	1	Planning
0.432	0.654	1	0.563	Execution
0.436	1	0.654	0.497	Calendar
1	0.436	0.432	0.422	Total marks meditative practices teaching

Standard (psychometric) characteristics of the measure of contemplative teaching practices

The researcher checked these characteristics as follows:

Validity of the Scale:1-

Two indicators of honesty were extracted for the scale, namely the apparent honesty and the construction honesty, and it was clarified how to check each indicator of them

Honesty is one of the most important psychometric characteristics that must be available in psychological scales, and honesty indicates that the scale measures what is prepared to be measured. (Ebel, 1972: 294)

The indicators of the sincerity of the current scale were verified by:

Honesty virtual*

It is intended to be a measure acceptable to the examiners in the measured characteristic, and it is shown to this kind of honesty principle, by looking at the paragraphs and knowing what you measure and then matching this by the function to be measured, and if the two are close the measure was virtual honesty

(Kanani and Jaber, 2000: 72) where this kind of honesty is achieved when experts examine the scale, it is concluded that the paragraphs of the scale ostensibly measure what the scale is set to measure (Weiner, 1984: 79)

The researcher has verified the apparent honesty of the meditative teaching practices scale, by identifying areas for meditative teaching practices, and building paragraphs according to the areas of the scale was achieved when experts specializing in teaching methods of chemistry, educational psychology, measurement, and evaluation agreed on the validity of paragraphs and areas in measuring meditative teaching practices

Construction honesty

It is sometimes called the truthfulness of the hypothetical composition, and at other times the truthfulness of the concept, because it depends on the empirical verification of the degree of conformity of the scale and the measured characteristic (Faraj, 1980: 313) the truthfulness of the construction has been achieved through the following indicators, the relationship of the degree of the paragraph to the sincerity of construction.

-scale stability indicators: 2-

Stability is considered a condition of a good measure (al-Imam et al., 1980: 143)

To extract the constancy of the measure of meditative teaching practices, the researcher used two methods, namely, retest and Alpha Cronbach, and by applying the measure of meditative teaching practices to the sample of constancy consisting of (30) teachers and schools randomly selected from the statistical analysis sample of (100) teachers and schools. The calculation of constancy is explained in two ways:

A-test method-re:

The current scale was applied to a sample of (30) teachers and schools and was randomly selected from chemistry teachers and schools within the statistical analysis sample, and the scale was re-applied to the same sample two weeks later, using Pearson correlation coefficient, the persistence factor reached (0.83) is a good indicator of the consistency of the answers of teachers and

B. Alpha Cronbrash correlation coefficient

The researcher used the formula Alpha Cronbach on (100) forms, which is the sample forms of all statistical analysis, as the coefficient of stability (0.89), and this is a good indicator of the stability of the scale, where Cronbach emphasizes that the test whose coefficient of stability is high is a good and accurate measure. (Cronback, 1964, p. 298)

.The final description of the measure of contemplative teaching practices: 7-

Thea measure of contemplative teaching practices in its final form consisted of 39 paragraphs, divided into three

Areas are:

- .Planning (13) paragraphs. 1-
- .Implementation (13) paragraphs. 2-
- .Calendar (13) paragraphs. 3-

All paragraphs have five alternatives are: (apply to a very large degree, apply to study relatively large, apply to moderately and apply to study relatively few, apply to a small degree too) and weights of these alternatives are (5, 4, 3, 2, 1) from the highest degree to the lowest degree as alternatives where the board selects an alternative to one of the five alternatives in paragraphs (39) clause, and that the highest degree can be obtained by the teacher or school's (195) The degree, the less the degree is (39) degree

Presentation, interpretation, and discussion of the results: this chapter includes a presentation and explanation of the results of this research according to the objectives and discussion of the results in the light of the

theoretical background and previous studies, and then a set of conclusions, recommendations, and proposals in the light of those results.

First objective: "to recognize the meditative teaching practices of chemistry teachers"

The researchers used the Test t, and the arithmetic average of the sample was (152.830) while the hypothetical arithmetic average reached (117)* the results of the Test t showed that the contemplative teaching practices of the sample are a function statistically if the calculated t value (21.534) greater than the tabular t value (1.980) degree of freedom (99) and at the level of indication (0.05),

Table (8)

The T-test of one sample with the meaning of the hypothetical arithmetic mean to know the level of contemplative teaching practices in chemistry teachers

Test significance level at (0.05)	tabular value	Calculated T-value	standard deviation	degree of freedom	hypothetical mean	SMA	Sample volume
D statistically	1.980	21.534	16,639	99	117	152.830	100

The researcher obtained the hypothetical arithmetic medium to identify the contemplative teaching practices through the following equation: the hypothetical arithmetic medium =the highest score in the balance +the lowest score in the balance / 2, the hypothetical arithmetic medium = $195+39/2=117$.

The researcher explains that as a result of the follow-up of the continuous educational supervision, and the follow-up of the school's administration of chemistry teachers, and the participation of many of them in training courses and seminars held in Erbil and Diyala Governorate, and the seminars that occur between many teachers on a particular problem or topic are a way to This study is consistent with the Minott study (Minott 2007), which aimed to identify the extent to which teachers use the principles of meditative teaching during lesson planning, implementation, and evaluation.

Second objective: to identify statistically significant differences in contemplative teaching practices depending on the gender variable (male, female) and years of service (less than 15 years) (more than 15 years) at the level of indication (0.05).

A-sex: there are no statistically significant differences for the basic research sample by variable (sex) if the value of the test indication level for this variable (0.573) is higher than the indication level (0.05)

B-years of experience: there are statistically significant differences for the basic research sample by variable (years of experience) if the value of the test indication level for this variable (0.000) is less than the indication level (0.05)

C. gender*years of experience: there are no differences statistically sample research basic on the interaction of the two variables, gender, and experience with the if the value of the level of significance test for this interaction (0.140) which is higher than the significance level (0, 05) schedules and below explain it in detail.

Table (7)Descriptive statistics of the variable of contemplative teaching practices

standard deviation	SMA	number of students	Sex	standard deviation	SMA	number of students	Specialization	
16,875	139,208	24	Male less than 15 years experience	14,601	140,261	46	under 15 years old	
11.927	141.409	22	Less than 15 years experience female					
9.342	166.077	26	15 years or more experience male	9.069	163.537	54	More than 15 years	
8.286	161.179	28	15 years or more experience female					
16,639	152.830	100	holistic reflective teaching practices	19,028	153.180	50	male	total sex

				14.038	152.480	50	female	
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table(8) Binary variance analysis with interaction to find out the differences in the level of reflective teaching practices according to the variables of sex and years of experience

indication	Test Significance Level*	percentage	mean squares	degree of freedom	groups of squares	Contrast source
nonfunction	0.573	0.319	45.116	1	45.116	Sex
Function	0.000	95,377	13485.118	1	13485.118	years of experience
Nonfunction	0.140	2.210	312.451	1	312.451	gender*experience
-	-	-	141.388	96	13573.230	The error

The researcher explains that there are no differences according to the gender variable (male, female) because of the similarity of educational conditions that are exposed to males and females in terms of education curricula and the quality of schools, as for the variable of experience the differences came in favor of the category of more than 15 years, which means that the experience, Al-hefnawi et al., 2015, pointed out that teachers who have a long career in teaching have a deeper understanding of educational issues, which helps them to make informed decisions and be more aware of contemplative teaching practices

Conclusions:

chemistry teachers possess meditative teaching practices1-

2-meditative teaching practices are not affected by the gender variable but are affected by the variable of experience and for the benefit of chemistry teachers who have years of service (more than 15 years)

Recommendations:

1-urge education directorates to prepare training courses to develop teachers 'skills to bring about continuous changes in teachers' contemplative practices

2-sensitize chemistry teachers to the need to pay attention to teaching chemistry as a research method and think about linking the scientific material with the student environment instead of focusing on the content of Chemistry subjects in the textbook

Proposals:

1-conducting another study on meditative teaching practices and linking them to another variable such as (professional competencies), and using another tool for meditative teaching practices such as observation

.2-exploratory studies on the barriers that prevent teachers from acquiring contemplative teaching practices

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