

The Effect of Teaching Strategies (Comparison and Classifications) for Improving Meta-Cognitive Skills (planning, monitoring and following-up, evaluation, goals setting in the Islamic Curriculum in Kuwait

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Abstract

This study aims to identify the degree of using thinking teaching strategies on improving meta-cognitive skill that relates to (planning, monitoring and following up, evaluation and setting goals) by teachers in the State of Kuwait and to investigate whether there is a statistical significance of using the thinking teaching strategies on meta-cognitive skills (planning, monitoring and following up, evaluation and setting goals). The current study followed the descriptive

and analytical method that is the most appropriate for educational studies particularly that have to do with regression studies and the study of the relationships between variables. The research tool is represented in a list of thinking teaching strategies as independent variable and meta-cognition skills (planning, monitoring and following up, evaluation and setting goals) as dependent variables that is distributed in (25) items that are basically under five variables. The research sample sent by emails

randomly to 300 of teachers in Kuwait public schools, 280 were returned with 93% response rate. The survey was electronically distributed via social media platforms because of the Corona Virus pandemic witnessed by the State of Kuwait and the world. The research findings showed that thinking teaching strategies has statistical significance effect on improving meta-cognitive skills (planning, monitoring and following up, evaluation and setting goals). Finally, this study recommended that teachers should applied thinking teaching strategies in order to improve meta-cognitive skills.

Keywords: Thinking Teaching Strategy, Meta-Cognitive Skills, Planning, Monitoring and Following-up, Evaluation, Goals Setting

* Introduction

Meta-cognitive thinking skills are one of the main predictors of success inside the classroom and beyond. Learners who can access their own need a little aid to get to what is hidden in their thinking process. Just like any other skill, meta-cognitive skills can be fortunately taught and developed. Meta-cognition as a concept consists of two terms. They

are „meta“ and „cognition.“ Together they are translated into „beyond thinking.“ The term itself was first unveiled in 1976 by John Flavell, a well-known American psychologist (Flavell, 1976). Flavell defined *meta-cognition* as being mindful of one’s own cognitive processes and having the ability to use that knowledge to purposefully regulate those cognitive processes (Al Kheken and Attom, 2014).

Meta-cognition is a uniquely human capacity. Humans can turn what they observe inward to think about what they know, need to know, and how they can solve any problem. Meta-cognition is what makes learners go back a little bit and think through troubles rather than reacting simply. Meta-cognition thinking allows learners to learn from prior experiences, generalize ideas to apply strategies when dealing with new situations, evaluate the use of different strategies, and determine how they might do things differently next time (SaadAllah, 2014). Thinking about thinking means an individual’s awareness and understanding of what is learned; the ability to observe the

self and evaluate cognitive actions about learning. It also refers to reviewing the emotional self to see if one's goal has been achieved or not and organizing work by selecting the appropriate strategy (Wright, 2020).

Meta-cognition thinking is very significant because it relates to the learner's ability to overcome and adapt. As learners do their best to think about their thinking process, they understand themselves in much better ways. Those learners who use Meta-cognition thinking may also think about their process in achieving their goals. They can find what works best and what can be better (Callender et al., 2016). Moreover, the significance of Meta-cognition strategies is represented in their essential role in the educational process, as they focus on the ability of the learner to plan, monitor, control, and evaluate his or her learning, as well as they work to develop learners' acquisition of different learning processes, and allow them to assume responsibility and control in the processes related to education. Meta-cognition strategies facilitate the active building of knowledge and help in the

development of independent thinking as well (Odinokaya et al., 2019).

Azmy et al., (2020) indicated that meta-cognitive skills could be taught to learners to develop their learning. That is simply because learners with well-developed meta-cognitive skills may think through a problem or approach a learning task. They may also choose suitable strategies and make decisions to resolve any problem then perform any task successfully. Also, learners with developed cognitive thinking tend to think about their thinking processes and take time to think about and learn from their mistakes inside or outside the classroom. Meta-cognitive thinking strategies refer to ways learners may use to understand; in other words, it means processes designed for them to „think“ about their „thinking. In such a way, teachers can positively affect learners with learning disabilities by helping them to improve a suitable plan for understanding information (Kleitman and Narciss, 2019). Meta-cognitive strategies are the awareness monitoring of a learner's cognitive strategies to achieve determined

objectives; for example, when one learner asks himself or herself questions about his/her homework and then observes how well he or she answers the questions (Kurt and Kurt, 2017).

In a new learning environment, new teaching strategies as comparison and classifications are used to improve meta-cognition strategies as planning, evaluation monitoring, and goal setting. There is no study yet examining the effect of those teaching strategies on improving meta-cognition skills. This study will try to answer the question are thinking teaching strategies as comparison and classifications can improve the meta-cognition skills like planning, monitoring and following up, evaluation, and goal setting for the students from the view of teachers in Kuwait schools.

*** Research Questions**

The main question of this study is; what is the effect of the teaching strategies on improving meta-cognitive Skills (planning, monitoring and following-up, evaluation, goals setting) among teachers in the public schools in Kuwait. The following sub-

questions can be derived from the main research question:-

1- Is there any effect of teaching strategies improved meta-cognitive Skills, on improving planning skills among teachers in the public schools in Kuwait?

2- Is there any effect of teaching strategies improved meta-cognitive Skills, on improving monitoring and following-up skills among teachers in the public schools in Kuwait?

3- Is there any effect of teaching strategies improved meta-cognitive Skills, on improving evaluation skills among teachers in the public schools in Kuwait?

4- Is there any effect of teaching strategies improved meta-cognitive Skills, on improving goals setting skills among teachers in the public schools in Kuwait?

*** Research Objectives**

The main objective of this study is to explore if there is any significant effect of the teaching strategies on improving meta-cognitive Skills (planning, monitoring and following-up, evaluation, goals setting) among teachers in the public schools in Kuwait. The following sub-objectives

can be derived from the primary research objective:-

1- To examine the effect of teaching strategies improved meta-cognitive Skills, on improving planning skills among teachers in the public schools in Kuwait

2- To investigate the effect of teaching strategies improved meta-cognitive Skills, on improving monitoring and following-up skills among teachers in the public schools in Kuwait

3- To investigate the effect of teaching strategies improved meta-cognitive Skills, on improving evaluation skills among teachers in the public schools in Kuwait

4- To investigate the effect of teaching strategies improved meta-cognitive Skills, on improving goals setting skills among teachers in the public schools in Kuwait

*** Research Hypotheses**

1- H1: There is a significant effect teaching strategies improved meta-cognitive Skills, on improving planning skills among teachers in the public schools in Kuwait at $\alpha \leq 0.05$.

2- H2: There is a significant effect teaching strategies improved meta-cognitive Skills, on improving

monitoring and following-up skills among teachers in the public schools in Kuwait at $\alpha \leq 0.05$

3- H3: There is a significant effect teaching strategies improved meta-cognitive Skills, on improving evaluation skills among teachers in the public schools in Kuwait at $\alpha \leq 0.05$

4- H4: There is a significant effect teaching strategies improved meta-cognitive Skills, on improving goals setting skills among teachers in the public schools in Kuwait at $\alpha \leq 0.05$

*** Literature Review**

1- Meta-cognition Skills

Two dimensions of meta-cognitive ability have been recognized. They are knowledgeable of Cognition and regulation of Cognition (Flavell, 1978). Humans begin learning the moment they are born and never stop. Cognition is how learners learn. Each learner depends on different cognitive skills to comprehend and remember what he or she reads, sees, or hears. That simply depends on the topic, the context, and personal experiences (Lee, Meltzoff, & Kuhl (2020). Anandaraj and Ramesh (2014) indicated a significant correlation between learners' meta-cognition and

problem-solving ability. Meta-cognition is more effective in learning environments in which meta-cognitive thinking strategies are provided during the problem-solving process. Kapa (2001) clarified that understanding when and how learners use meta-cognitive strategies plays a vital role in their success during the problem-solving process. However, meta-cognitive thinking may get learners to monitor their understanding and organize their learning and problem-solving processes. For problem-solving, there are two basic meta-cognitive skills. They are self-monitoring and planning. Self-monitoring refers to the ability of learners to self-check during the problem-solving process. Planning is simply the ability of learners to divide a problem into small parts that can be solved in any appropriate way (Tachie & Molepo, 2019).

Kapa (2001) proposed a meta-cognitive approach to the teaching of problem-solving. The approach included precisely five steps. They are identifying the problem, representing the problem, planning, performance of planning, and assessment. Havenga et

al. (2013) also gave a guideline for the same meta-cognitive approach to problem-solving consisting of five levels that are 1) identifying the problem by highlighting the basic points and writing down the most significant essentials, revision and planning the problem, 2) suggesting the solution, 3) planning the following step by input, process, and output, 4) reflecting on the motivation for decision making and 5) applying the suggestion and writing down the outcome later on to develop it. However, Garner (1987) clarified that good learners appear to have more knowledge about different aspects of memory, such as capacity limitations, rehearsal, and distributed learning. Hartman (2002) observed that even when learners do not know what to do, they may fail to solve familiar problems. Nevertheless, what is interesting is that learners may find a solution immediately without even discussing why that solution is appropriate and others not.

*** Planning**

At the beginning of any learning activity, the teacher has to familiarize learners with steps and rules in

problem-solving. The teacher also has to clarify time restrictions and goals that have to do with the learning activity to be clear to all learners. Consequently, learners will keep all these things in mind during the learning activity. Learners can then assess their performance against them (Mbato, 2013).

*** Monitoring and following-up**

During the learning process, teachers have to keep the target in focus. Monitoring and controlling refer to maintaining a sequence of operations or steps, knowing when a sub-goal will be achieved, knowing when to move to the following process, selecting the relevant process to follow in the context, discovering obstacles and errors, and knowing how to overcome obstacles and get rid of mistakes (Medina et al., 2017).

*** Evaluation**

Evaluation is the concept of the ability to analyze performance and effective strategies following learning or solving problems. It refers to the individual's evaluation of learning processes and includes evaluating progress in learning activities. The assessment skill can help pupils

develop a set of necessary skills and strategies that can help them in the learning process and improve it (Özsoy et al., 2017). Teachers can enhance meta-cognitive thinking if they guide their learners to evaluate the learning activity. This can be simple through two sets of criteria by which learners could be asked to evaluate the learning activity. For example, they can be asked whether they like or dislike the learning activity or what may help them more during learning. In such a case, teachers get learners to keep the criteria in mind when classifying their views and opinions about the learning activity to motivate the reasons for those opinions (Ornstein and Hunkins, 1998).

*** Goals setting**

Goals can be defined as expectations about the academic, social and emotional outcomes for learners due to their classroom experiences. These goals enhance learners' ability to be self-regulated in various circumstances (Cross and Paris, 1988). Goals are often classified into two methods. They are mastery goals and performance goals. Mastery goals refer to the process, learning, and

development of competence. Performance goals have to do with social comparisons, orientations, or demonstrating competence to one's peer group (O'Neill, 1992). Goal setting as an aspect of meta-cognitive thinking strategies comes with a theoretical basis. It is necessary to consider how such a theoretical basis can be translated into the classroom. When understanding what goals fit in practice, it might be helpful to think of goals more than once. Not all goals will have the same scope, meaning that some goals will be comprehensive and highlight all needs, and some will be more specific on individual parts of the task used to achieve the overall assignment (Shannon, 2008). As a fundamental component and a source of meaningful teaching, the role of meta-cognitive thinking occupied an excellent extent. However, the controversial issue is deciding how, when, and why meta-cognition should be integrated with the curriculum to be an essential strategy of teaching (Papaleontiou-Louca, 2003).

2- Thinking Teaching Strategies

Features of the learning environment for thinking teaching

strategies some empirical studies suggest that thinking strategy use is rare compared to traditional teaching approaches. For example, Kistner et al. (2010) found that German mathematics teachers spent little time instructing their students how to learn effectively. Similarly, Leutwyler (2009) suggested that traditional curricula and instructional practices are insufficient to promote thinking. Instead, elements such as the explicit focus on learning processes or emphasis on deep understanding are necessary. As a result, students tend not to use or refine their thinking strategies over time. The features necessary for fostering thinking learning often seem to be absent during regular lessons, even though many of these features are associated with positive gains in achievement over time (Kistner et al.).

One of the critical features of the learning environment for fostering thinking strategy use is an engaging curriculum (Leutwyler, 2009). A curriculum that integrates student interest, active learning, and collaboration affords frequent opportunities for students to use

thinking teaching skills. Contrariwise, as Haidar and Al Naqabi (2008) suggest, traditional teaching practices do not encourage students to reflect on their thinking. For example, the characteristics of an engaging curriculum, such as constructivism, self-direction, and transfer, are often used infrequently compared to more direct methods such as whole-class instruction (Kistner et al., 2010). Nevertheless, adjusting a curriculum to be more engaging for students can substantially affect the quality and quantity of meta-cognitive strategy use. Some general examples for making a curriculum more engaging include integrating student choice, problem-based learning, and concept teaching (Haidar & Al Naqabi; Leon-Guerrero, 2008; and Scharlach, 2008).

3- Meta-cognitions and Teaching Strategies

Haiduc (2011) indicated that teaching meta-cognition is crucial in the process of learning. So, learners are to be aware that they use meta-cognitive thinking, but they need to organize their skills in order to be able to achieve all the strategies mentioned above of meta-cognitive thinking.

Then learners will turn into self-directed ones. Once learners become experienced with strategies of meta-cognitive skills and self-directed ones, they do not need guidance. Then they will be able to control, manage, and put their all thoughts in the right direction (Shannon, 2008). Despite all curriculum developments at the secondary stage in the state of Kuwait during the last years, it is still essential to rely on new strategies like meta-cognitive thinking strategies that can go along with the development of learning and move the process of learning from teacher to learner. That is why the two researchers conducted the current study that aimed to identify the degree of using meta-cognitive thinking strategies in solving a problem by teachers at the secondary stage in Kuwait. Meanwhile, San'ani and Radwan (2020) found that there are high levels related to meta-cognition strategies, meaning that, as indicated by Iwai's research (2019), they are very keen to choose and use meta-cognitive thinking strategies that are appropriate for their needs, and their development.

4- Previous Studies

1- Study of Azmy and Alebous (2020): This study aims to identify the degree of using meta-cognitive thinking strategy skill that relates to problem-solving by teachers in the State of Kuwait and to investigate whether there is a statistical significance of using the skills of meta-cognitive strategies on solving problems related to their years of experience and their educational area. The current study followed the descriptive and analytical method that is the most appropriate for educational studies particularly that have to do with correlation studies and the study of the relationships between variables. The research tool is represented in a list of thinking of meta-cognition that is distributed in (36) items that are basically under four dimensions including understanding the problem, setting a plan for a solution, control, and evaluation. The research sample that was analyzed contained (204) members. They are teachers who teach biology at secondary school in the state of Kuwait that is, 50% of the total number of female teachers in the State of Kuwait who are actually working in the whole six educational areas available in the

state of Kuwait. The survey was electronically distributed via social media platforms because of the Corona Virus pandemic witnessed by the State of Kuwait and the world. The research findings showed the degree of using the skills of meta-cognitive strategy that relate to problem-solving by the research sample in the State of Kuwait was high despite the different degrees of each strategy. The results indicated there is not a statistical significance of applying the skills of meta-cognitive strategies on solving problems by the research sample belong to their years of experience and the educational area they work in.

2- Study of Shahbari, Daher, Baya'a, and Jaber (2020): this study discussed the transformations, including symmetry and rotations, as important in solving mathematical problems. Meta-cognitive functions are considered critical in solving mathematical problems. In the current study, researchers examined prospective teachers' use of meta-cognitive functions while solving mathematical-based programming problems in the Scratch environment. The study was conducted among 18

prospective teachers, who engaged in a sequence of mathematical problems that utilize Scratch. The data sources included video recordings and solution reports while they performed mathematical problems. The findings indicated that the participants developed their meta-cognitive functions as problem solvers related to both mathematics and programming aspects. The findings also indicated that the participants developed regulation meta-cognitive functions more than awareness and evaluation ones in mathematical and programming aspects.

3- Study of Soto et al. (2020): the researchers explored in this study whether performance differences exist between proficient and poor readers on implicit text information. Next, they explored whether indices of meta-cognitive monitoring predicted reading performance. Finally, they examined whether poor and proficient readers exhibited distinct meta-cognitive profiles with respect to reading comprehension ability. Chilean undergraduate students (N = 146) completed a task on inconsistency detection within texts and a

standardized reading comprehension performance measure, which they used, along with confidence in performance judgments, to calculate meta-cognitive monitoring accuracy. Their results confirmed that proficient readers outperformed poor readers on nearly all measures of interest, except global retrospective meta-cognitive monitoring judgments, and those proficient readers performed significantly better on items related to implicit information of texts than poor readers. Additionally, when combined in a single group, the number of inconsistencies correctly detected and repaired and accurate global evaluation of learning judgments significantly predicted reading performance whereas retrospective global and local meta-cognitive monitoring judgments did not. Of special significance to their investigation, when separated into two groups, poor and proficient readers exhibited unique meta-cognitive profiles. Proficient and poor readers employ different meta-cognitive strategies, and poor readers benefit more from strategies than proficient readers.

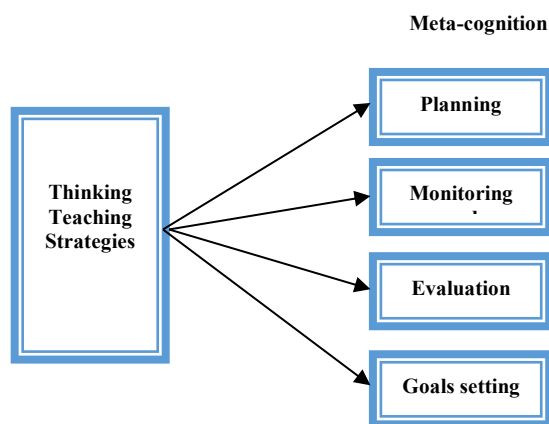
4- Study of Tachie (2020) : The study explored the ways in which meta-cognitive skills and strategies are used to improve teachers' pedagogical knowledge of teaching mathematics in schools. The study design used was an explanatory sequential mixed-method which included eighty-seven participants (N=87 teachers: males=40 and females=47). The latter were rural mathematics teachers in the Motheo District of Education, South Africa. Eighty-seven teachers took part in a quantitative survey while five teachers were selected for the qualitative case study. One hundred questionnaires were validated through pilot testing. In addition, classroom observations and interviews were used for additional data collection. In the case of data analysis, a statistical package and content analysis were used. This research showed that teachers fostered meta-cognition in a variety of ways and that they used instruction that was more explicit and collaborative rather than implicit instruction when teaching mathematics. The study established that skills and strategies such as assessing learners' responses and arguments, interpreting learners'

explanations, structuring appropriate tasks, asking appropriate questions that promoted thinking and interpreting curriculum resources would potentially improve teachers' pedagogy of teaching mathematics if these were used during teaching and learning. Recommendations were made to assist in improving teachers' pedagogical knowledge.

5- Study of Hosseini (2021): this study was an Endeavour to explore the impact of using meta-cognitive strategies on EFL learners' writing performance of a language institute in Gachsaran, Iran. Also, the students' views on the use of these strategies in EFL classes and their effect on the writing performance were assessed. To this end, 40 intermediate learners were recruited to participate in this study. The experimental group included 20 students who adopted meta-cognitive writing strategies, while the control group included 20 students who followed a conventional teaching writing skill. Firstly, all participants took part in the same pre-test of writing, and the scores were recorded. Then, implementing the mentioned strategies started after running the pre-

test. Finally, the students of both groups took part in the post-test and the scores were recorded carefully. Moreover, a meta-cognitive writing questionnaire was published to explore the views toward employing the mentioned strategies. The data were analyzed descriptively and inferentially. The results indicated that the employment of meta-cognitive strategy significantly affected the Iranian EFL learners' writing performance. Further, the EFL learners hold positive views on the effectiveness of the mentioned strategies regarding planning, monitoring, and evaluating their writing performance, and among all, "Monitoring" was used mainly by the participants.

*** Research Framework**



*** Methodology**

The researcher demonstrates the empirical research method needed to analyze the relationships between the independent and dependent variables among teachers in the public schools in Kuwait. Moreover, to meet the objectives of this research, to examine the effect of teaching strategies improved meta-cognitive Skills, as independent variable on meta-cognitive Skills (planning, monitoring and following-up, evaluation, goals setting) as the dependent variable with one unique model using the statistical methods will be clarified in the following sections.

1- Research Methods and Design

In order to achieve the objectives of this study, a quantitative, descriptive research approach based on the survey to collect data from respondents adopted from the previous literature. The quantitative, descriptive survey method was employed to investigate the effect of teaching strategies improved meta-cognitive Skills, on meta-cognitive Skills (planning, monitoring and following-up, evaluation, goals setting) among

teachers in the public schools in Kuwait.

2- Data Collection

Primary and secondary data collection techniques were utilized. Also, primary data were collected using questionnaires given to selected public schools in Kuwait. The questionnaire is divided into distinct sections. The first part includes questions about the background information of the participants. The second part, which is part B, includes questions that will measure the perception of the respondent about the meta-cognitive Skills (planning), part C, includes questions that will measure the perception of the respondent about the meta-cognitive Skills (monitoring and following-up), part D, includes questions that will measure the perception of the respondent about the meta-cognitive Skills (evaluation), part E, includes questions that will measure the perception of the respondent about the meta-cognitive Skills (goals setting) and finally part F, which includes questions about their perception about the teaching strategies. Furthermore, the secondary data gathered contains a literature

review on studies conducted on the same topic.

3- Data Analysis

Data were only gathered through an online survey due to the corona virus pandemic conditions resulting in the closing of the schools in Kuwait when conducting the recent research. Data were analyzed using Statistical Package for the Social Sciences (SPSS):-

1- Descriptive statistics, such as means, and standard deviations, are utilized.

2- The Cronbach's alpha coefficient for each of the four measures was calculated to evaluate the reliability and examine the validity of construct discrimination.

3- The hypothesis relationship proposed in this study was tested through linear regression analysis to determine the impact of the independent variable on the dependent variables and to which extent they predict it.

4- Target Population

According to Sekaran and Bougie (2016), the population is the complete set of cases from which a sample is acquired. The target

population for this study is students from teachers in the public schools in Kuwait. According to the Statistics of the Ministry of Higher Education and Scientific Research (2021), the targeted respondent will have specific characteristics because the probability of random sampling will be utilized during data collection.

5- Sample Size and Sampling Technique

The sample was taken randomly from schools in Kuwait, 300 questionnaires sent randomly to selected schools that applied teaching strategies for improving high skills thinking technique as probability random sampling. Sample size is at least 200 or more to meet the recommendation criteria. The sample size of this study was 300, which met the proposal criteria.

6- Response Rate

The target population contained 300 teachers from schools in Kuwait. Table 1 shows that the 300 questionnaires administered, 280 answered, giving an 93% response rate. Hair et al. (2010) indicated that the statistically significant response rate for analysis should be at least 50%.

Table1 shows the research response rate.

Table1: Response Rate

Response Rate	Sample Size	Percentage
Returned questionnaires	280	%93
Unreturned questionnaires	20	%7
Total	300	%100

7- Descriptive Statistics

Descriptive analysis was utilized to analyze the data by describing or explaining the descriptive evaluation of the participants as a study variable. Furthermore, descriptive analysis of participant's answers was utilized to determine the participant's evaluation criteria with average value scores. Based on Table 2, 280 valid answers' mean and standard deviation for each variable were analyzed. The results show that the mean of the responses for the independent variable where high with mean (4.07) and the responses of the independents variables also were high ranged between (4.07-3.81). It seems that there is no low level of mean scores.

Table 2: Means and Standard Deviations

Variables	Mean	Std. Deviation
<i>Independent variable</i>		

Thinking Teaching Strategies	4.07	1.153
<i>dependent variables</i>		
Planning	4	1.689
Monitoring and following-up	3.81	1.405
Evaluation	3.88	1.623
Goals setting	4.06	1.202

8- Scale Reliabilities

Cronbach's alpha was utilized to measure and assess the instrument's internal consistency efficiency and reliability. In addition to this, Cronbach's alpha was utilized to examine the reliability of the findings, which came from measurements based on correlations between the factors of the study, also referred to as internal consistency. Furthermore, Cronbach's alpha is frequently utilized to test the average of items evaluated in tests and their relationships. More specifically, SPSS software is applied to analyze the reliability of the data collected. Finally, the consistency of the general scale of the current and selected conditions is confirmed by Cronbach's alpha, which should exceed the acceptable scale of 0.70 (Hair et al., 2006). In this study, Cronbach's alpha was used to measure item reliability. As shown below, the calculated Cronbach's alpha is between 0.89 and

0.93, which is an excellent result (see Table 3).

Table3: Reliability Analysis

Variables	Number of items	Cronbach's Alpha
<i>Independent variable</i>		
Thinking Teaching Strategies	6	0.889
<i>dependent variables</i>		
Planning	5	0.882
Monitoring and following-up	5	0.928
Evaluation	5	0.914
Goals setting	4	0.888

* Hypotheses Testing Result

Four hypotheses were generated for this study, as stated earlier. These call for using a linear regression to examine the effect of the independent variable thinking teaching strategies on the independent variable meta-cognition skills (planning, monitoring and following-up, evaluation and goals settings). Next the results of the four hypotheses will explained in details.

1- The hypothesis H1 which is formulated to examine the effect of thinking teaching strategies on improving meta-cognition skill (planning) tested using linear regression technique; the results showed in table 4.1 and table 4.2 below.

Table 4.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.615 ^a	.379	.377	.92297

a. Predictors: (Constant), thinking teaching strategy

Table 4.2: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.936	.394		7.448	.000
1 thinking teaching strategies	.624	.048	.615	13.019	.000

a. Dependent Variable: planning

In table 4.1, the *Model Summary* output, the R Square (0.379), which explains the result, means that the independent variable thinking teaching strategy has significantly explained 37.9% of the variance (R²) in improving planning. The table titled *Coefficients* if we look at the column Beta under *Standardized Coefficients*; we see that Beta is 0.615 for s thinking teaching strategies, which is significant at the 0.000 level. Thus, hypothesis 1 is accepted, so

there is a significant positive impact of thinking teaching strategies on improving meta-cognition skills (planning) among students in Kuwait schools from the view of teachers in these schools.

2- The hypothesis H2 which is formulated to examine the effect of thinking teaching strategies on improving meta-cognition skill (monitoring and following-up) tested using linear regression technique; the results showed in table 5.1 and table 5.2 below.

Table 5.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.519 ^a	.269	.266	1.20390

a. Predictors: (Constant), thinking teaching strategy

Table 5.2: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.489	.514		4.840	.000
1 thinking teaching strategy	.632	.062	.519	10.110	.000

a. Dependent Variable: monitoring and following up

In table 5.1, the *Model Summary* output, the R Square (0.269), which explains the result, means that the independent variable thinking teaching strategy has significantly explained 26.9% of the variance (R^2) in improving (monitoring and following-up) skill. The table titled *Coefficients* if we look at the column *Beta* under *Standardized Coefficients*; we see that Beta is (0.519) for thinking teaching strategies, which is significant at (0.000) level. Thus, hypothesis 2 is accepted, so there is a significant positive impact of thinking teaching strategies on improving meta-cognition skills (monitoring and following-up) skill among students in Kuwait schools from the view of teachers in these schools.

3- The hypothesis H3 which is formulated to examine the effect of thinking teaching strategies on improving meta-cognition skill (evaluation) tested using linear regression technique; the results showed in table 5.1 and table 5.2 below.

Table 6.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.777 ^a	.603	.602	1.02456

a. Predictors: (Constant), thinking teaching strategy

Table 6.2: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	-1.143	.438		-2.612	.009
1 thinking teaching strategy	1.094	.053	.777	20.565	.000

a. Dependent Variable: evaluation

In table 6.1, the *Model Summary* output, the R Square (0.603), which explains the result, means that the independent variable thinking teaching strategy has significantly explained 60.3% of the variance (R^2) in improving (evaluation) skill. The table 6.2 titled *Coefficients* if we look at the column *Beta* under *Standardized Coefficients*; we see that Beta is (0.777) for thinking teaching strategies, which is significant at (0.000) level. Thus, hypothesis 3 is accepted, so there is a significant

positive impact of thinking teaching strategies on improving meta-cognition skills (evaluation) skill among students in Kuwait schools from the view of teachers in these schools.

4- The hypothesis H4 which is formulated to examine the effect of thinking teaching strategies on improving meta-cognition skill (goals settings) tested using linear regression technique; the results showed in table 7.1 and table 7.2 below.

Table 7.1: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.790 ^a	.625	.623	.73821

a. Predictors: (Constant), thinking teaching strategy

Table 7.2 Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	1.424	.315		4.514	.000
1 thinking teaching strategy	.824	.038	.790	21.507	.000

a. Dependent Variable: goals settings

In table 7.1, the Model Summary output, the R Square (0.

625), which explains the result, means that the independent variable thinking teaching strategy has significantly explained 62.5% of the variance (R^2) in improving (goals settings) skill. The table titled *Coefficients* if we look at the column *Beta* under *Standardized Coefficients*; we see that Beta is (0.790) for thinking teaching strategies, which is significant at (0.000) level. Thus, hypothesis 2 is accepted, so there is a significant positive impact of thinking teaching strategies on improving meta-cognition skills (goals settings) skill among students in Kuwait schools from the view of teachers in these schools.

* Discussion and Conclusion

After presenting the results of the research, it can be concluded that the degree of use of thinking teaching strategies in the State of Kuwait will improved the meta-cognition skills (planning, monitoring, evaluation and setting goals). This indicates the importance of these strategies for improving those skills. This result supports the research of both San`ani and Radwan (2020), which also found that there are high levels related to following meta-cognition strategies;

this means that, as indicated by Iwai's research (2019), they are very keen to choose and use meta-cognitive thinking strategies that are appropriate for their needs, and development. It also became clear after conducting the appropriate statistical tests that there is statistically significant effect in the use of thinking teaching strategies on improving meta-cognitive skills (planning), This indicates that the teachers applied the thinking teaching strategies in the way that improved planning skills of the students. It was also found that there is statistically significant effect of the thinking teaching skills on improving another meta-cognitive skills as monitoring and evaluation also goal setting < this also indicated that there is an excellent application of the thinking teaching strategies that improved those meta-cognition skills among teachers in Kuwait public schools. This result is consistent with the results of the research of San`ani and Radwan (2020). Therefore, the

*** Recommendation**

1) Investing the highest level of meta-cognition skills for teachers in the state of Kuwait to increase the social and

psychological compatibility by full integration into curricular activities and activities specifically associated with the educational curriculum.

2) Identifying the factors that enhance the highest level of meta-cognition skills for teachers in the State of Kuwait in order to activate and generalize them for all grades.

3) Working to overcome everything that hinders the adoption of teachers, not the strategy of thinking meta-cognitive.

4) Conducting research papers on meta-cognition skills in all different grades.

5) Comparing the personal characteristics of high-level teachers to follow meta-cognitive strategies in the State of Kuwait at the secondary level with other teachers and the rest of the subjects in order to identify the factors that limit the adoption of meta-cognitive thinking strategies.

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