IMPACT OF METACOGNITIVE STRATEGIES ON ACADEMIC ACHIEVEMENT AMONG SPECIAL EDUCATION STUDENTS IN JAZAN UNIVERSITY

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Abstract

This study was conducted during 2014-2015 in Jazan University- KSA. The aim of the study is to verify impact of metacognitive strategies on academic among special education students- University of Jazan. The researcher used descriptive statistic methods. Questioner technique is used as method of data collection, Study group was formed from special education students, and (26) students were selected randomly from study group as a sample. The data was analyzed by using SPSS program, the results are following: the availability of metacognitive strategies among special education students is positive (high than normal), the availability of metacognitive strategies connect planning strategy among special education students is positive, the availability of metacognitive strategies connect monitoring strategy among special education students is positive, the availability of metacognitive strategies connect evaluating strategy among special education students is normally, and the metacognitive strategies Influenced on academic achievement.

Keyword: Metacognitive - Strategies - Academic Achievement- Students

1.0 INTRODUCTION:

The notion of metacognition first originated in the context of information processing studies in the 1970s. The term is most related to John Flavell (1976, 1979) who theorized that metacognition entails both metacognitive knowledge and metacognitive experiences.

The simplest definition of metacognition is thinking about your thinking. A more complex definition that is widely cited within educational literature is an appreciation of what one already knows, together with a correct apprehension of the learning task and what knowledge and skills it requires, combined with the ability to make correct inferences about how to apply one's strategic knowledge to a particular situation and to do so efficiently and reliably. Shawn Taylor in the BOOK Better Learning through Better Thinking originally wrote this definition. In simpler terms, this means that metacognition is being aware of what you know and don't know, understanding what you will need to know for a certain task and having an idea of how to use your current skills to learn what you don't know (Fong, Y. S. (2002).

The definition above is a mouthful, which makes it seem like a difficult concept, however, we as adults use metacognitive strategies all the time to succeed at tasks in our personal and professional lives. Imagine that you are a graduate student who needs to write a dissertation. You already have years of experience in academic writing and know how to cite sources, find research and write it up. However, the format of the dissertation is different from the work you have previously done, and it's a daunting task because it's such a long paper. On the first day of your dissertation seminar class, you have a million questions for the professor. This is a perfect example of you using metacognitive strategies (Philips, 1992).

Metacognitive knowledge refers to one's knowledge or beliefs about the factors that control cognitive (knowledge) processes. It is divided into three types: person variables, task variables, and strategy variables. The person variables are the individual's knowledge and beliefs about himself as a thinker or learner, and what he believes about other people's thinking processes. For instance, you believe that you can learn better by doing than by listening to lectures. The task variables refer to knowledge or all the information about the nature of a proposed task. The strategy variables include knowledge about both cognitive and metacognitive strategies, as well as conditional knowledge about when and where it is appropriate to use such strategies. For instance, you recognize that you need first to figure out the main idea of the text before you can answer inference questions to a reading selection.

Metacognitive regulation can be broken down into three component activities. These include planning, monitoring and evaluating. Planning involves just that, planning out a cognitive task by selecting appropriate strategies and cognitive resources. Monitoring involves the awareness of our progress through a cognitive task and our ability to determine our performance. Finally, evaluating involves taking a look at the outcome and determining if the learning outcome matches our learning goals and if the regulation processes we used were effective.

The other category "metacognitive experiences," refers to a person's subjective internal responses to his own metacognitive knowledge, tasks, or strategies. Livingston (1997) described metacognitive experiences as monitoring phenomena, which can control cognitive activities, and ensure that a cognitive goal has been achieved. These processes help to regulate and manage learning, and consist of planning and monitoring cognitive activities, as well as checking the outcomes of those activities. Take the following situation as an example. After reading an assigned selection, you question yourself about the overall concepts of the text, as your cognitive goal is to comprehend the text (Clark, 1985).

Flavell (1979) describes three basic types of awareness, related to metacognitive knowledge. The first is an awareness of knowledge, which is described as an understanding of what one does and does not know, and what one wants to know. Second, there is an awareness of thinking, which describes an understanding of cognitive tasks and the nature of what is required to complete them. Finally, there is an awareness of thinking strategies, which describes an understanding of approaches to directed learning. (Steven, 2008).

Like many other processes, metacognition can be taught to students. The approaches in teaching students the metacognitive strategies include direct instruction, teacher modeling, and application. For direct instruction, teachers give clear explanation about the strategies to be taught, why they are important and when students will need to use them. Teachers also present a number of examples to illustrate their instruction. Other than giving direct explanation, teachers can model the strategies by using the technique "think out loud" to show "when and how" the metacognitive strategies should be used. The important point in this approach is that teachers would provide a model of the thinking process by saying out loud what is going on inside their heads. As important, students must be given many opportunities to perform the same task under the guidance of teachers in order to internalize them until they become automatic. This application of the strategies serves as independent practice accompanied by teachers' feedback. Recognizing and practice in applying metacognitive strategies will help students successfully solve problems not only in their subject areas but also throughout their lives as well (Clark, 1985).

Darling-Hammond, Austin, Cheung, and Martin (2008) listed the following examples of effective metacognitive strategies:

Predicting outcomes – Helps students to understand what kinds of information they might need to successfully solve a problem.

Evaluating work – Reviewing of work to determine where their strengths and weaknesses lie within their work.

Questioning by the teacher – The teacher asks students as they work. "What are you working on now? Why are you working on it? In addition, "How does it help you?"

Self-assessing – Students reflect on their learning and determine how well they have learned something.

Self-questioning – Students use questions to check their own knowledge as they are learning.

Selecting strategies – Students decide which strategies are useful for a given task.

Using directed or selective thinking – Students choose consciously to follow a specific line of thinking.

Using discourse – Students discuss ideas with each other and their teacher.
Critiquing – Students provide feedback to other students about their work in a constructive way.
Revising – Students return their work after receiving feedback.

2.0 LITERATURE REVIEW

Metacognition plays an important role in reading comprehension. Research on metacognition has revealed that less proficient learners do not recognize the purpose of reading and tend to focus on word-byword reading rather than reading for meaning (Di Vesta, Hayward, & Orlando, 1979). Harris et al. (1988) added that poor readers often finish reading passages without even knowing that they have not understood them. In addition, poor readers are less able to adjust their reading rate to suit the purpose of reading (Smith, 1967). When they fail to comprehend the test, poor readers are not as flexible as good readers in utilizing different strategies to solve the problem (Andrusyszyn, 1997). As concluded by Langer (Borkowski, 1987), poor readers are less efficient in monitoring their understanding of the material read or are deficient in metacognitive skills.

By contrast, Pressley, Borkowski, and Schneider (1987) highlighted that good readers automatically employ metacognitive strategies to focus their attention, to derive meaning, and to make adjustments when something goes wrong, they concluded that since metacognitive strategies are potentially conscious and potentially controllable, learners with good metacognition are able to monitor and direct their own learning processes quite efficiently.

Weak or less proficient students differ from successful ones in many aspects. Among other things, weak students often are not aware of their thinking processes and fail to monitor their learning processes. Put simply, they are less able to take charge of their own learning; they do not know 'how to learn' and 'what to do' when facing problematic learning tasks. Successful learners, conversely, have a wide variety of thinking skills. They are aware of their knowledge and know when, where, and how to apply it to any learning situations. It is accepted that successful learners possess metacognition the conscious ability to recognize their knowledge, understand and have control over their own learning. Students with good metacognition are able to monitor and direct their own learning processes; they have the ability to master information and apply the learning strategies to solve problems more easily (Philips, 1992).

So that here the researchers study impact of metacognitive strategies on academic achievement, The important of this research are, to discover the metacognitive strategies and it using in learning operation, in addition they point to the impact of metacognitive strategies on academic achievement, the aims of this research to determine the availability of metacognitive strategies among special education students, to know the impact of metacognitive strategies on academic achievement, to verify these aims the following questions should be answer:

1- What availability of metacognitive strategies among special education students?
2- What are the metacognitive strategies connect planning strategy?
3- What are the metacognitive strategies connect monitoring strategy?
4- What are the metacognitive strategies connect evaluating strategy?
5- Are the metacognitive strategies influence on academic achievement?

3. METHOD AND TOOLS
3.1 Method Research Approach

In these study the descriptive analytic research technique was followed, the technique consists of questioner prepared by the researchers after adopt.

3.2 Study Group

It formed from special education students in Faculty of Education – University of Jazan that numbered about (400).

3.3 Sampling

In this research, simple random sampling methods was f. The individuals who participate in sampling are chosen random. The study was conducted with (26), (3) from level third, (2) from level fourth, (6) from level fifth, (6) from level sixth, (8) from level seventh, and (1) from level eighth, The researchers had informed students that we intended to find about impact of metacognitive strategies on academic achievement, that all student willing to participate in the survey could do so.

3.4 Questionnaire Technique

The questionnaire was prepared by the researchers, is formed from (42) phrases distributed into three strategies, planning strategy includes (14) phrases, monitoring strategy includes (16) phrases, evaluating strategy includes (12) phrases.

In order to ensure the validity and reliability of the questionnaire form, it distributed to four instructors who had completed their doctorates and this form developed in accordance with the opinions of the instructors, then pilot study were conducted and the value of reliability was found. It was about (0.83) and after that, the questionnaire forms became ready for application.

3.5 Practical Procedures

The principle of voluntarism was the pre-condition of participating in questionnaire. For the questionnaire, an explanation was prepared. The goal of the research and how the study would be carried out were clearly stated in it. In addition, it was emphasized that the identities of the participants would remain confidential. During the questionnaire, written forms were used. Questionnaire took place three weeks, and the researcher used E-mailing technique to answering the questionnaire.

3.6 Data Analysis

After gathering data, the researchers used one sample T test to examine the hypotheses, percentages to answer the questions, and charts to compere the results.

4. RESULTS:

When we analyzing the data the results are as following.

4.1 What availability of metacognitive strategies among special education students?

For answer this question the researchers used T test for one sample, table (1) shows the result. When we compare the mean (105.15) with stander mean, we found the mean is greater than stander mean (84), and the significant level (0.05) is greater than the sig value (0.00), this is means that the availability of metacognitive strategies among special education students is positive (high than normal).

4.2 What is availability of metacognitive strategies connect planning strategy among special education students?

For answer this question the researchers used T test for one sample, table (2) shows the result. When we compare the mean (37.27) with stander mean, we found the mean is greater than stander mean (28), and the significant level (0.05) is greater than the sig value (0.00), this is means that the availability of metacognitive strategies connect planning strategy among special education students is positive (high than normal). In addition, the metacognitive strategies connect plan and organize dimension are:

4.3 What is availability of metacognitive strategies connect monitoring strategy among special education students?
For answer this question the researchers used T test for one sample, table (3) shows the result. When we compare the mean (39.77) with stander mean, we found the mean is greater than stander mean (32), and the significant level (0.05) is greater than the sig value (0.00), this is means that the availability of metacognitive strategies connect monitoring strategy among special education students is positive (high than normal). In addition, the metacognitive strategies connect monitor their own work dimension are:

4.4 What is availability of metacognitive strategies connect evaluating strategy among special education students?
For answer this question the researchers used T test for one sample, table (4) shows the result. When we compare the mean (28.04) with stander mean, we found the mean is greater than stander mean (24) , and the significant level (0.05) is lower than the sig value (0.07), this is means that the availability of metacognitive strategies connect evaluating strategy among special education students is negative (normal). In addition, the metacognitive strategies connect own learning dimension are:

4.5 Are the metacognitive strategies influence on academic achievement?
For answer, this question the researchers used regression method, when the data analyzed we found the standardized coefficients value is (0.23) as in table (5), the value of correlation coefficients is (0.54), these values are significant at level (0.05), because the level of significant greater than SIG (0.005), and this means that the Influences of metacognitive strategies on academic achievement about (23%) and this number is high and we can say very important to take care on metacognitive strategies if we need to improve the academic achievement.

4.6 Tables show the results:
Table (1) shows the availability of metacognitive strategies among special education students.

Variable	Mean	SD	T value	SIG	df	Significant
metacognitive strategies	105.15	15.14	7.13	0.00	25	Significant

SD= Stander division SIG= Significant level df = degree of free

Table (2) shows the availability of metacognitive strategies connect planning strategy

Variable	Mean	SD	T value	SIG	df	Significant
knowledge organization	37.27	3.38	14	0.00	25	Significant

SD= Stander division SIG= Significant level df = degree of free

Table (3) shows the availability of metacognitive strategies connect monitoring strategies.

Variable	Mean	SD	T value	SIG	Df	Significant
Knowledge of knowledge.	39.77	8.55	4.63	0.00	25	Significant

SD= Stander division SIG= Significant level df = degree of free

Table (4) shows the availability of metacognitive strategies connect own evaluating strategy.

Variable	Mean	SD	T value	SIG	df	Significant
knowledge treatment	28.04	10.73	1.92	0.07	25	No Significant

SD= Stander division SIG= Significant level df = degree of free

Table (5) shows the influence of metacognitive strategies on academic achievement

Predictors Variable	Dependent Variable	F	R	B	SIG	Standardized Coefficients
metacognitive strategies	achievement	1.36	0.23	2.51	0.005	0.23

F= F value R= correlation value B= B consent value sig= value of significant

5. DISCUSSION:

When we analyzed the results, it was revealed that:

5.1 The availability of metacognitive strategies among special education students is positive, that means metacognitive strategies for special education students in Jazan University is good, this study in line with the study of Schneider (1987) it found that good readers automatically employ metacognitive strategies to focus their attention, to derive meaning, and to make adjustments when something goes wrong.

The researcher see that learner with good metacognition skills are able to monitor and direct their own learning processes quite efficiently, so that when student get metacognitive strategies skill he going to be successful learner, and successful learner conversely, have a wide variety of thinking skills. They are aware of their knowledge and know when, where, and how to apply it to any learning situations. It is accepted that successful learners possess metacognition the conscious ability to recognize their knowledge, understand and have control over their own learning they have the ability to master information and apply the learning strategies to solve problems more easily, finally we pointed that metacognitive strategies will help students successfully solve problems not only in their subject areas but also throughout their lives as well, so that very important for us as teachers to look after the metacognitive when we teach students in universities and schools.

5.2 The availability of metacognitive strategies connect planning strategy among special education students positive, that means metacognitive strategies connect planning strategy for special education students in Jazan University is good, this result in line with study of Borkowski, (1987), it found poor readers are less efficient in monitoring their understanding of the material read or are deficient in metacognitive skills.

The researchers pointed that planning strategy is very important in study process, because when you organize and plan your work you understand of what one does, does not know, and what one wants to know, in addition plan and organize strategy help to regulate and mange learning and consist of planning and monitoring cognitive activities. In addition, this strategy help student to understand what kinds of information they might need to successfully solve a problem.

5.3 The availability of metacognitive strategies connect monitoring strategy among special education students is positive , this means that metacognitive strategies connect monitoring for special education students in Jazan University is good. The researchers pointed that the monitoring strategy is very important in the live and academic because it help us to understanding cognitive task and the nature of what is required to complete them, In addition, this strategy reviewing of work to determine where their strengths and weaknesses lie within their work. So that we can say, there are greatest relationship between monitoring strategy and the students' end of course grade, it was related to academic achievement in college and it was a good predictor for success in college, and weak students often are not aware of their thinking processes and fail to monitor their learning processes.

5.4 The availability of metacognitive strategies connect evaluating among special education students is normal, and it look like the others, the researchers see that the reasons of why the special educational students have not this skill, is the experience, because those are in youth period and haven't perfect skills to evaluating the problems, and evaluate strategy need practical exercise, we can improve this skill by introducing subjects as problem situation then let students try to solve problems by evaluate the situation and through discussion parts making by teachers, in addition we can improve this skill by advising teachers to change their teaching ways, use modern strategies like analyzing, structuring, evaluating, application and Brainstorming, when we teach the students we must give clear explanation about this strategy, why they are important and when students will

need to use them. It is important to assess student in a less intrusive manner in order to ascertain their metacognitive awareness and skill level.

5.5 The Influences of metacognitive strategies on academic achievement about (23%), this result is in line with study of Di Vesta, Hayward, & Orlando, (1979) it revealed that less proficient learners do not recognize the purpose of reading and tend to focus on word-byword reading rather than reading for meaning, it agree with study of Harris et al (1988), it found that poor readers often finish reading passages without even knowing that they have not understood them. In addition, poor readers are less able to adjust their reading rate to suit the purpose of reading, and it in line with study of Smith, (1967) it found that poor readers are not as flexible as good readers in utilizing different strategies to solve the problem, in addition agree with study of Langer (Borkowski, 1987), it determined that poor readers are less efficient in monitoring their understanding of the material read or are deficient in metacognitive skills, finally the result agree with study of Pressley, Borkowski, and Schneider (1987) it found that learners with good metacognition are able to monitor and direct their own learning processes quite efficiently.

The researchers pointed that it stands to reason that if students have well developed metacognitive knowledge and metacognitive regulatory skills and they use their metacognition they will excel academically, it is important to be able to assess metacognition of college students to determine if this knowledge and skills are related to academic achievement. If we can say that metacognitive knowledge and skills are related to measures of academic success then professors can use various techniques to assess their students' metacognition and develop means by which to improve students' metacognition when necessary, in addition the researchers pointed that the reason of metacognitive strategies influenced on academic achievement is academic achievement depend on cognitive outcome, also metacognition strategy is one of very important processes to evoking creative capacity that related with academic processes.

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