UNDERSTANDING THE EFFECT OF THE METACOGNITIVE SKILLS ON PUPIL TEACHERS' TASK PERFORMANCE: A MIXED METHODS INQUIRY

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Abstract

This Mixed Methods inquiry has been conducted to understand the effect of Metacognitive skills on Pupil teachers' task performance. The Explanatory Design: Follow-up Explanation Model (QUAN emphasized) has been utilized for this study. At 1st, the quantitative data collection has been done in which the pupil teachers' Metacognitive skills were measured by a Metacognitive Skills Assessment Tool developed by the researcher. The data was collected from 100 students including male and female as well. For this purpose, 4 sections of B.Ed. Honors students were selected by using Cluster sampling. After the measurement of the Metacognitive skills, the students were assessed regarding the written-assignment task with the help of the "Assessment Criteria for Report Writing" adopted from (Siddiqui, 2016). Whereas at 2nd, the qualitative data collection has been done in which the pupil teachers' oral presentation task performance was assessed qualitatively through the semi-structured observation. For this purpose, there were 8 students, who were selected as a sample for qualitative data collection purposively. They were the representatives of those who got extreme scores on the Metacognitive performance test. It is concluded on the basis of the quantitative findings that the Pupil teachers Metacognitive skills have a positive moderate and significant effection on their written-assignment task performance. On the other hand, it is concluded on the basis of the qualitative result that those prospective teachers who scored high in the Metacognitive skills performance test, done their Oral Presentation task performance better than those who obtained low scores on the aforementioned test.

Keywords: Metacognitive skills, Pupil Teacher, Task performance, Oral presentation

INTRODUCTION

The educators and researchers have been keenly interested to explore the students' self-regulation that to what extent they can regulate their learning. The education of individuals not only required in order to master any domain of knowledge or skills alone but it requires the individuals to apply their learnt knowledge for decision making and problem solving (Cooper & Sandi-Urena, 2009). Whereas both aforementioned demands for meta-thinking. The more one has the ability or skill of meta-thinking, the more effectively the decision making and problem solving would be done by one (Abuhashim, 2008). The word cognition has been derived from "cognoscere" which is a Latin word having the meaning of "to know". However, the term cognition has been defined as a process by which one endeavor to think, understand and attain knowledge by senses or experiences (Cognifit, 2019). The reception, transformation, coding, storage and retrieval process of the information is called cognition (Gama, 2004).

Cognition is the knowledge about something whereas metacognition is thinking about how to use that learnt knowledge. In metacognition, one thinks over his own thinking and learning. Akturk & Sahin (2011) referred that the concept of metacognition is not a new concept, rather it was mentioned by Plato as one's awareness about own cognition. On the other hand, Georghiades (2012) stated that Aristotle also discussed the concept of metacognition while saying that different powers are used by a man by which he sees above and beyond his own thinking. However, John Flavell introduced the term "metacognition" in the 1970s. The term "metacognition" was based on a previously used term by himself "metamemory". Flavell (1979) stated that an individual's own awareness related to own thinking and learning is called metacognition. It can be said as one's cognition about own cognition. Flavell (1979) stated that metacognition consists of two aspects. One is knowledge whereas the other is control of the cognitive process. This lead (Brown, 1987) to suggest the theory of metacognition.

Metacognition is said to be the state in which the individual has knowledge about own thinking as well as to regulate it. The knowledge is further divided into 3 indicators. One of them is declarative whereas the second of them is procedural and the third is conditional knowledge (Gama, 2004). The declarative type of knowledge consists of the thinking generally, capabilities of processing and learning strategies whereas the procedural knowledge is concerned about the usage of strategies and processes regarding the learning optimization (Amzil & Stine-Morrow, 2013). Whereas the conditional type of knowledge is concerned with using the strategies in terms of when and how to use them (Cooper & Sandi-Urena, 2009). It is further referred by Amzil & Stine-Morrow (2013) that a cognition regulation possesses 6 indicators. One of them is planning, the second is information management whereas the third is monitoring, the fourth is debugging and the fifth is evaluation.

In the whole world, different researches have been done by the researches including (Akturk & Sahin, 2011; Azmil & Stine-Merrow, 2013; Cubukcu, 2009; Erdoğan and Şengül 2017; Evangeline, 2016; Hassan & Ahmad, 2015; Jabeili, 2012; Ozturk, 2015, Rahman et al., 2010; Rahman, 2011; Siddiqui, 2016; Vijayakumari and D'Souza, 2013) related to the metacognition whereas there are only two researches in Pakistan related to this area. One of them is done by (Rahman, 2011) whereas the other is done by (Siddiqui, 2016). On the other hand, all of the researchers since yet have been conducted while using the self-perceived type of inventories which are not appropriate for the measurement of the Metacognitive skills. That's what the current study was conducted to investigate the phenomenon under study while using the appropriate performance test as the skills cannot be measured by any self-perceived instrument. So, this study will add updated knowledge to the existed body of knowledge. Here in this study the students' task performance has been divided into; i) Written Assignment Performance and ii) Oral Presentation Performance.

The research objectives for the current study were as under:

- To investigate the effect of Metacognitive skills on pupil teachers' written task performance.
- To explore the pupil teachers' performance regarding the oral presentation task performance.

METHODOLOGY

The current study was a Mixed Methods Research which was conducted by utilizing the Explanatory Design: Follow-up Explanation Model (QUAN emphasized). At 1st, the quantitative data collection has been done in which the pupil teachers' Metacognitive skills were measured by a Metacognitive Skills Assessment Tool developed by the researcher. It was a performance test which has been developed by the researcher. It was based on 5 Metacognitive Skills including "*Planning; Information Management; Monitoring; Debugging* and *Evaluation*". It was validated by taking the expert opinion and then by its pilot testing while including 30 participants other than the actual sample for the study. The reliability was measured while applying Cronbach's Alpha which produced the value 0.72. The quantitative data have been collected from 100 students including male and female as well. For this purpose, 4 sections of B.Ed. Honors students were selected by using Cluster

sampling. After the measurement of the Metacognitive skills, the students were given the written-assignment task along with the guidelines that how they were supposed to complete their assignments. The written-assignment task performance was measured with the help of the "Assessment Criteria for report Writing" adopted from (Siddiqui, 2016).

Whereas at 2nd, the qualitative data collection has been done in which the pupil teachers were given oral presentation. These oral presentations have been observed by the researcher qualitatively. For this purpose, there were 8 students, who were selected as a sample for qualitative data collection purposively. They were the representatives of those who got extreme scores on the Metacognitive performance test.

ANALYSIS AND RESULTS

SECTION I

The quantitative data underwent the SPSS for its analysis where Simple Linear Regression was used by the researcher regarding the prediction about the effect of Metacognitive Skills on Pupil teachers' written-task performance. The results are as:

Table 1 Correlation between Metacognition Skill and written-assignment task performance.

	Metacognition Skill	Task Performance
Metacognition Skill	1	.560**
Task Performance		1

The results attained through Pearson's r revealed that r = 0.56 and *p* = .000 which shows that there is a positive moderate and significant correlation between the Pupil Teachers' Metacognitive Skills and their written task-performance. So, the "Ho: There is no significant relationship between the Pupil Teachers' Metacognitive Skills and their written-assignment task performance." is rejected.

Table 2 Effect of Metacognition Skill on written-assignment task performance.

R	R Square	Adjusted R Square	*df*	*F*	*Sig.*
.560	.314	.307	1	44.85	.000

The results attained by the Simple Linear Regression show that there is a 30% variance in the Pupil Teachers' written-assignment task performance. and their Metacognitive skills whereas the F = 44.85, *p*=.000 shows the fitness of the concerned model.

Table 3 Coefficient of Regression Reflecting the Effect of Metacognition Skill on written-assignment task performance.

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
Metacognition Skill	.997	.235		4.236	.000
Task Performance	.886	.132	.560	6.697	.000

The results show that the beta value = 0.56, p = .000 which indicates that the Pupil teachers' written task-performance is moderately affected by their Metacognitive skills.

SECTION II

The researcher observed the Oral Presentation task performance of eight Pupil teacher, in which four were who had high metacognitive skills while the rest of the four had poor metacognitive skills. The researcher observed the task performance of each Pupil teacher for 20 minutes. The details of observation based on field notes is given below:

CONTENT CLARITY

The Pupil teacher who had good metacognitive skills were good in the oral presentation. As they introduce their topic in a very organized and composed manner. They had the clarity of the content that they were supposed to be present in front of their fellows during their presentation. As the observer noted that:

"*Pupil teacher having higher metacognitive skills presented the relevant content in a quite organized way, the sequence of examples to develop their fellows' understanding was also logical"*

On the other hand, the observer also noted that:

"*Pupil teacher having poor metacognitive skills were not so much confident while presenting the content. Even they faced difficulty in giving relevant examples to develop their fellows' understanding. As one of the presenters was unable to answer her class fellow to clarify the concept*

LANGUAGE

The Pupil teacher who had good metacognitive skills presented effectively while utilizing the good of communication and language. They had a good command on the language. They spoke with confidence and fluency. In this regard, the observer noted that:

"The presentation of Pupil teacher having higher metacognitive skills was good. Their language, fluency, and vocabulary all were good"

While the observer also noted that:

"The presentation of Pupil teacher having poor metacognitive skills was satisfactory and vocabulary was also good. But they were not so confident, even they took some time for responding to their fellows' questions"

CONTENT DELIVERY

The observer noted that student teacher with good metacognitive skills carefully managed all the things that are considered to be important while presenting the content effectively. They considered those student and teacher who sit at the backside of the classroom. They randomly asked questions to the students in order to assure the students' involvement.

As the observer noted that:

"*Pupil teacher voice was so adequate that every student could hear it. They considered those students who sit at the backside of the classroom. They move around the class to note down the students' activities while explaining the content. They randomly asked questions to students in order to assure the students' involvement"*

On the other hand, the researcher observed that:

"*Pupil teacher with poor metacognitive skills voice was so not clear. They presented while just standing near the rostrum. They didn't bother to use the board to clear the students' concept. Even they didn't consider asking questions to students in order to assure the students' involvement".*

CONCLUSION

It is concluded on the basis of the quantitative findings that the Pupil teachers Metacognitive skills have a positive moderate and significant effecton their written-assignment task performance. On the other hand, it is concluded on the basis of the qualitative result that those prospective teachers who scored high in the Metacognitive skills performance test, done their Oral Presentation task performance better than those who obtained low scores on the aforementioned test. The findings of the current study supported the findings of (Akturk & Sahin, 2011; Azmil & Stine-Merrow, 2013; Cubukcu, 2009; Evangeline, 2016; Hassan & Ahmad, 2015; Ozturk, 2015, Rahman et al., 2010; Rahman F., 2011). However, all of these studies are quantitative in nature and no previous qualitative study is found concerning this phenomenon. Anyhow, it is recommended based on the results that the Pupil teachers' Metacognitive skills should be given attention within the institute regarding their improvement, as higher Metacognitive skills have a positive effect on task performance.

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