IMPACT OF METACOGNITIVE PRACTICES AND ASSORTED ASSESSMENT MODALITIES TOWARDS CREATING SELF-REGULATED LEARNERS

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ABSTRACT

Worldwide efforts are increasing to infuse thinking skills into the curriculum, which are part of cognitive behavior, and to include them in the instructional strategies, which will make the learner producer of knowledge and help to create a sense of responsibility among them. Meta cognitive learning activities immerse students in challenging tasks and it creates a space for students to discuss, debate new ideas and allows them to introspect, assess and set targets for learning. The objectives of the study is aimed at implementing Meta cognitive practice namely problem solving towards constructing a culture of thinking in classrooms and to capacitate the students to practice self-assessment modalities through the creation of a strategy evaluation proforma on the select classroom practice. 45 Secondary school students from three schools belonging to three districts of Kerala namely Pathanamthitta, Alappuzha and Kottayam were selected for the study. The data was collected through a Strategy Evaluation Proforma. The strudy reveals that highly participative and interactive instructional climate inculcated in the problem solving practice allowed the students to strengthen their motivation towards becoming better problem solvers. The study also reveals that this type of assessment technique will enhance creative thoughts of students as well as promote their thinking capabilities in a worthy manner. Such type of enriched environment helps the students to flourish the learning process and engage their brain with intriguing and inviting intellectual challenges.

Keywords: Metacognition, Problem Solving, Assessment Techniques, Strategy Evaluation Proforma

INTRODUCTION

Worldwide efforts are increasing to infuse thinking skills into the curriculum which will make the learner, producers of knowledge and help to create a sense of responsibility among them. The ripple effects of these practices are excellent models for students towards developing thematic units and helps them to think more critically about what, why and how they learn. By providing variety of learning experiences, constructive working relationships, schools can keep them fully involved in the learning task. Meta cognitive learning activities immerse students in challenging tasks and it creates a space for students to discuss, debate new ideas and allows them to introspecting, assess and set targets for learning. Above all, it enables them to strive to excel in their areas of responsibility and acts as a viable tool for self directed learning (Okoro, 2011). Planning, Monitoring and Evaluating are the basic Meta cognitive strategies that help to promote a culture of thinking which is the priority of educational programmes. (Salmon, 2008). A Meta cognitive environment encourages awareness of the process of learning and thereby promotes self regulation and self direction which are the critical ingredients to successful learning. The self-regulated activity of a learner and the awareness in a learning process are shaped by cognitive and Meta cognitive strategies used by the students (Wernke et al 2011).

1. Purpose of the study

In order to internalize the process of language learning, a reorientation is needed to explicate the underlying features of classroom practices. Learning is enhanced by challenge and it always involves conscious and unconscious processing (Fogarty,2009). The new trends in innovative practices and instructional designs need to

focus on the higher order forms of thinking which depict the process of learning rather than the product of learning (Caine & Caine, 1991). One advantage of this approach is that it helps to clarify the theoretical concepts of effective learning with practical clarity. Developing a self directive as well as a self reflective behavior acts as the key attributor of such type of learning. The 21st century demands lifelong learners. Learning strategies are procedures that facilitate a learning task in a lively and mindful manner and are sensitive to the learning context which help the learner to become competent learners of the language. (Saxena ,2012) Integration of language learning strategies into classroom instruction capacitate the learners to gain more confidence and independence in learning. The intellectual dimension of student learning enters to their cognitive readiness through the mode of self-regulated learning which is capable for making them responsible for managing their own learning (Osman ,2011). It is believed that good language learners exhibit greater autonomy than weak learners and this indicates their efficiency to learn the language. The changing role of pedagogical approach needs to focus on 'How and Why phrases of learning'. 'How' answers the need for figuring out the maximum learning potential of learners. Metacognitive practices and self assessment techniques will help the learners to become more independent and self regulated in their learning. The regulation component of Meta cognition refers to actual strategies one applies to control cognitive processes such as planning, how to approach a task, monitoring or regulating comprehension and evaluating the progress and performance of the task done (Schraw et al 2006, Whitbread et al 2010). Considering this objective in mind, the study was titled as Impact of meta cognitive practices and assorted assessment modalities towards creating self regulated learners.

2. Objectives of the study

- To implement Meta cognitive practice and problem solving towards constructing a culture of thinking among students.
- To capacitate the students to practice self assessment modalities.
- To find out the impact of select meta cognitive classroom practices through self assessment technique.

2.1 Sample selected for the study

45 Secondary school students from three schools belonging to three districts of Kerala namely Pathanamthitta, Alappuzha and Kottayam were selected for the study.

2.2 Tools used

- Lesson transcript based on Problem Solving (Including Metacognitive components)
- Strategy Evaluation proforma

3. Procedure adopted for the study

The curriculum transaction procedures prevalent in the school setup had been interlinked through the development of a lesson design based on the Meta cognitive practice and problem solving towards improving the quality of learning. The lead Meta cognitive skills like Planning, Monitoring and Evaluation have been entailed in the earmarked contexts of Malayalam language learning. Before implementing the select practice, the investigator made a holistic vision of the basic Meta cognitive strategies that can lead to more effective learning and improved performance in the learning of language. This awareness enabled the learners to perform a specific learning task with consistency and take control about what they are doing through the process of learning rather than focusing attention solely on learning the content material.

The classroom practice on 'Problem Solving' trained the students to formulate some problematic issues through the process of discussing certain events related to the social context. For this purpose, the investigator distributed some forms of editorials from the Malayalam daily to the students which consisted of mainly societal problems that needed specific attention. Investigator made use of some Meta cognitive prompts towards making the discussions about the pertinent issue in an efficient and effective manner and there by utilizing the discussion time productively. Ensuring student talk and collective action, together strengthened the process of creating dynamic instructional environments, which produced remarkable results in classrooms. The figuring out of exact problem assisted the learners towards focusing the main theme and captured

the attention to the sub themes involved in it. Timely scaffolding and meaning making of the contextualized scenario facilitated learners' understanding and accelerated the process of constructing and extending knowledge structures towards the creation of the assigned task. Meta cognitive discussions and self evaluation practices were systematically incorporated in the classroom setting itself.

3.1 Assessing the Impact of Select Meta Cognitive Classroom Practice

In order to analyze the worthiness of the select meta cognitive classroom practice-Problem Solving in making improvement in the academic achievement of secondary school students in the learning of Malayalam language and fortifying their meta cognitive awareness, a 'Strategy Evaluation Proforma' was administered to the grammatical competence, which is the intended outcome of language learning. The explicit training in Meta cognition gives opportunities to observe, interact with peers and discuss the classroom practices with teammates and all of these create a fundamental rhythm in language learning.

4. Discussion and Results of the Study

The study found out that the select meta cognitive classroom acted as a channel for the improvement of academic achievement and Meta cognitive awareness of students. The Meta cognitive processes solicited the composition of a narrative plan of action and sequential modes of monitoring and evaluating the learning process. Meta cognitive strategies, an offshoot of self regulated learning is considered to be a pinnacle for supporting the learners to become independent autonomous and confident learners (Shannon,2008). The select component of meta cognition, 'Planning' embodies a bunch of activities like goal setting , selection of strategies, allocating time and resources towards achieving the learning outcome. Activating prior knowledge and selective attention also belonged to the boundary of this phase. The next component, 'Monitoring' focused on stimulating learners' thinking more intensively and helped them to execute the pre planned actions in a comprehensive mode. Periodical checking equipped the learners to keep credibility and develop efficiency. Practices for guided self evaluation experiences served the purpose of establishing the habit of self checking the assigned task with clear patterns. The closure activities focused on Meta cognitive discussions developing awareness about reviewing the procedures and highlighting the peculiarities of the classroom practice towards fulfilling the objectives. The processes inculcated in the Meta cognitive classroom practices motivated the learners to consciously engage in the learning process. This equipped them to handle the classes effectively with more confidence and it helped them to bump into difficulties with ease and deftness.

The study also necessitated the impact of periodical checking and piloting the learning outcome in a systematic manner. The 'evaluation' process intends to reflect the quality of work and judge the degree to which it reflects with the explicitly stated goals. The involvements of students in the assessment process blur the distinction between instruction and assessment and transform classroom assessment into a moment of learning. Meta cognitive practices seemed to exercise distinct influence on secondary school students in enhancing academic achievement of Malayalam language learning and subsequently getting an enriched vision about the components of Meta cognition. The perceptible contribution of the study is that Meta cognitive classroom climate provided a shared vision with regard to the coherent, progressive and long-term strategies, which enabled the learners to achieve challenging goals and outcomes.

5. Recommendations of the Study

The contextual relevance of the topic and the Meta cognitive prompts for developing analytical skills served the basis for producing a quality outcome in the problem solving process. These Meta cognitive prompts enabled the learners to gather up the threads through active emotional engagement in the class activities and raised their level of confidence with a promising effect. The study shows that the academic performance of students in the learning of Malayalam Language is highly related to the instructional practices based on Meta cognition and the self assessment methodologies. Students without the

stipulated Meta cognitive abilities are eventually learners without direction or opportunity to plan their learning, and need to monitor their progress or review their accomplishments for directing their future learning. The task of educational practitioners is to concede, cultivate, exploit and enhance the Meta cognitive capabilities of all learners. The findings of the present study have implications for learners, teachers, curriculum designers and text book constructors. Timely initiatives taken by the educational agencies related to quality of education with regard to the implementation of Meta cognitive practices and some sort of self assessment techniques will provide a valuable space for deep success in the learning of Malayalam language.

6. Limitations of the study

This study has certain limitations that need to be taken into account. First, the validity and reliability of the study are limited by the sample of 45 students from three select schools at secondary level coming under three districts of Kerala. This may act as an unavoidable limitation of the students. The data collected through the Strategy Evaluation Proforma for Problem Solving is detailed in Table 1 .

Observations	Responses of students in %To a greater extent	To some extent	Not at all
This practice encouraged me to interact with my peers and teachers in making meaningful discourses	74	26	-
This practice has helped me to formulate and check relevant questions with respect to the task at hand	81	19	-
The monitoring practices enabled me to find solutions to my problems encountered while solving the problem	90	10	-
The say-ask-check prompts made me focus on the selective frameworks towards reaching the completion of the assigned task.	89	11	-
The reflection at every stage of the classroom practice empowered me to think about the worthiness of the classroom practice	75	25	-
It equipped me to deliver a creative output with regard to the selected unit	80	20	-
This practice helped me to identify the problems embedded in the topic and think about the diversified solutions about it.	79	21	-
The meta cognitive components incorporated in the classroom practice led me to learn more about the pathways of learning process	82	18	-
The self evaluation practices made me confident in assessing my works in a structured manner.	83	17	-
The meta cognitive discussions were new to me which helped to share my viewpoints with my peers and teachers.	90	10	-

Table 1. Self evaluation of the appropriateness of the Problem Solving as a meta cognitive classroom practice .

7. Findings of the study at a glance

The responses of the students exposed to the select classroom practice, 'Problem Solving' indicate that almost all of the students (90%) were benefited from the meta cognitive discussions incorporated in the classroom practice. These discussions motivated students and made them independent in facing new situations. The study has revealed the essentiality of explicit instruction on the Meta cognitive components towards developing their meta cognitive skills. Reflection and conscious planning made the learning process active and energetic to a greater extent. A sizable proportion of students opined the worthiness of reflection which is the crowning glory of human brain and the exhibition of virtuosity equipped them in consciously cultivating the needed Meta cognitive strategies. (75%). The mental massaging of existing information allowed the learners to construct useful information patterns towards solving a problem. The Meta cognitive prompts stimulated the reflective dimensions and provided the greatest opportunity to construct and reflect their knowledge and experiences about the procedures of problem solving which lead to the development of dispositions to analyze, create and resolve. This type of practice helps to cultivate and refine such productive dispositions through the effective exercise of Meta cognitive strategies and these habits maximize their capacity to learn and achieve in a worthy manner. A considerable proportion of learners are of the view that the meta cognitive prompts made them focus on the frameworks towards reaching the completion of the assigned task(89%).

8. Pedagogical Implications of the study

The overture of the present study mentioned the rigorous need to focus on the self assessment modalities and the application of Meta cognitive dimensions of learning. The results of the investigation culminate in the necessity of deliberately incorporating Meta cognitive strategies in the learning context. Even though the activity oriented modes were being adopted in the school set up, striking

augmentation in the confidence level of language learning is not evidenced. The study indicates the context which demands more exposure to explicit instruction of varied activities entrenched in the Meta cognitive practices. Activities such as planning how to approach a learning task, monitoring comprehension and evaluating progress towards the completion of a task are Meta cognitive in nature. The mental steps or operations involved in each phase allowed the learners to regulate their efforts to attain the learning output. Learners with highly developed Meta cognitive skills were able to take control over their learning. They were equipped themselves to direct their own learning and monitor their progress while learning and were able to determine the right trail towards success. The social experience and shared journey are influential architects and operators of the Meta cognitive instructional platform. The ability to produce varied dimensions of language namely, communicative competence, analytical interpretation of information, were outcomes of the syudy. Second, the researcher has focused on only one classroom practice namely, Problem Solving towards improving academic achievement and fostering Meta cognitive skills among the students at secondary level. The study has focused mainly on the students at secondary level and the sub stratification of select sample like, gender, locale, and management of the school could not have beer considered due to lack of time. Eventhough the study has certain limitations, it has implications for future research studies.

Conclusion

The processes embedded in the contextual problem solving made the learning meaningful to the students and the Meta cognitive prompts embedded in each phase of the Problem solving section empowered them to connect the ideas with their existing knowledge. They are more likely to be working cooperatively in small groups as they shape and reformulate their conceptions and practicing skills through engaging hands on activities rather than sitting silently at their seats. This rich environment fosters a state of relaxed alertness in learning which enables the minds to become engaged in problem solving. The essential elements of brain compatible classrooms require students to engage in goal setting, self-monitoring and evaluation of the learning process. The highly participative and interactive instructional climate allowed them to strengthen their motivation towards becoming better problem solvers. The study also reveals that this type of assessment technique will enhance creative thoughts of students as well as promote the thinking capabilities in a worthy manner. Such type of enriched environment helps the students to flourish the learning process and engage their brain with intriguing and inviting intellectual challenges.

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