**ABSTRACT**

**Title : Proposed Instructional Model in Developing**

**Metacognitive Knowledge for Science Education (2022)**

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The study delved deeply on the views and practices of respondents in developing metacognitive knowledge for Science education. Consequently, the instructional model in developing metacognitive knowledge for Science was proposed based on the findings of the study.

Employing qualitative method of research, specifically following a case study approach, the study did class observations, intensive analysis of documents and artifacts, and round table discussion among one Science supervisor, two school heads, two, head teachers in Science, and six Science teachers. In addition, ten grade 10 students were interviewed to gain feedback from the conducted teaching and learning activities utilizing metacognitive approaches.

The main findings of the study revealed that the ability to do self-reflection, self-awareness, and self-checking are needed to develop metacognitive knowledge of the student for Science. Furthermore, several metacognitive approaches for assessing, planning, performing, evaluating, reflecting, and monitoring the performance of the students were facilitated. However, various difficulties and challenges were observed in terms of clustering of learning competencies versus time, availability of learning materials, lack of awareness on metacognitive strategies especially novice teachers, and the attitudes of the students towards developing metacognitive knowledge. Based on the findings of this study, an instructional model in developing metacognitive knowledge for Science was developed with five components such as: (1) Principles of Learning; (2) Learning Objectives; (3) Learning Content; (4) Learning Resources; and (5) Learning Instructions. On the other hand, learning instructions are composed of: (1) Assessing; (2) Planning; (3) Brainstorming; (4) Presenting; (5) Evaluating; (6) Reflecting; and (7) Monitoring.

**Keywords: Metacognitive Knowledge, Science Education, Instructional**

**Model**