



## APPROACHES IN THE DEVELOPMENT OF SCIENCE PROCESS SKILLS OF GRADE 11 STUDENTS

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### ABSTRACT

Science process skills are important in improving students' cognitive development and solving scientific and real-world problems in the teaching and learning process. This study determined the utilization of teaching approaches in the development of science process skills with the end view of proposing instructional materials. The study covered the extent of utilization of teaching approaches and level of integrated science process skills. Likewise, it also investigated the issues and concerns in developing science process skills. The study employed the descriptive type of research and used researcher-made questionnaire, laboratory activity and the focus group discussion as main data gathering instruments used. Results from the findings revealed that science teachers utilized collaborative, constructivist, inquiry-based, and integrative approaches to a great extent. Also, no significant differences were noted in the extent of the use of collaborative, constructivist, inquiry-based and integrative approach in teaching science process skills. There is significant difference between the assessment of the school heads and science teachers in the extent of the utilization of the reflective approach. Grade 11 students also showed high achievement and perform the skills independently in the level of their performance in science process skills particularly inferring, interpreting data, predicting, drawing conclusions and generalization but performed least in controlling variables. Moreover, issues and concerns in developing science process skills include lack of ability to interpret due to limited understanding of concepts, insufficient knowledge or background about a particular topic, failure to identify dependent and independent variables, difficulty to expound and communicate observable facts and insights were. The proposed instructional activities for Grade 11 students contain different learning activities to enhance the integrated science process skills of students particularly the controlling variables utilizing reflective approach.

*Keywords: Pedagogical approaches, collaborative, constructive, inquiry-based, integrative, reflective, science process skills, instructional activities,*