

## **ABSTRACT**

### **THE IMPLEMENTATION OF GUIDED INQUIRY FOR IMPROVING STUDENTS'S ACHIEVEMENT AND CRITICAL THINKING OF HEAT AND TEMPERATURE MATERIALS ON THE FIRST YEAR STUDENTS OF SMA NEGERI 1 KEDONDONG**

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This research aimed to analyze (1) the instructional design; (2) the teaching learning process; (3) the improvement of students' achievement; (4) the improvement of students' critical thinking; and (5) the evaluation system of Physics

The research method used was classroom action research which was carried out on three cycles. The first cycle of guided inquiry used experiment equipment and students' worksheet. The second cycle of guided inquiry used powerpoint presentation. Text book and article were used in the third cycle of guided inquiry.

The conclusions of the research are (1) instructional design was arranged based on guided inquiry in which consisted five steps; formulating problems, formulating hypothesis, collecting data, testing hypothesis, and formulating conclusion; (2) guided inquiry could improve teacher's activity in pre-activity, whilst activity and post-activity; (3) guided inquiry could improve students' achievement in which the cognitive score in cycle I got 58,65 (failed), cycle II got 68,45 (passed), and cycle III got 75,36 (passed), the affective score in cycle I was categorized fair enough, cycle II and III were categorized good, the psychomotor score in cycle I got 64,93 (failed), cycle II got 75,55 (passed), and cycle III got 81,76 (passed) ; (4) critical thinking score in cycle I was categorized fair critical, in cycle II and III were categorized critical ; (5) evaluation system used was tests in form of essay which consisted five questions which got the validity 0,64 (high), the reliability 0,72 (high), the average of difficulty level 0,70 (moderate), and the average of discrimination power 0,41.

***Keywords: students' achievement, guided inquiry, critical thinking skill***