

## ABSTRACT

**Winda Yola Yohana, 4163322005 (2016). The Development of Diagnostic Test in Waves and Sound for Senior High School.**

The objectives of the research was to determine the level of validation, reliability, difficulty level, distinguishing power and the effectiveness of the distracting index of the two-stage multiple-choice diagnostic tests developed in SMA. The types of research is *R&D* with Borg and Gall development model. The participants of the research is all of student class XII of SMA Negeri 1 Sijamapolang, Kab. Humbang Hasundutan with online. Participants were selected randomly from all class XII students when the test was conducted online. Students who became participants for the small class test were 10 people and for the large class test were 33 people. Previously, the test questions had been tested for validity by experts and for the observation of student learning activities, they had been systematically arranged on the observation sheet. From the research results obtained the number of valid questions on the small class test test as many as 25 items and reliable. Then carried out a large class test, obtained the number of valid questions on the field test as many as 18 items and reliable questions. The as many as 18 items can be used as an instrument to determine the level of student understanding.

**Keywords** : Diagnostic Test, R&D, validation, reliabilation, difficulty level, distinguishing power

