ABSTRAK

Putri Anzani Ritonga (1200668). **Kemampuan *Visual Thingking* Matematis Melalui Pendekatan *Concrete-Reprentational-Abstract* (CRA) Berbantuan Software Cabri 3D**

Penelitian ini dilatarbelakangi oleh pentingnya kemampuan *visual thinking* matematis siswa dan fakta rendahnya kemampuan *visual thinking* matematis siswa serta terhadap pembelajaran matematika. Tujuan dari penelitian ini adalah mengetahui sejauh mana peningkatan kemampuan *visual thinking* matematis siswa yang memperoleh pembelajaran dengan menggunakan pendekatan *Concrete-Reprentational-Abstract* (CRA) berbantuan *software* Cabri 3D dan membandingkan dengan siswa yang memperoleh pembelajaran ekspositori, lalu bagaimana *effect size* pembelajaran dengan menggunakan pendekatan *Concrete-Reprentational-Abstract* (CRA) berbantuan *software* Cabri 3D terhadap kemampuan *visual thingking* matematis siswa serta mengetahui analisis kesalahan siswa dalam menyelesaikan soal tes kemampuan *visual thinking* matematis. Metode yang digunakan dalam penelitian ini adalah metode kuasi eksperimen dengan desain *nonequivalent control grup design.* Populasi dalam penelitian adalah seluruh siswa kelas VIII di salah satu SMP Negeri di kota Bandung, sedangkan sampel dalam penelitian ini adalah dua kelas dari populasi tersebut yang memiliki kemampuan relatif sama. Data penelitian diperoleh melalui tes kemampuan *visual thinking* matematis siswa dan lembar observasi. Hasil penelitian menunjukkan bahwa: (1) peningkatan kemampuan *visual thinking* matematis siswa melalui pendekatan *Concrete-Representational-Abstract* (CRA) berbantuan *software* Cabri 3D lebih tinggi daripada kemampuan *visual thinking* matematis siswa melalui pembelajaran ekspositori, (2) terdapat *effect size* pembelajaran dengan menggunakan pendekatan *Concrete-Reprentational-Abstract* (CRA) berbantuan *software* Cabri 3D terhadap kemampuan *visual thinking* matematis sebesar 1,63, (3) terdapat kesalahan-kesalahan siswa dalam menyelesaikan soal kemampuan *visual thinking* matematis, yaitu: kesalahan miskonsepsi, kesalahan biasa, dan kesalahan akibat ketidaktahuan berdasarkan indikator kemampuan *visual thinking* matematis.

Kata Kunci   : Pendekatan *Concrete-Representational-Abstract* (CRA) Berbantuan *Software* Cabri 3D, Kemampuan *Visual Thinking* Matematis.

ABSTRACT

Putri Anzani Ritonga (1200668). **Visual Capabilities of Mathematical Thinking through Approach Concrete-Representational-Abstract (CRA) Aided Software Cabri 3D.**

This research was motivated by the importance of visual ability students mathematical thinking and visual facts low ability students mathematical thinking towards learning mathematics. The aims of this study are to determine the extent to which the enhancement in the ability of visual thinking mathematical students acquire approach concrete-representational-abstract (CRA) aided software Cabri 3D and compared with students who obtain expository, and how the effect sixe of learning by using approach *Concrete-Representational-Abstract* (CRA) aided software Cabri 3D to visual capabilities and identify students' mathematical thinking error analysis of students in solving mathematical visual thinking ability test. The method used in this research is a quasi-experimental design with nonequivalent control group design. The population is all students in grade VIII in one Junior High School country in the city of Bandung, while samples in this study are two classes of the population who had relatively equal ability. Data were obtained through visual ability test students' mathematical and observation sheet. The results showed that: (1) the enhancement in the ability of visual thinking mathematical through approach concrete representational abstract (CRA) aided software Cabri 3D is higher than the ability of visual thinking mathematical students through expository, (2) there is a effect size learning by using approach Concrete Representational Abstract (CRA) aided software Cabri 3D toward the ability of visual thinking mathematically in the amount of 1,63, (3) there are errors of students in solving mathematical visual thinking, namely: misconceptions error, regular error, and error due to ignorance based on visual indicator of the ability of mathematical thinking.

Keywords: *Concrete-Representational-Abstract* **(CRA)** Approach Aided Software Cabri 3D, Visual Capabilities of Mathematical Thinking.