

ABSTRAK

Damianus Dao Samo (2017). Pembelajaran Kontekstual Berbasis Budaya dengan *GeoGebra* untuk Meningkatkan Kemampuan *Higher-Order Thinking* dan *Self-Regulated Learning* Mahasiswa Pendidikan Matematika FKIP Undana.

Penelitian ini bertujuan: 1) mengkaji perbedaan pencapaian dan peningkatan kemampuan *higher-order thinking* dan aspek-aspeknya yakni pemecahan masalah, penalaran, berpikir kritis, dan berpikir kreatif serta *self-regulated learning* antara mahasiswa yang mendapat pembelajaran kontekstual berbasis budaya dengan *GeoGebra*, pembelajaran kontekstual berbasis budaya, dan pembelajaran biasa; dan 2) menghasilkan rumusan teoritik empirik pengembangan kemampuan *higher-order thinking* mahasiswa pendidikan matematika. Penelitian ini merupakan penelitian kombinasi (*Mixed Method*) dengan desain *Concurrent Embedded*. Tahap pertama dimulai dengan penelitian kuantitatif dengan desain kuasi eksperimen dan dilanjutkan dengan penelitian kualitatif *grounded theory*. Subjek penelitian ini adalah mahasiswa semester II pada program studi pendidikan matematika FKIP Undana sebanyak 92 mahasiswa. Instrumen penelitian ini terdiri dari soal tes kemampuan *higher-order thinking*, angket *self-regulated learning*, serta instrumen pendukung kegiatan pembelajaran. Analisis data kuantitatif menggunakan analisis statistik deskriptif, *N-Gain*, anova satu jalur, anova dua jalur, uji statistik t, *Mann-Whitney*, dan *Kruskall-Wallis*. Hasil penelitian menunjukkan: 1) pencapaian dan peningkatan kemampuan *higher-order thinking* serta kemampuan pemecahan masalah, kemampuan penalaran, kemampuan berpikir kritis, dan kemampuan berpikir kreatif mahasiswa yang mendapat pembelajaran kontekstual berbasis budaya dengan *GeoGebra* lebih baik dari mahasiswa pada pembelajaran kontekstual berbasis budaya dan pembelajaran biasa; 2) Tidak terdapat perbedaan peningkatan *self-regulated learning* yang signifikan antara mahasiswa yang mendapat pembelajaran kontekstual berbasis budaya dengan *GeoGebra*, pembelajaran kontekstual berbasis budaya dan pembelajaran biasa; 3) rumusan teoritik empirik strategi pengembangan kemampuan *higher-order thinking* mahasiswa pendidikan matematika adalah membangun motivasi dan keyakinan, pembelajaran kontekstual (berbasis budaya), bertanya saintifik, diksusi kelompok, latihan soal tipe *higher-order thinking*, belajar memodifikasi soal, dan budaya berdiskusi dalam keluarga dan komunitas.

Kata Kunci: Budaya, *higher-order thinking*, pembelajaran kontekstual, *self-regulated learning*.

ABSTRACT

Damianus Dao Samo (2017). Cultural-Based Contextual Learning with GeoGebra to Enhance Higher-Order Thinking Ability and Self-Regulated Learning of Mathematics Education Students of FKIP Undana.

The aims of this study are: 1) to examine the achievement and enhancement of higher-order thinking ability and their aspects i.e. problem-solving, reasoning, critical thinking, creative thinking and self-regulated learning differences among the students with culture-based contextual learning with *GeoGebra*, culture-based contextual learning, and conventional learning and, 2) produce the empirical theoretical formulation of the development of higher-order thinking ability of mathematics education students. This research is a Mixed Method with Concurrent Embedded design. The first phase is started with quantitative research with quasi-experimental design and continued with qualitative grounded theory research. The subject of this research is the first year student of mathematics education program FKIP Undana consists of 92 students. The research instruments are test of higher-order thinking ability, self-regulated learning questionnaire, and supporting instrument of learning activity. The quantitative data are analyzed by using descriptive statistical analysis, N-Gain, one-way anova, two-way anova, t-test, Mann-Whitney, and Kruskal-Wallis. The research results show: 1) the achievement and enhancement of higher-order thinking ability, problem-solving ability, reasoning ability, critical thinking ability, and creative thinking ability of the students who got culture-based contextual learning with *GeoGebra* are better than the students on culture-based contextual learning and conventional learning; 2) there is no significant difference in self-regulated learning enhancement among students who got culture-based contextual learning with *GeoGebra*, culture-based contextual learning, and conventional learning; 3) the empirical theoretic formulation of developing higher-order thinking ability of mathematics students are developing motivation and belief, contextual learning (culture-based), scientific questioning, group discussion, higher-order thinking test, learning modifying problem, and cultural discussion family and community.

Keywords: Culture, higher-order thinking, contextual learning, self-regulated learning.