

## ABSTRAK

**Rosita, C. D. (2018).** Meningkatkan Kemampuan Argumentasi, Representasi, dan Disposisi Berpikir Kritis Matematis Mahasiswa melalui Pembelajaran Kooperatif Tipe CIRC (*Cooperative Integrated Reading and Composition*)

Penelitian ini bertujuan untuk menganalisis secara komprehensif pencapaian dan peningkatan kemampuan argumentasi matematis (KArM), kemampuan representasi matematis (KRM), dan disposisi berpikir kritis matematis (DBKM) mahasiswa yang mendapat pembelajaran CIRC (PC) dan pembelajaran konvensional (PK) ditinjau dari keseluruhan dan kemampuan awal matematis (KAM) mahasiswa (atas, sedang, dan bawah). Selain itu juga untuk menganalisis interaksi antara pembelajaran (PC dan PK) dan KAM terhadap pencapaian dan peningkatan KArM, KRM, dan DBKM mahasiswa. Metode penelitian yang digunakan adalah kuasi eksperimen dengan *nonequivalent control group design*. Sampel dalam penelitian ini sebanyak 80 mahasiswa pada program studi pendidikan matematika yang dipilih secara purposif dari 120 total populasi. Hasil penelitian menunjukkan bahwa: (1) rata-rata pencapaian dan peningkatan KArM, KRM, dan DBKM mahasiswa yang mendapat pembelajaran CIRC lebih baik daripada yang mendapat pembelajaran konvensional ditinjau secara keseluruhan; (2) terdapat perbedaan rata-rata pencapaian dan peningkatan KArM, KRM, dan DBKM antara mahasiswa yang mendapatkan pembelajaran CIRC dan mahasiswa yang mendapatkan pembelajaran konvensional ditinjau berdasarkan KAM; (3) terdapat perbedaan pencapaian dan peningkatan KArM, KRM, dan DBKM mahasiswa antar kelompok KAM pada pembelajaran CIRC; (4) terdapat interaksi antara pembelajaran secara keseluruhan (CIRC dan Konvensional) dan KAM terhadap pencapaian dan peningkatan KArM serta KRM mahasiswa; dan (5) tidak terdapat interaksi antara pembelajaran secara keseluruhan (CIRC dan Konvensional) dan KAM terhadap pencapaian dan peningkatan DBKM mahasiswa.

**Kata kunci:** argumentasi matematis, representasi matematis, disposisi berpikir kritis, model pembelajaran CIRC

## ABSTRACT

**Rosita, C. D. (2018).** Enhancing Students' Ability in Mathematical Argumentation, Representation, and Critical Thinking Disposition through Cooperative Integrated Reading and Composition (CIRC) Learning Model.

This study aims to analyze comprehensively the students' achievement and enhancement in mathematical argumentation ability (MAA), mathematical representation ability (MRA), and mathematical critical thinking disposition (MCTD) who received CIRC learning model and conventional learning model in terms of overall and prior mathematical ability (PMA). This study is devoted to analyze the interaction between overall learning model and PMA on the achievement and enhancement of students' MAA, MRA, and MCTD. The research method used is quasi-experiment with nonequivalent control group design. The sample in this study is 80 students of mathematics education program, using purposive sampling of 120 total population. The results of this research show that: (1) the overall, the average of achievement and enhancement of students' MAA, MRA, and MCTD who received CIRC learning model is higher than those who received conventional learning model; (2) there is a difference of average achievement and enhancement of students' MAA, MRA, and MCTD between the students who received CIRC learning model and conventional learning model based on PMA; (3) there are differences in the achievement and enhancement of students' MAA, MRA, and MCTD among PMA groups on CIRC learning model; (4) there is an interaction effect between overall learning model and PMA on the achievement and enhancement of students' MAA and MRA; and (5) there is no interaction effect between overall learning model and PMA on the achievement and enhancement of students' mathematical critical thinking disposition.

**Keywords:** mathematical argument, mathematical representation, critical thinking disposition, CIRC learning model