PENGARUH MODEL PROBLEM BASED LEARNING-*MIND MAP* TERHADAP KETERAMPILAN METAKOGNITIF

Oleh

Ida Ayu Putu Inu Jyotisha, NIM 1713021037

Jurusan Fisika dan Pengajaran IPA

ABSTRAK

Implikasi keterampilan metakognitif siswa dalam pembelajaran fisika masih menjadi hal asing untuk diterapkan. Model PBL-*mind map* berdasarkan kajian empiris dari beberapa penelitian menunjukkan dapat memberikan peluang kepada siswa untuk membangun dan meregulasi proses kognitifnya. Tujuan penelitian ini adalah untuk mendeskripsikan perbedaan keterampilan metakognitif siswa yang dibelajarkan dengan model *problem based learning-mind map* (PBL-*mind map*) dan model *direct instruction* (DI). Metode penelitian ini yaitu kuasi eksperimen menggunakan *one-way pretest-posttest non-equivalent control group design*, melibatkan dua kelompok, yaitu kelompok eksperimen dan kelompok kontrol. Populasi penelitian ini diambil dari siswa kelas X MIPA di SMA Negeri 4 Singaraja sebanyak 189 orang. Pengambilan sampel penelitian dilakukan dengan teknik *simple randomize* berbasis kelompok. Sampel yang terpilih sebanyak 67 orang siswa, X MIPA 1 sebagai kelompok eksperimen dan X MIPA 2 sebagai kelompok kontrol. Data keterampilan metakognitif siswa diperoleh dari hasil jawaban tes *essay* yang berjumlah 20 butir soal. Nilai reliabilitas tes 0,846 berkategori sangat tinggi. Analisis data keterampilan metakognitif dilaksanakan secara deskriptif dan uji hipotesis dengan ANAKOVA satu jalur ($\alpha > 0{,}05$). Temuan penelitian menunjukkan keterampilan metakognitif siswa yang dibelajarkan dengan model PBL-*mind map* lebih tinggi dibandingkan siswa yang dibelajarkan dengan model DI. Nilai rata-rata keterampilan metakognitif siswa yang dicapai kelompok PBL-*mind map* sebesar 71,79 dengan standar deviasi sebesar 11,77 berkategori tinggi, sedangkan nilai rata-rata keterampilan metakognitif siswa yang dapat dicapai kelompok DI sebesar 58,45 dengan standar deviasi sebesar 10,40 berkategori cukup. Uji hipotesis menunjukkan nilai F* sebesar 29,667 dengan *sig.* 0,000 < 0,05 yaitu terdapat perbedaan keterampilan metakognitif antara siswa yang belajar dengan model PBL-*mind map* dan DI.

Kata kunci: *problem based learning, mind map,* keterampilan metakognitif, pembelajaran fisika.

THE EFFECT OF THE PROBLEM BASED LEARNING-*MIND MAP MODEL* ON METACOGNITIVE SKILLS

By

Ida Ayu Putu Inu Jyotisha, NIM 1713021037

Department of Physics and Science Teaching

ABSTRACT

The implications of students' metacognitive skills in learning physics are still something foreign to apply. The PBL-mind map model based on empirical studies from several studies shows that it can provide opportunities for students to build and regulate their cognitive processes. The purpose of this study was to describe the differences in students' metacognitive skills that were taught using the problem based learning-mind map (PBL-mind map) and direct instruction (DI). This research method is a quasi-experimental using one-way pretest-posttest non-equivalent control group design, involving two groups, experimental group and control group. The population of this study was taken from 189 students of class X MIPA at SMA Negeri 4 Singaraja. The research sample was taken using technique simple randomize based group. The selected sample was 67 students, X MIPA 1 as the experimental group and X MIPA 2 as the control group. Metacognitive skills are known from the results of essay test which amounted to 20 questions. The test reliability value of 0.846 is categorized as very high. Data analysis of metacognitive skills was carried out descriptively and hypothesis testing with one-way ANACOVA ($\alpha > 0{,}05$). The research findings show that students' metacognitive skills taught by the PBL-mind map are higher than students taught by the DI. The average value of students' metacognitive skills achieved by the PBL-mind map was 71.79 with a standard deviation of 11.77 in the high category, while the average value of students' metacognitive skills achieved by the DI group was 58.45 with a standard deviation of 10, 40 is categorized as enough. The hypothesis test shows the F* value of 29.667 with sig. $0.000 < 0.05$, which means that there are differences in metacognitive skills between students who study with the PBL-mind map and DI.

Keywords: problem based learning, mind map, metacognitive skills, physics learning.