

ABSTRAK

PENGEMBANGAN LEMBAR KERJA SISWA BERBASIS *ARGUMENT DRIVEN INQUIRY* (ADI) UNTUK MENUMBUHKAN KETERAMPILAN ARGUMENTASI ILMIAH

Oleh

Arina Khusnayain

Tujuan penelitian pengembangan ini adalah menghasilkan lembar kerja yang memiliki kriteria kelayakan sesuai dengan syarat didaktik, syarat konstruksi, syarat teknis, serta efektif dalam meningkatkan keterampilan argumentasi ilmiah siswa. Penelitian ini diawali dengan melakukan pengembangan perangkat pembelajaran berupa lembar kerja. Pengembangan lembar kerja dilakukan dengan melakukan inovasi berupa penyesuaian bagian-bagian lembar kerja dengan komponen argumentasi ilmiah. Lembar kerja dikembangkan berdasarkan atas pembelajaran *Argument Driven Inquiry* (ADI). Efektivitas lembar kerja diketahui dengan melakukan uji coba lapangan kepada siswa kelas X SMA. Desain uji coba yang peneliti gunakan yakni *Nonequivalent Pre-Post Control Group Design*. Hasil penelitian pengembangan ini menunjukkan bahwa lembar kerja yang dikembangkan telah divalidasi oleh dua dosen dan satu guru fisika memiliki skor kelayakan didaktik sebesar 88,17%, kelayakan konstruksi 100%, dan kelayakan teknis 86,12%. Efektivitas penggunaan lembar kerja nampak pada perbedaan skor keterampilan argumentasi ilmiah siswa di kelas eksperimen dengan siswa di kelas

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kontrol. Hasil analisis statistik menggunakan uji *Paired Sample T Test* menunjukkan nilai Sig. (2 tailed) sebesar 0,000 atau lebih kecil dari nilai probabilitas 0,05. Dengan demikian dapat disimpulkan bahwa lembar kerja siswa berbasis inkuiri argumentasi hasil pengembangan dinyatakan memiliki kelayakan didaktik, konstruksi, teknis, serta dapat meningkatkan keterampilan argumentasi ilmiah siswa.

Kata kunci: keterampilan argumentasi ilmiah, lembar kerja siswa

ABSTRACT

THE DEVELOPMENT OF THE STUDENT'S WORKSHEET-BASED *ARGUMENT DRIVEN INQUIRY* (ADI) TO CULTIVATE SCIENTIFIC ARGUMENTATION SKILLS

By

Arina Khusnayain

The purpose of this development is to produce a research worksheet that have eligibility criteria in accordance with the terms of construction terms, didactic, technical terms, as well as effective in improving the skills of the student scientific argumentation. This research begins with the development of learning devices in the form of worksheets. Development of a worksheet done with innovation in the form of adjustment of the parts of the worksheet with the components of the scientific argumentation. Worksheets were developed based on the *Argument Driven Inquiry* (ADI). The effectiveness of the worksheets is known by conducting field trials to the students of class X SMA. The design of the trials that researchers use Nonequivalent Pre-Post Control Group Design. The results of this development indicates that the developed worksheets have been validated by two professors and a physics teacher had a score of 88.17% didactic feasibility, construction feasibility of 100%, and the technical feasibility of 86.12%. The effectiveness of the use of worksheets appears in scientific argumentation skills score differences of students in class experiments with students in the class of the

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control. The results of the statistical analysis using Paired Samples T test Test shows the value of the Sig (2-tailed) of 0.000 or smaller than 0.05 probability value. Thus it can be concluded that the results of the development of the Argumentation worksheet has stated feasibility didaktif, construction, technical, and scientific argumentation skills can enhance a students.

Key words: scientific argumentation skills, students worksheet