ABSTRAK

PENGEMBANGAN INSTRUMEN *ASSESSMENT FOR LEARNING (AfL)* UNTUK MENGUKUR KEMAMPUAN BERPIKIR KRITIS PESERTA DIDIK PADA PEMBELAJARAN FISIKA BERBASIS PROYEK TOPIK ENERGI TERBARUKAN

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Tujuan dari penelitian ini adalah mengembangkan instrumen *assessment for learning* untuk mengukur kemampuan berpikir kritis peserta didik pada pembelajaran fisika berbasis proyek yang valid, reliabel, dan praktis untuk digunakan. Penelitian pengembangan ini menggunakan 4 tahapan yang diadaptasi dari Thiagarajan (1974), yakni: *1) define; 2) design; 3) develop; 4) disseminate.* Validasi produk dilakukan oleh dua dosen ahli dan satu guru untuk menilai aspek konstruk, substansi, dan bahasa. Berdasarkan hasil validasi ahli instrumen *assessment for learning* kemampuan berpikir kritis diperoleh skor 87,87% dengan kategori sangat valid. Instrumen *assessment for learning* untuk mengukur kemampuan berpikir kritis peserta didik ini diujicobakan kepada 35 peserta didik dan dianalisis menggunakan model *Rasch* berbantuan *software Ministep 4.8.2*. Berdasarkan hasil analisis data uji coba diperoleh 14 butir instrumen kemampuan berpikir kritis yang dinyatakan valid. Butir instrumen *assessment for learning* untuk mengukur kemampuan berpikir kritis peserta didik juga dinyatakan reliabel dengan nilai *alpha Cronbach* sebesar 0,84 kategori bagus sekali. Uji kepraktisan instrumen *assessment for learning* untuk mengukur kemampuan berpikir kritis skor penilaian sebesar 87,15 dengan kriteria sangat praktis. Produk akhir instrumen *assessment for learning* untuk mengukur kemampuan berpikir kritis peserta didik pada pembelajaran fisika berbasis proyek yang dikembangkan telah memenuhi standar kelayakan instrumen, yaitu: valid, reliabel, dan praktis.

Kata kunci: *Assessment for Learning*, Kemampuan Berpikir Kritis, *Project Based Learning*

ABSTRACT

DEVELOPMENT OF ASSESSMENT FOR LEARNING (AfL) INSTRUMENT TO MEASURE STUDENTS' CRITICAL THINKING SKILLS IN PROJECT-BASED PHYSICS LEARNING ON RENEWABLE ENERGY TOPICS

By

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The aim of this study is to develop an Assessment for Learning (AfL) instrument to measure students' critical thinking skills in project-based physics learning that is valid, reliable, and practical for use. This developmental research employs four stages adapted from Thiagarajan (1974), namely: 1) define; 2) design; 3) develop; and 4) disseminate. The product validation was carried out by two expert lecturers and one teacher to assess the construct, substance, and language aspects. Based on expert validation results, the critical thinking skills AfL instrument achieved a score of 87.87%, categorized as very valid. The AfL instrument for measuring students' critical thinking skills was tested on 35 students and analyzed using the Rasch model with the assistance of Ministep 4.8.2 software. The trial data analysis identified 14 critical thinking items that were deemed valid. The AfL instrument items for measuring critical thinking skills were also found to be reliable, with a Cronbach's alpha value of 0.84, categorized as excellent. The practicality test of the AfL instrument for measuring critical thinking skills resulted in a score of 87.15, classified as highly practical. The final product of the AfL instrument developed for measuring students' critical thinking skills in project-based physics learning has met the feasibility standards of an instrument, namely: valid, reliable, and practical.

Keywords: Assessment for Learning, Critical Thinking Skills, Project-Based Learning