

**PENGEMBANGAN *VIRTUAL LABORATORY* IPA BERPENDEKATAN
INKUIRI TERBIMBING MATERI TRANSPORTASI AIR PADA
TUMBUHAN UNTUK MENINGKATKAN KEMAMPUAN ANALISIS
PESERTA DIDIK KELAS VIII SMP**

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ABSTRAK

Tujuan penelitian ini adalah: (1) mengetahui kelayakan *virtual laboratory* IPA berpendekatan inkuiri terbimbing materi Transportasi Air pada Tumbuhan untuk meningkatkan kemampuan analisis peserta didik menurut dosen ahli dan guru IPA, (2) mengetahui respon peserta didik terhadap *virtual laboratory* IPA berpendekatan inkuiri terbimbing materi Transportasi Air pada Tumbuhan, dan (3) mengetahui peningkatan kemampuan analisis peserta didik setelah menggunakan media *virtual laboratory* IPA berpendekatan inkuiri terbimbing.

Penelitian ini merupakan penelitian R & D dengan model 4D (*Define, Design, Develop, dan Disseminate*). Pada tahap *Define* dilakukan analisis awal, analisis peserta didik, analisis tugas, analisis konsep, dan analisis tujuan pembelajaran. Tahap *Design* dilakukan penyusunan instrumen, pemilihan media, pemilihan format, dan rancangan awal. Tahap *Develop* meliputi konsultasi dosen pembimbing, validasi oleh dosen ahli dan guru IPA, dan uji coba produk. Tahap *Disseminate* dilakukan secara terbatas. Instrumen yang digunakan dalam penelitian ini berupa lembar penilaian *virtual laboratory* IPA oleh dosen ahli dan guru IPA, angket respon peserta didik terhadap *virtual laboratory* IPA, soal *pretest-posttest* dan lembar kerja peserta didik untuk mengetahui peningkatan kemampuan analisis peserta didik. Teknik analisis data penilaian *virtual laboratory* IPA oleh dosen ahli dan guru IPA, respon peserta didik dan lembar kerja peserta didik adalah dengan menggunakan analisis kualitatif dan kuantitatif. Untuk peningkatan kemampuan analisis menggunakan tes, analisis dilakukan dengan perhitungan *N-gain score*.

Hasil penelitian menunjukkan bahwa: (1) *virtual laboratory* IPA berpendekatan inkuiri terbimbing materi Transportasi Air pada Tumbuhan dinyatakan layak oleh dosen ahli dan guru IPA dengan kategori sangat baik (A), (2) peserta didik memberikan respon yang sangat baik dengan nilai A, dan (3) peningkatan kemampuan analisis peserta didik setelah menggunakan *virtual laboratory* IPA berpendekatan inkuiri terbimbing berdasarkan perhitungan *N-gain score* sebesar 0,72 dengan kategori sangat baik.

Kata kunci: *kemampuan analisis, pendekatan inkuiri terbimbing, virtual laboratory.*

**DEVELOPMENT OF VIRTUAL SCIENCE LABORATORY USING
GUIDED INQUIRY APPROACH FOCUSING ON PLANT'S WATER
TRANSPORTATION ISSUES TO IMPROVE ANALYTICAL ABILITY OF
GRADE 8 JUNIOR HIGH SCHOOL**

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ABSTRACT

This research was conducted to: (1) determine the eligibility of virtual science laboratory using guided guided inquiry approach focusing on plant's water transportation issues based on expert lecturers and science teachers, (2) perceive student's response toward virtual science laboratory using guided guided inquiry approach focusing on plant's water transportation issues, and (3) obtain the improvement of analytical ability of students after using virtual science laboratory using guided guided inquiry approach focusing on plant's water transportation issues.

This research was R & D research with 4D models (Define, Design, Develop, and Disseminate). In Define stage, the researcher conducted initial analysis, analysis of student, task analysis, concept analysis, and learning objective analysis. In the Design stage, the researcher built instruments, selected media, selected format, and preliminary design. Develop stage was done by consultation to consultants, validation by expert lecturers and science teachers and field trial. The Disseminate stage done on limited basis. Instrument used in this study is validation sheet of eligibility of expert lecturers and science teachers, student's response questionnaire form, pre-test and post-test also student work sheet to obtain the improvement of analytical ability of student. Analytical technique to determine eligibility of the media, student's response, and student work sheet were using qualitative and quantitative methods. To analyze the improvement of the analytical ability that conducted by test was using normalized gain score analysis.

The result of this research shown that: (1) virtual science laboratory using guided guided inquiry approach focusing on plant's water transportation issues is eligible declared by expert lecturers and science teachers and categorized as very good (A), (2) student's response to virtual science laboratory is highly positive valued by A, and (3) improvement of student's analytical ability after using virtual science laboratory using guided guided inquiry approach is very high with N-gain score of 0,72.

Keywords : analytical ability, guided guided inquiry approach, virtual laboratory.