

**EFEKTIVITAS PENERAPAN WEB BASED INKUIRI
BERBASIS *SOCIOSCIENTIFIC ISSUES* UNTUK
MENINGKATKAN KETERAMPILAN INKUIRI DAN *SELF
EFFICACY* SISWA PADA TEMA PENCEMARAN
LINGKUNGAN**

TESIS

**Diajukan Untuk Memenuhi Salah Satu Syarat Memperoleh Gelar Magister
Pendidikan Program Studi Pendidikan Ilmu Pengetahuan Alam**



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PENCEMARAN LINGKUNGAN**

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ABSTRAK

Era pembelajaran abad 21 menuntut siswa memiliki beragam kemampuan untuk mengatasi kompleksitas masyarakat modern. Hal ini membuat terobosan baru dalam pembelajaran dengan mengimplemenetasikan pendekatan inkuiri menggunakan web based berbasis *sosioscientifik issue* (SSI). Pembelajaran didukung penggunaan web based inkuiri dapat diimplementasikan secara *blended learning*. Penelitian ini bertujuan untuk mengetahui efektivitas pembelajaran dengan menggunakan web based inkuiri berbasis SSI untuk meningkatkan keterampilan inkuiri dan *self efficacy* siswa. Metode penelitian yang digunakan adalah *quasi experiment*. Metode ini hanya menggunakan satu kelompok eksperimen tanpa kelompok kontrol yang akan menjadi pembanding. Desain yang digunakan dalam penelitian ini adalah *Times series design* dengan dua kali uji coba *pretest* dan *posttest*. Sebelum diberi perlakuan kelompok eksperimen terlebih dahulu diberi *pretest*, kemudian diberi perlakuan dengan menggunakan pembelajaran web based inkuiri berbasis sosiosaintifik isu, dan setelah itu diberikan *post test*. Analisis dan interpretasi data menggunakan *software SPSS 20*. Semua instrument yang digunakan dalam penelitian dalam kategori valid dan reliable. Hasil analisis data menggunakan uji *paired sample t test* pada tes peratama dan kedua pada keterampilan inkuiri terintegrasi SSI yang meliputi aspek merumuskan masalah, membuat hipotesis, merancang percobaan, menganalisis data, membuat kesimpulan, kemampuan mengevaluasi isu dan membuat keputusan terkait SSI menunjukan adanya peningkatan yang signifikan. Hasil pengisian angket *self efficacy* secara keseluruhan pada aspek *level*, *strength*, dan *generality* setiap frekuensi mengalami perubahan kriteria *self efficacy* kearah yang lebih tinggi. Berdasarkan hubungan antara keterampilan inkuiri dan *self efficacy* siswa yang dianalisis menggunakan *pearson correlation* menunjukan adanya hubungan antara keterampilan inkuiri siswa setelah pembelajaran menggunakan web based inkuiri berbasis SSI dengan *self efficacy* siswa.

Kata Kunci: Web based Inkuiri, *Socioscientific issuess*, *Self Efficacy*, pencemaran Lingkungan

THE EFFECTIVENESS OF THE APPLICATION OF WEB-BASED INQUIRIES BASED ON SOCIOSCIENTIFIC ISSUES TO INCREASE INQUIRY SKILLS AND STUDENTS' SELF-EFFICACY ON THE THEME OF ENVIRONMENTAL POLLUTION

ABSTRACT

The era of 21st-century learning requires students to have various abilities to cope with the complexities of modern society. This creates a breakthrough in learning by implementing an inquiry approach using a web-based *socioscientific issues* (SSI). Learning supported by the use of web-based inquiry can be implemented using blended learning. This study aims to determine the effectiveness of learning by using SSI-based web-based inquiry to improve students' inquiry skills and self-efficacy. The research method used is quasi-experimental. This method uses only one experimental group without a control group that will be the comparison. The design used in this study is a time series design with two pretest and posttest trials. Before being given treatment, the experimental group was first given a pretest, then treated using web-based inquiry learning based on socio-scientific issues, and after that was given a post-test. Data analysis and interpretation using SPSS 20 software. All instruments used in this study were valid and reliable. The results of data analysis using the paired sample t-test on the first and second tests on SSI integrated inquiry skills which include aspects of formulating problems, making hypotheses, designing experiments, analyzing data, making conclusions, the ability to evaluate issues and make decisions related to SSI show a significant improvement. The results of filling out the self-efficacy questionnaire as a whole on the level, strength, and generality aspects of each frequency experienced a change in the self-efficacy criteria towards a higher level. Based on the relationship between inquiry skills and student self-efficacy analyzed using Pearson correlation, it shows a relationship between student inquiry skills after learning using SSI-based web-based inquiry and student self-efficacy.

Keywords: Web-based Inquiry, Socioscientific issues, Self Efficacy, Environmental pollution

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