

ABSTRAK

Wanda Yudi Astari (2026), Pengembangan E-LKM IPA Model *Project Based Learning* dengan Pendekatan *Socio-scientific Issues* untuk Meningkatkan Keterampilan Berpikir Kreatif dan Literasi Sains Murid Kelas IX. Tesis, Pendidikan IPA, Program Pascasarjana, Universitas Pendidikan Ganesha.

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Kata-kata kunci: Berpikir Kreatif, E-LKM, Literasi Sains, Model Project Based Learning, Pendekatan Socio-scientific Issues.

Penelitian ini merupakan penelitian dan pengembangan (*Research and Development*) yang bertujuan untuk menghasilkan e-LKM IPA model *Project Based Learning* (PjBL) dengan pendekatan *Socio-scientific Issues* (SSI) yang valid, praktis, dan efektif dalam meningkatkan keterampilan berpikir kreatif dan literasi sains murid kelas IX SMP. Model pengembangan yang digunakan adalah ADDIE yang meliputi tahap *analysis, design, development, implementation*, dan *evaluation*. Produk yang dikembangkan berupa e-LKM IPA berbasis platform digital *Classwork* yang mengintegrasikan sintaks PjBL dan pendekatan SSI pada materi reaksi-reaksi kimia, bioteknologi, dan isu-isu lingkungan. Validitas produk dinilai oleh ahli materi, ahli bahasa, dan ahli media. Kepraktisan produk diuji melalui respons guru dan murid. Uji efektivitas dilakukan menggunakan desain *quasi eksperiment pretest-posttest nonequivalent control group design* yang melibatkan 64 murid kelas IX SMP Negeri 1 Kuta. Hasil penelitian menunjukkan bahwa e-LKM IPA yang dikembangkan memiliki karakteristik berupa integrasi sintaks PjBL, pendekatan SSI, fitur interaktif digital, serta aktivitas yang berorientasi pada pengembangan keterampilan berpikir kreatif dan literasi sains. Hasil validasi oleh para ahli menunjukkan bahwa e-LKM berada pada kategori sangat valid dan layak digunakan dalam pembelajaran. Hasil uji kepraktisan menunjukkan bahwa e-LKM memperoleh respons sangat praktis dari guru dengan persentase sebesar 93,92% dan memperoleh respons sangat praktis dari murid. E-LKM IPA model PjBL dengan pendekatan SSI efektif dalam meningkatkan keterampilan berpikir kreatif dan literasi sains murid kelas IX. Hasil analisis deskriptif menunjukkan bahwa kelompok eksperimen memperoleh rata-rata keterampilan berpikir kreatif dan literasi sains yang lebih tinggi dibandingkan kelompok kontrol. Hasil uji MANCOVA juga menunjukkan adanya perbedaan yang signifikan antara kedua kelompok, dengan nilai *Pillai's Trace* sebesar 0,551 ($p < 0,001$) dan *Partial Eta Squared* sebesar 0,551 yang termasuk kategori efek besar. Temuan tersebut menunjukkan bahwa penggunaan e-LKM IPA model PjBL dengan pendekatan SSI memberikan kontribusi yang kuat terhadap peningkatan keterampilan berpikir kreatif dan literasi sains murid kelas IX.

ABSTRACT

Wanda Yudi Astari (2026), *Development of a Project-Based Learning Electronic Student Worksheet Integrated with a Socio-Scientific Issues Approach to Enhance Creative Thinking Skills and Scientific Literacy of Ninth-Grade Students*. Thesis, Science Education, Postgraduate Program, Universitas Pendidikan Ganesha.

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Keywords: Electronic Student Worksheet, Project Based Learning, Socio-scientific Issues, creative thinking skills, scientific literacy.

This study employed a Research and Development (R&D) approach aimed at developing a valid, practical, and effective science electronic student worksheet based on the Project Based Learning (PjBL) model integrated with the Socio-scientific Issues (SSI) approach to enhance the creative thinking skills and scientific literacy of ninth-grade junior high school students. The development process followed the ADDIE model, consisting of the analysis, design, development, implementation, and evaluation stages. The product developed was a digital science e-LKM hosted on the Classwork platform, integrating PjBL syntax and the SSI approach in the topics of chemical reactions, biotechnology, and environmental issues. Product validity was evaluated by content, language, and media experts. Practicality was assessed through teacher and student responses. The effectiveness test employed a quasi-experimental pretest-posttest non-equivalent control group design involving 64 ninth-grade students of SMP Negeri 1 Kuta. The results revealed that the developed science e-LKM was characterized by the integration of PjBL syntax, the SSI approach, interactive digital features, and learning activities designed to promote creative thinking skills and scientific literacy. Expert validation indicated that the e-LKM was categorized as highly valid and appropriate for classroom use. The practicality test showed that the e-LKM received a highly practical rating from teachers, with a percentage score of 93.92%, and was also rated as highly practical by students. The descriptive analysis results showed that the experimental group achieved higher mean scores in both creative thinking skills and scientific literacy than the control group. The MANCOVA results also revealed a significant difference between the two groups, with a Pillai's Trace value of 0.551 ($p < 0.001$) and a Partial Eta Squared value of 0.551, indicating a large effect size. These findings demonstrate that the implementation of the PjBL-based science e-worksheet (e-LKM) integrated with the Socio-scientific Issues (SSI) approach made a substantial contribution to improving the creative thinking skills and scientific literacy of ninth-grade students.