

EFEKTIVITAS MEDIA *INTERACTIVE E-BOOK* BERBASIS *PROBLEM BASED LEARNING* PADA MATERI VIRUS UNTUK MENINGKATKAN *HIGHER ORDER THINKING SKILLS* MURID KELAS X DI SMA NEGERI

1 SAWAN

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ABSTRAK

Penelitian ini bertujuan untuk mendeskripsikan profil peningkatan HOTS murid setelah dibelajarkan menggunakan media *interactive e-book* berbasis PBL, menganalisis perbedaan HOTS antara murid yang dibelajarkan menggunakan media *interactive e-book* berbasis PBL dengan murid yang dibelajarkan menggunakan LKM berbasis PBL, serta menganalisis efektivitas media *interactive e-book* berbasis PBL pada materi virus untuk meningkatkan HOTS murid kelas X di SMA Negeri 1 Sawan. Penelitian ini menggunakan jenis kuasi eksperimen dengan desain *Nonequivalent Control Group Design*. Sampel penelitian terdiri atas dua kelas X yang dipilih menggunakan teknik *intact group sampling*. Kedua kelas tersebut ditetapkan sebagai kelompok eksperimen yang dibelajarkan menggunakan media *interactive e-book* berbasis PBL dan kelompok kontrol yang dibelajarkan menggunakan LKM berbasis PBL. Instrumen penelitian berupa tes uraian HOTS yang mengukur keterampilan menganalisis, mengevaluasi, dan mencipta. Hasil penelitian menunjukkan bahwa kelas eksperimen memperoleh rerata *N-Gain* sebesar 0,53 (kategori sedang), sedangkan kelas kontrol memperoleh rerata *N-Gain* sebesar 0,32 (kategori sedang). Hasil uji ANCOVA menunjukkan terdapat perbedaan HOTS yang signifikan antara kedua kelompok setelah mengontrol skor awal (*pretest*) (nilai $p = 0,0001 < 0,05$). Selain itu, nilai *Partial Eta Squared* sebesar 0,229 menunjukkan bahwa media *interactive e-book* berbasis PBL memberikan pengaruh yang besar terhadap HOTS murid. Dengan demikian, media *interactive e-book* berbasis PBL terbukti efektif dalam meningkatkan HOTS murid pada materi virus dan menghasilkan capaian HOTS yang lebih baik dibandingkan penggunaan LKM pada pembelajaran berbasis PBL.

Kata Kunci: *Interactive E-Book, Problem Based Learning, Higher Order Thinking Skills, Materi Virus, Efektivitas Pembelajaran.*

**THE EFFECTIVENESS OF A PROBLEM-BASED LEARNING
INTERACTIVE E-BOOK ON VIRUS MATERIAL IN IMPROVING THE
HIGHER-ORDER THINKING SKILLS OF TENTH-GRADE STUDENTS AT
SMA NEGERI 1 SAWAN**

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ABSTRACT

This study aimed to describe the profile of students' HOTS improvement after being taught using a PBL-based interactive e-book, analyze the differences in HOTS between students who learned using the PBL-based interactive e-book and those who learned using PBL-based student worksheets (LKM), and analyze the effectiveness of the PBL-based interactive e-book on the topic of viruses in improving the HOTS of tenth-grade students at SMA Negeri 1 Sawan. This study employed a quasi-experimental method with a Nonequivalent Control Group Design. The research sample consisted of two tenth-grade classes selected using the intact group sampling technique. The two classes were assigned as the experimental group, which was taught using the PBL-based interactive e-book, and the control group, which was taught using PBL-based student worksheets (LKM). The research instrument was an essay test designed to measure HOTS, including analyzing, evaluating, and creating. The results showed that the experimental group achieved an average N-Gain score of 0.53 (moderate category), while the control group obtained an average N-Gain score of 0.32 (moderate category). The ANCOVA results indicated a significant difference in HOTS between the two groups after controlling for the pretest scores ($p = 0.0001 < 0.05$). Furthermore, the Partial Eta Squared value of 0.229 indicated a large effect of the PBL-based interactive e-book on students' HOTS. Therefore, the PBL-based interactive e-book was proven to be effective in improving students' HOTS on the topic of viruses and resulted in better HOTS achievement than the use of student worksheets (LKM) in PBL-based learning.

Keywords: *Interactive E-Book, Problem Based Learning, Higher Order Thinking Skills, Virus Material, Learning Effectiveness.*