**PEMBELAJARAN BERBASIS *WEB* UNTUK MENINGKATKAN LITERASI DIGITAL DAN PENGUASAAN KONSEP SISTEM EKSKRESI**

**SKRIPSI**

*Diajukan untuk memenuhi sebagian syarat memperoleh gelar Sarjana*

*Program Studi Pendidikan Biologi*

****

Oleh :

Feldina Gustanti

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**PROGRAM STUDI PENDIDIKAN BIOLOGI**

**DEPARTEMEN PENDIDIKAN BIOLOGI**

**FAKULTAS PENDIDIKAN MATEMATIKA DAN ILMU PENGETAHUAN ALAM**

**UNIVERSITAS PENDIDIKAN INDONESIA**

**2023**

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Oleh:

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Skripsi ini diajukan untuk memenuhi salah satu syarat memperoleh gelar Sarjana Pendidikan pada Program Studi Pendidikan Biologi Departemen Pendidikan Biologi Fakultas Pendidikan Matematika dan Ilmu Pengetahuan Alam

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# ABSTRAK

Penelitian ini bertujuan untuk mengidentifikasi pengaruh pembelajaran berbasis *web* terhadap literasi digital dan penguasaan konsep peserta didik. Metode penelitian yang digunakan yaitu metode *Quasi-Experiment* dengan desain *Non-Equivalent Control Group Design*. Penelitian dilakukan terhadap dua kelas siswa XI MIPA di salah satu SMA di Kota Bandung yang terdiri atas 31 siswa untuk masing-masing kelas. Data literasi digital diperoleh melalui instrumen angket literasi digital dan angket pengalaman digital. Data penguasaan konsep diperoleh melalui instrumen soal tes pilihan ganda. Selain itu, data respon peserta didik terhadap pembelajaran berbasis *web* diperoleh melalui lembar observasi. Hasil penelitian menunjukkan bahwa terdapat peningkatan literasi digital yang lebih tinggi pada peserta didik kelas eksperimen dengan *N-gain* kategori tinggi yang lebih banyak diperoleh oleh kelas eksperimen dan *N-gain* kategori rendah yang lebih banyak diperoleh peroleh oleh kelas kontrol. Terdapat perbedaan signifikan penguasaan konsep antara kelas eksperimen dan kontrol dengan nilai Sig. (2-tailed) sebesar 0,003. Selain itu, terdapat peningkatan penguasaan yang lebih tinggi pada peserta didik kelas eksperimen. Data respon peserta didik terhadap pembelajaran berbasis *web* menunjukkan antusiasme yang sangat tinggi dan kepercayaan diri yang tinggi.

**Kata kunci**: pembelajaran berbasis *web*, literasi digital, penguasaan konsep, sistem ekskresi.

# ABSTRACT

This study aims to identify the influence of internet-based learning on digital literacy and conceptual mastery of students. The research method used is the Quasi-Experiment method with a Non-Equivalent Control Group Design. The study was conducted on two classes of grade XI science students in a high school in Bandung city, consisting of 31 students in each class. Data on digital literacy were obtained through a digital literacy questionnaire and a digital experience questionnaire. Data on conceptual mastery were obtained through a multiple-choice test. In addition, data on students' responses to internet-based learning were obtained through observation sheets. The results of the study showed that there was a higher increase in digital literacy among students in the experimental class, with a higher number of high N-gain scores obtained by the experimental class and a higher number of low N-gain scores obtained by the control class. There was a significant difference in conceptual mastery between the experimental and control classes with a Sig. value (2-tailed) of 0.003. Additionally, there was a higher improvement in mastery among students in the experimental class. The data on students' responses to internet-based learning showed a high level of enthusiasm and confidence.

**Keywords**: internet-based learning, digital literacy, conceptual mastery, excretory system.

DAFTAR ISI

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[3.3.3 Instrumen Respon Peserta Didik terhadap](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000788) Pembelajaran

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[3.4 Pengembangan Instrumen Penelitian 34](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000790)

[3.4.1 Uji Validitas 34](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000791)

[3.4.2 Uji Reliabilitas 35](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000792)

[3.4.3 Tingkat Kesukaran 35](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000793)

[3.4.4 Daya Pembeda 36](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000794)

[3.4.5 Hasil Uji Coba Soal Pilihan majemuk Penguasaan](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000795)

[Konsep](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000796) 35

[3.4.6 Hasil Uji Coba Angket Literasi](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000796) Digital 36

[3.5 Prosedur Penelitian 36](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000797)

[3.5.1 Tahapan Pra-pelaksanaan 36](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000798)

[3.5.2 Tahap Pelaksanaan 37](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000799)

[3.5.3 Tahap Pasca-penelitian 39](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000800)

[3.6 Alur Penelitian 42](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000801)

[3.7 Analisis Data 42](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000801)

[3.7.1 Pengolahan Data Literasi Digital 43](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000802)

[3.7.2 Pengolahan Data Penguasaan Konsep Sistem](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000803) Ekskresi 47

[3.7.3 Analisis Statistik Data Literasi Digital dan Penguasaan](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000804)

[Konsep Peserta Didik 50](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000808)

[3.7.4 Pengolahan Data Respon Peserta Didik terhadap](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000805)

 [Pembelajaran Berbasis *Web* 51](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000808)

[BAB IV](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000806) [TEMUAN DAN PEMBAHASAN 52](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000807)

[4.1 Literasi Digital Peserta Didik 52](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000808)

[4.1.1 Literasi Digital Peserta Didik Sebelum](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000809) Pembelajaran 53

[4.1.2 Literasi Digital Peserta Didik Sesudah Pembelajaran](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000810) 57

[4.2 Penguasaan Konsep Sistem Ekskresi Manusia pada kelas kontrol](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000811)

[eksperimen 47](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000808)

[4.2.1 Penguasaan Konsep Peserta didik Untuk Setiap Topik](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000812) pada

[Materi Sistem Ekskresi 66](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000808)

[4.3 Respon Peserta didik Selama Metode Pembelajaran 74](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000813)

[BAB V](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000814) [SIMPULAN, IMPLIKASI DAN REKOMENDASI 75](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000815)

[5.1 Simpulan 75](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000816)

[5.2 Implikasi 75](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000817)

[5.3 Rekomendasi 76](file:///C%3A%5CUsers%5CHP%5CDocuments%5CTugas%20Coolyah%5CSemester%208%5CSKRIPSI%5CBISMILLAH%20ARSIP%5Csyarat%20sidang%5CBismillah_Revisian%5Csyarat%20wisuda%5Cunggah%5Ccover%20dan%20lembar%20pengesahan%20skripsi%20-%20Copy%20-%20Copy%20%282%29%20-%20Copy%20-%20Copy.docx#_Toc140000818)

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