ANALISIS PENGGUNAAN VIRTUAL REALITY DALAM PEMBELAJARAN SISTEM PERNAPASAN: TINJAUAN TERHADAP KETERAMPILAN BERPIKIR KRITIS DAN PENGUASAAN KONSEP SISWA SMA

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ANALISIS PENGGUNAAN VIRTUAL REALITY DALAM PEMBELAJARAN SISTEM PERNAPASAN: TINJAUAN TERHADAP KETERAMPILAN BERPIKIR KRITIS DAN PENGUASAAN KONSEP SISWA SMA

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ABSTRAK

Penelitian ini berjudul "Analisis Penggunaan *Virtual Reality* dalam Pembelajaran Sistem Pernapasan: Tinjauan terhadap Keterampilan Berpikir Kritis dan Penguasaan Konsep Siswa SMA". Tujuan penelitian ini adalah untuk Tujuan penelitian ini untuk memperoleh informasi mendalam mengenai penerapan media *Virtual Reality* (VR) sebagai upaya dalam mengembangkan keterampilan berpikir kritis dan penguasaan konsep siswa dalam mempelajari materi sistem pernapasan. Metode dari penelitian ini menggunakan penelitian deskriptif dengan subjek penelitian siswa SMA kelas XI IPA yang menggunakan media VR dalam pembelajaran PBL. Instrumen tes yang digunakan untuk mengukur Keterampilan berpikir kritis siswa berupa soal uraian, dan soal pilihan ganda untuk mengukur pemahaman konsep siswa. Instrumen non-tes berupa keterlaksanaan sintaks pembelajaran digunakan untuk menilai kendala pembelajaran menggunakan media VR. Berdasarkan hasil temuan penelitian menunjukkan terjadi perubahan negatif, ditandai dengan penurunan rata-rata nilai *pretest* ke *posttest*. Adapun penguasaan konsep siswa pada materi sistem pernapasan menunjukkan perubahan positif yang ditandai dengan peningkatan rata-rata nilai penguasaan konsep siswa. Adapun kendala pembelajaran menggunakan media VR yaitu keterbatasan perangkat yang dapat digunakan sehingga membatasi aksesibilitas dalam pembelajaran dan keterbatasan waktu penggunaan VR jangka panjang dalam pembelajaran. Simpulan hasil penelitian menyatakan penelitian ini menggambarkan perubahan positif dalam penguasaan konsep siswa setelah menggunakan media *Virtual Reality* (VR) dalam proses pembelajaran sistem pernapasan. Akan tetapi penggunaan media VR yang tidak terintegrasi dengan model pembelajaran, lembar kerja siswa dan soal yang diujikan menggambarkan perubahan negatif dalam pengembangan keterampilan berpikir kritis. Selain itu, ketersediaan perangkat yang dapat mempengaruhi aksesibilitas penggunaan media VR, keterbatasan waktu menjadi kendala penerapan penggunaan media VR dalam pembelajaran PBL.

Kata Kunci: *virtual reality*, keterampilan berpikir kritis, penguasaan konsep, materi sistem pernapasan

ABSTRACT

This research is entitled "Analysis of the Use of Virtual Reality in Learning the Respiratory System: A Review of Critical Thinking Skills and Concept Mastery of High School Students". The purpose of this study is to obtain in-depth information about the application of Virtual Reality (VR) media as an effort to develop critical thinking skills and mastery of students' concepts in studying respiratory system material. The method of this research uses descriptive research with the research subject of high school students in class XI IPA who use VR media in PBL learning. The test instrument used to measure students' critical thinking skills is in the form of description questions, and multiple-choice questions to measure students' concept understanding. Non-test instruments in the form of learning syntax implementation are used to assess learning constraints using VR media. Based on the research findings, there was a negative change, characterized by a decrease in the average pretest to posttest scores. The mastery of students' concepts on the material of the respiratory system shows a positive change marked by an increase in the average value of students' concept mastery. The obstacles to learning using VR media are the limitations of devices that can be used so as to limit accessibility in learning and the limited time for long-term use of VR in learning. The conclusion of the research results states that this study illustrates positive changes in students' concept mastery after using Virtual Reality (VR) media in the learning process of the respiratory system. However, the use of VR media that is not integrated with the learning model, student worksheets and tested questions illustrates negative changes in the development of critical thinking skills. In addition, the availability of devices that can affect the accessibility of the use of VR media, limited time is an obstacle to the application of the use of VR media in PBL learning.

Keywords: *virtual reality (VR), critical thinking skills, concept mastery, respiratory system material*.

DAFTAR ISI

LEMBAR PENGESAHAN ii

PERNYATAAN ANTI PLAGIARISME iii

KATA PENGANTAR iv

UCAPAN TERIMAKASIH v

ABSTRAK vii

ABSTRACT viii

DAFTAR ISI ix

DAFTAR TABEL xii

DAFTAR LAMPIRAN xiv

BAB I PENDAHULUAN 1

A. Latar Belakang Penelitian 1

B. Rumusan Masalah dan Pertanyaan Penelitian 3

C. Tujuan Penelitian 3

D. Manfaat Penelitian 4

BAB II KAJIAN PUSTAKA *VIRTUAL REALITY*, KETERAMPILAN BERPIKIR KRITIS, PENGUASAAN KONSEP DAN MATERI SISTEM PERNAPASAN 7

A. *Virtual Reality* (VR) 7

1. Jenis-Jenis *Virtual Reality* (VR) 8

B. Keterampilan Berpikir Kritis 13

C. Penguasaan Konsep 19

1. Faktor-Faktor yang Mempengaruhi Penguasaan Konsep 20

2. Metode Pembelajaran untuk Meningkatkan Penguasaan Konsep 21

3. Pentingnya Penguasaan Konsep dalam Pembelajaran 22

4. Implikasi Penguasaan Konsep dalam Proses Pembelajaran 23

D. Sistem Pernapasan 24
BAB III METODE PENELITIAN 26
A. Definisi Operasional 26
1. *Virtual Reality* (VR) 26
2. Keterampilan berpikir kritis 26
3. Penguasaan Konsep 26
B. Subjek Penelitian 27
C. Metode Penelitian 27
D. Instrumen Penelitian 27
1. Jenis Instrumen 27
2. Teknik Pengambilan Data 31
3. Pengembangan Instrumen 31
E. Prosedur Penelitian 45
1. Pra-penelitian 45
2. Pelaksanaan Penelitian 46
3. Pasca-Pelaksanaan 47
F. Alur Penelitian 48
G. Analisis Data 49
1. Pengolahan Data (Keterampilan Berpikir Kritis dan Penguasaan Konsep) 49
2. Pengolahan Data (Keterlaksanan Sintaks Pembelajaran) 50
BAB IV TEMUAN DAN PEMBAHASAN 71
A. Temuan 71
1. Perubahan Keterampilan Berpikir Kritis Siswa Sesudah Pembelajaran 71

2. Perubahan Penguasaan Konsep Siswa Sebelum dan Sesudah Pembelajaran. 73
3. Keterlaksanaan Sintaks 77
B. Pembahasan 80
1. Keterampilan Berpikir Kritis 80
2. Penguasaan Konsep Siswa 84
3. Kendala Pembelajaran Menggunakan Media *Virtual Reality* (VR) 88
BABV SIMPULAN, IMPLIKASI, DAN REKOMENDASI 92
A. Simpulan 92
B. Implikasi 92
C. Rekomendasi 93
DAFTAR PUSTAKA 95

DAFTAR TABEL

Tabel 2. 1 Indikator Keterampilan Berpikir Kritis 15
Tabel 3. 1 Jenis Instrumen 28
Tabel 3. 2 Kisi-kisi Soal Keterampilan Berpikir Kritis 28
Tabel 3. 3 Kisi-Kisi Soal Pilihan Ganda Penguasaan Konsep Materi Sistem Pernapasan. 29
Tabel 3. 4 Lembar Observasi Keterlaksanaan Sintaks PBL 30
Tabel 3. 5 Interpretasi Nilai Reliabilitas 32
Tabel 3. 6 Interpretasi Nilai Validitas 33
Tabel 3. 8 Interpretasi Nilai Tingkat Kesukaran 34
Tabel 3. 9 Klasifikasi Kualitas Butir Soal 34
Tabel 3. 10 Rekapitulasi Hasil Uji Coba Soal Keterampilan Berpikir Kritis 37
Tabel 3. 11 Interpretasi Nilai Reliabilitas 39
Tabel 3. 12 Interpretasi Nilai Validitas 40
Tabel 3. 13 Interpretasi Daya Pembeda Soal Penguasaan Konsep 41
Tabel 3. 14 Interpretasi Nilai Tingkat Kesukaran 42
Tabel 3. 15 Klasifikasi Kualitas Butir Soal 43
Tabel 3. 16 Rekapitulasi Hasil Uji Coba Tes Penguasaan Konsep Siswa 44
Tabel 3. 17 Prosedur Pelaksanaan Penelitian 46
Tabel 3. 18 Kategori Keterlaksanaan Pembelajaran 50
Tabel 4. 1 Rekapitulasi Hasil Uji Statistik Deskriptif Keterampilan Berpikir Kritis Siswa 71
Tabel 4. 2 Rata-Rata Nilai Keterampilan Berpikir Kritis Siswa Berdasarkan Indikator 72
Tabel 4. 3 Rekapitulasi Analisis Penguasaan Konsep siswa 74
Tabel 4. 4 Persentase Jawaban Siswa Menjawab Benar Pada Soal *Pretest* dan *Posttest* Berdasarkan Topik Sistem Pernapasan 75
Tabel 4. 5 Keterlaksanaan Sintaks Pembelajaran 77

DAFTAR GAMBAR

Gambar 2. 1 Penerapan permainan VR yang memberikan pengalaman bermain yang sepenuhnya immersif kepada pengguna. 8
Gambar 3. 1 Diagram Alur Penelitian..... 48
Gambar 4. 1 Perbedaan Rata-Rata Nilai *Pretest Posttest* Keterampilan Berpikir Kritis Siswa..... 72
Gambar 4. 2 Rata-Rata Nilai Keterampilan Berpikir Kritis Siswa Berdasarkan Indikator..... 73
Gambar 4. 3 Perbedaan Rata-Rata Nilai Penguasaan Konsep Siswa..... 74
Gambar 4. 4 Rata-Rata Penguasaan Konsep Siswa Berdasarkan tiap Indikator..... 76
Gambar 4. 5 Penggunaan Media VR tidak Terintegrasi dengan PBL 82
Gambar 4. 6 VR Anatomi Sistem Pernapasan 85
Gambar 4. 7 Simulasi visual dari Model Spatio-Temporal Pertukaran Gas dalam Alveolus Manusia (Alvin) 87

DAFTAR LAMPIRAN

Lampiran 1. 1 Surat Izin Penelitian Pengambilan Data 104
Lampiran 2. 1 Rencana Pelaksanaan Pembelajaran (RPP) 106
Lampiran 2. 2 Lembar Kerja Peserta Didik 111
Lampiran 3. 1 Tabel Spesifikasi Soal Uraian (Instrumen Keterampilan Berpikir Kritis) 93
Lampiran 4. 1 Hasil Uji Validitas Soal Keterampilan Berpikir Kritis 129
Lampiran 4. 2 Hasil Uji Reliabilitas Soal Keterampilan Berpikir Kritis 129
Lampiran 4. 3 Hasil Uji Daya Pembeda Soal Keterampilan Berpikir Kritis 130
Lampiran 4. 4 Hasil Uji Tingkat Kesukaran Soal Keterampilan Berpikir Kritis 130
Lampiran 4. 5 Hasil Uji Validitas Soal Pemahaman Konsep 131
Lampiran 4. 6 Hasil Uji Reliabilitas Soal Pemahaman Konsep 131
Lampiran 4. 7 Hasil Uji Daya Pembeda Soal Pemahaman Konsep 132
Lampiran 4. 8 Hasil Uji Tingkat Kesukaran Soal Pemahaman Konsep 133
Lampiran 4. 9 Hasil Uji Efektivitas Distraktor Soal Pemahaman Konsep 134
Lampiran 5. 1 Tabulasi Nilai Pretest Keterampilan Berpikir Kritis Siswa 136
Lampiran 5. 2 Tabulasi Nilai Posttest Keterampilan Berpikir Kritis Siswa 137
Lampiran 6. 1 Tabulasi Nilai Pretest Penguasaan Konsep Siswa 144
Lampiran 6. 2 Nilai Posttest Penguasaan Konsep Siswa 145
Lampiran 7. 1 Dokumentasi Pelaksanaan Pembelajaran 149
Lampiran 7. 2 Pengerjaan LKPD 150
Lampiran 7. 3 Pengerjaan Instrumen Penelitian 153

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