

**THE DEVELOPMENT OF “BLOODVENTURE” GAME USING
COMPUTER-ASSISTED INSTRUCTION FOR SCIENCE LEARNING
ON HUMAN CIRCULATORY SYSTEM**

RESEARCH PAPER

**Submitted as Requirement to Obtain Degree of *Sarjana Pendidikan* in
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Skripsi yang diajukan untuk memenuhi salah satu syarat memperoleh gelar
Sarjana Pendidikan pada Fakultas Pendidikan Matematika dan Ilmu Pengetahuan
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APPROVAL SHEET

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DECLARATION

I do hereby declare that every aspect was written in this research paper entitled “The development Bloodventure Game using Computer-Assisted Instruction for Science Learning on Human Circulatory System” genuinely result of my original idea, effort, and works. The theories, opinions and other contained in this paper have been quoted or referenced based on scientific code from UPI and accordance with scientific ethics that applies in scholarly society. This declaration is created truthfully and consciously. When an infringement towards scientific ethics subsequently is found or if there is a claim of any other towards the authenticity of this research paper. hence, I am willing to responsible and accept academics sanctions correspond to the rules.

Bandung, August 2020

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ABSTRACT

This research aims to develop bloodventure game by using gamification elements on human circulatory system topics in Junior High School. The method used in this research was developmental research method. The subject of this research is expert and student. Expert chosen in this research are one science expert, one media expert, two science teacher, and one computer teacher. Students chosen in this research are twenty-five students in 8 and 9 grades at one junior high school. The gamification aspects were chosen to make the game were goals, science content, and challenging environment. The expert gave feedbacks in both about their media and the quality of the content aspects. Students were asked about their agreement level of the gamification elements and the effect of gamification. The effect of gamification asked were motivation, Joyness, convenience, addiction, understanding improvement, attractiveness, and interactiveness. The result found that expert gave a good score towards this game. Students also agreed that the game has goals, science content, and challenging environments. The result also found that gamification elements itself caused them to feel motivated, joy, convenience, addiction, improve their understanding, and attracted after playing the game. Other than that, students than half of total students got a score higher than the average score after playing the game

Keywords: *Bloodventure game, Computer-assisted instruction, gamification, human circulatory system*

**PENGEMBANGAN PERMAINAN “BLOODVENTURE”
MENGUNAKAN PEMBELAJARAN KOMPUTER UNTUK PEMBELAJARAN
SAINS PADA TOPIK SISTEM PEREDARAN DARAH MANUSIA**

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ABSTRAK

Penelitian ini bertujuan untuk mengembangkan permainan bloodventure menggunakan pembelajaran computer untuk pembelajaran sains pada topik system peredaran darah manusia. Metode yang digunakan dalam penelitian ini adalah metode penelitian pengembangan. Subyek untuk penelitian ini adalah para ahli dan siswa. Para ahli yang dipilih dalam penelitian ini adalah satu ahli sains, satu ahli media, dua guru sains, dan satu guru komputer. Siswa yang dipilih dalam penelitian ini adalah dua puluh lima siswa kelas 8 dan 9 di salah satu sekolah menengah pertama. Aspek gamifikasi yang dipilih untuk membuat permainan adalah tujuan, konten sains, dan tantangan. Para ahli memberikan umpan balik pada media dan kualitas materi pembelajaran. Siswa ditanya tentang persetujuan mereka tentang elemen gamifikasi, efek gamifikasi yang ditanyakan adalah motivasi, kegembiraan, kenyamanan, kecanduan, peningkatan pemahaman konsep, daya Tarik, dan interaktif. Hasil game ini ditemukan bahwa elemen gamifikasi itu sendiri menyebabkan siswa merasa termotivasi, gembira, nyaman, kecanduan, dan meningkatkan pemahaman mereka. Dan tertarik setelah bermain game. Selain itu, para siswa menegaskan bahwa mereka memiliki dua acara interaksi dengan permainan. Lebih dari separuh total siswa mendapat skor lebih tinggi dari skor rata-rata setelah bermain game.

Kata kunci: Permainan bloodventure, Pembelajaran komputer, gamifikasi, sistem peredaran darah pada manusia.

PREFACE

All the praise belongs to Allah SWT because of His Mercy and Grace; the author could finish the research paper entitled “Developing Bloodventure game using Computer-Assisted Instruction for Learning Science on Human Circulatory System Topic.” *Salawat* and *Salaam* might be sent upon the prophet Muhammad, the last of His Messengers and prophet, has family, companions, and all those who follow his steps till end of time.

The research had been conducted to develop bloodventure game using computer-assisted instruction. This research paper is requirements to fulfill the Bachelor Degree of International Program on Science Education.

The perfection belongs to Allah. The author realizes that many weaknesses or limitations need to be improved. Thus, suggestion and recommendations are welcome for the better quality of development bloodventure game using gamification in the future. Hopefully, this research might bring benefits for science education and learning media.

Bandung, August 2020



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