

PENERAPAN MEDIA *BOARD GAME* BERFRAMEWORK PISA UNTUK MENGGALI KEMAMPUAN LITERASI SAINS SISWA SMA PADA MATERI SISTEM PENCERNAAN

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Abstrak

Penelitian ini bertujuan menggali kemampuan literasi sains siswa SMA pada materi sistem pencernaan melalui penerapan *board game* pada pembelajaran menggunakan model *Contextual Teaching and Learning (CTL)* dan framework PISA 2015. *Board game* merupakan media pembelajaran berbasis permainan yang melibatkan perhitungan pergerakan bidak beralaskan papan yang telah ditandai sesuai aturan. Metode penelitian yang digunakan adalah *quasi experiment* dengan desain *pre-test and post-test non-randomized control group*. Subjek penelitian yaitu siswa kelas XI di salah satu SMA di Bandung. Teknik pengambilan sampel menggunakan *cluster random sampling*. Data yang diambil dua kelas, yakni kelas Eksperimen 1 ($n = 31$ siswa) dan Eksperimen 2 ($n = 29$ siswa). Pada kelas Eksperimen 1 diterapkan *board game* berframework PISA, sedangkan kelas Eksperimen 2 diterapkan *board game* tidak berframework PISA. Instrumen penelitian yang digunakan yaitu lembar observasi, soal literasi sains, dan angket respons siswa terhadap *board game*. Hasil observasi menunjukkan ketercapaian 100% pada kelas Eksperimen 1 dan 72,5% pada Eksperimen 2, artinya semua tahapan terlaksana pada kelas Eksperimen 1 dan sebagian besar terlaksana pada kelas Eksperimen 2. Peningkatan literasi sains siswa kelas Eksperimen 1 tinggi dengan N-Gain 0,514, sedangkan kelas Eksperimen 2 menurun yakni (-0,547). Adapun respons siswa terhadap *board game* 88,71% pada kelas Eksperimen 1 dan 77,21% pada kelas Eksperimen 2, siswa merasa terbantu dalam menggali kemampuan literasi berdasarkan hasil pembelajaran menggunakan *board game*.

Kata kunci: board game, Contextual Teaching and Learning model (CTL) atau model pembelajaran kontekstual, literasi sains, PISA, sistem pencernaan

Implementation of Board Game based on PISA Framework in Exploring High School Students' Scientific Literacy Skills of Digestive System

Abstract

This study aims to explore the scientific literacy abilities of high school students in the digestive system through the implementation of board games in learning using the Contextual Teaching and Learning model (CTL) and the PISA 2015 framework. Board game is a game-based learning media that involves counters or pieces move or place on pre-marked surface or 'board' accordingly rules. The research method used was quasi experiment with pre-test and post-test non-randomized control group design. The subject of the research is the 11th grade in one of high schools in Bandung. The sampling technique used cluster random sampling. Data was taken from two classes, namely Experiment 1 (n = 31 students) and Experiment 2 (n = 29 students). In Experiment 1, board game based on the PISA was applied, while in Experiment 2, the non-PISA board game was applied. The research instruments used were observation sheets, scientific literacy test, and student response questionnaires about board game. Observation results show 100% achievement in Experiment 1 and 72.5% in Experiment 2. Student's scientific literacy skills in Experiment 1 was high, with N-Gain 0.514, while in Experiment 2 was decreased, namely (-0.547). The students' response towards board game was 88.71% in Experiment 1 and 77.21% in Experiment 2. In addition, students feel helped in exploring scientific literacy based on the results of learning using the board game.

Keywords: board game, Contextual Teaching and Learning Model (CTL), scientific literacy, PISA (Program for International Students Assessment), digestive system