

ABSTRAK

Perkembangan teknologi mendorong pemanfaatan media pembelajaran digital untuk mendukung proses pembelajaran matematika. Pemanfaatan media yang interaktif diperlukan agar siswa lebih tertarik dalam mengikuti kegiatan pembelajaran, salah satunya melalui *game* berbasis *website*. Penelitian ini bertujuan 1) untuk mengembangkan *game* berbasis *website* sebagai media pembelajaran pada materi fungsi linear, dan 2) untuk mengetahui kelayakan dan kepraktisan media pembelajaran melalui penilaian ahli dan pengguna. *Game* yang dikembangkan ini diharapkan mampu memberikan pengalaman belajar yang interaktif dan menyenangkan bagi siswa.

Penelitian ini merupakan penelitian *Research and Development* (R&D) yang menggunakan model ADDIE, meliputi tahap *analysis*, *design*, *development*, *implementation*, dan *evaluation*. Instrumen penelitian yang digunakan meliputi pedoman wawancara, angket analisis kebutuhan siswa, lembar validasi ahli media, lembar observasi, angket respons siswa, dan pedoman wawancara setelah implementasi.

Analisis kebutuhan dilakukan melalui wawancara dengan guru matematika serta penyebaran angket kepada siswa kelas IX SMP Negeri 1 Depok. Hasil analisis menunjukkan bahwa siswa mengalami kesulitan memahami materi fungsi linear dan 93,75% siswa menginginkan pembelajaran yang lebih menarik melalui penggunaan *game*. *Game* dikembangkan menggunakan HTML, CSS, JavaScript, PHP, dan MySQL, kemudian divalidasi oleh ahli media serta diuji coba secara terbatas kepada siswa kelas VIII SMP Kanisius Muntilan.

Hasil penelitian menunjukkan bahwa *game* berbasis *website* yang dikembangkan memperoleh persentase kelayakan sebesar 89,58% dengan kategori sangat valid dan persentase kepraktisan sebesar 86,56% dengan kategori sangat praktis. *Game* berbasis *website* yang dikembangkan dapat digunakan sebagai media pendukung dalam kegiatan latihan soal materi fungsi linear.

Kata kunci: media pembelajaran, *game* berbasis *website*, *research and development*, ADDIE, fungsi linear.

ABSTRACT

The development of technology encourages the use of digital learning media to support mathematics learning. Interactive media are needed to increase students' interest in learning activities, one of which is through web-based games. This study aims to (1) develop a web-based game as a learning medium for linear function material and (2) determine the feasibility and practicality of the developed media based on expert and user assessments. The developed game is expected to provide an interactive and enjoyable learning experience for students.

This research employed the Research and Development (R&D) method using the ADDIE model, consisting of analysis, design, development, implementation, and evaluation stages. The research instruments included interview guidelines, student needs analysis questionnaires, media expert validation sheets, observation sheets, student response questionnaires, and post-implementation interview guidelines.

The needs analysis was conducted through interviews with a mathematics teacher and questionnaires distributed to ninth-grade students at SMP Negeri 1 Depok. The results showed that students experienced difficulties in understanding linear function material and 93.75% of students expected more engaging learning activities through games. The game was developed using HTML, CSS, JavaScript, PHP, and MySQL, then validated by a media expert and tested on a limited basis with eighth-grade students at SMP Kanisius Muntilan.

The results showed that the developed web-based game obtained a feasibility percentage of 89.58% with a very valid category and a practicality percentage of 86.56% with a very practical category. The developed web-based game can be used as a supporting learning medium for linear function practice activities.

Keywords: *learning media, website-based game, research and development, ADDIE, linear functions.*