

## ABSTRAK

Penelitian ini bertujuan untuk mengembangkan media pembelajaran berbasis *game* edukasi melalui pendekatan *Design Thinking*, serta menguji efektivitas *game* edukasi sebagai media pembelajaran matematika dalam membantu peserta didik memahami materi aljabar kelas VII.

Penelitian ini adalah penelitian pengembangan model ADDIE yang diintegrasikan dengan pendekatan *design thinking*. Subjek dalam penelitian ini adalah 29 peserta didik kelas VII C di SMP Negeri 1 Depok. Instrumen penelitian yang digunakan meliputi pedoman observasi, wawancara, lembar validasi ahli, *pretest* dan *posttest*, serta angket respon peserta didik. Data dianalisis dan disajikan secara kualitatif.

Hasil penelitian berupa *game* edukasi Aljafun yang dikembangkan melalui lima tahapan ADDIE terintegrasi *design thinking*. Pada tahap *analyze* melalui *empathize* dan *define*, hasil observasi dan wawancara menunjukkan pembelajaran masih cenderung konvensional, peserta didik kurang aktif, dan mengalami kesulitan pada materi bentuk aljabar sehingga diperlukan media pembelajaran interaktif. Tahap *design* melalui *ideate*, dilakukan kegiatan *silent brainstorm* dengan *thinker* sehingga diperoleh ide yaitu “Mengembangkan media pembelajaran berbasis permainan interaktif digital pada materi bentuk aljabar yang berisi materi dalam aktivitas permainan serta dilengkapi latihan untuk peserta didik”. Tahap *development* melalui *prototype* dilakukan perancangan hingga pengembangan media menggunakan Construct 2. Tahap *implementation* melalui tahapan *test*, dilakukan tahap uji coba media yang sudah dikembangkan kepada *user*. Tahap *evaluation*, diperoleh bahwa adanya peningkatan hasil belajar peserta didik. Hasil validasi ahli materi memperoleh skor 88,89% dan ahli media 89,33% dengan kategori “sangat valid”. Hasil efektivitas menunjukkan peningkatan rata-rata nilai peserta didik dari 53,99 menjadi 79,96 dengan *N-Gain* 55% kategori “cukup efektif”. Dengan demikian, *game* edukasi Aljafun dinyatakan valid dan efektif sebagai media pembelajaran matematika. Selain itu, *game* edukasi Aljafun juga membantu peserta didik memahami konsep bentuk aljabar dilihat dari ketuntasan setiap indikator pemahaman konsep.

**Kata Kunci:** *Design Thinking*, *Game* Edukasi, Media Pembelajaran

## ABSTRACT

*This study aims to develop educational game-based learning media through the Design Thinking approach and to examine the effectiveness of the educational game as a mathematics learning medium in helping seventh-grade students understand algebraic expressions.*

*This study employed the ADDIE development model integrated with the Design Thinking approach. The subjects of this study were 29 students of class VII C at SMP Negeri 1 Depok. The research instruments included observation guidelines, interview guidelines, expert validation sheets, pretest and posttest, and student response questionnaires. The data were analyzed and presented qualitatively.*

*The result of this study was the Aljafun educational game developed through the five stages of ADDIE integrated with Design Thinking. In the analyze stage through empathize and define, observations and interviews showed that the learning process was still conventional, students were less actively involved, and they experienced difficulties in algebraic expressions; therefore, interactive learning media were needed. In the design stage through ideate, a silent brainstorming activity with thinkers was conducted, resulting in the idea of developing an interactive digital game-based learning media containing algebraic material and practice activities for students. In the development stage through prototype, the media were designed and developed using Construct 2. In the implementation stage through test, the developed media were tried out on users. In the evaluation stage, an improvement in students' understanding was found. The material expert validation score was 88.89% and the media expert validation score was 89.33%, both categorized as "very valid." The effectiveness results showed an increase in students' average scores from 53.99 to 79.96 with an N-Gain of 55%, categorized as "moderately effective." Therefore, the Aljafun educational game was declared valid and effective as a mathematics learning medium. In addition, Aljafun helped students understand the concept of algebraic expressions, as indicated by the mastery level achieved in each conceptual understanding indicator.*

**Keywords:** *Design Thinking, Educational Game, Learning Media*