ABSTRAK

Perkembangan teknologi digital mendorong pemanfaatan *game* sebagai media pembelajaran interaktif yang mampu meningkatkan minat dan motivasi belajar siswa sekolah dasar. Namun, banyak *game* edukasi masih kurang memperhatikan aspek desain karakter sebagai penghubung emosional antara pemain dan materi pembelajaran. Penelitian ini bertujuan untuk menerapkan teknik bahasa bentuk dalam perancangan aset visual berupa karakter 2D pada *game* edukasi interaktif untuk materi sistem pencernaan manusia siswa kelas 5 sekolah dasar. Menggunakan metode *Design Thinking* dengan tahapan *empathize*, *define*, *ideate*, *prototype*, dan *test*, yang berfokus pada kebutuhan dan karakteristik pengguna. Perancangan karakter dilakukan dengan memanfaatkan bentuk dasar lingkaran, persegi, dan segitiga untuk merepresentasikan peran dan sifat karakter secara visual. Tahap pengujian dilakukan melalui uji persepsi visual menggunakan metode pilihan paksa dengan klasifikasi biner serta divalidasi menggunakan uji *Chi-square Goodness of Fit* dengan diketahui taraf signifikan sebesar 5% dan nilai batas kritis 3,841. Hasil validasi desain menunjukkan bahwa 5 dari 7 desain dinyatakan valid secara persepsi visual karena memiliki nilai lebih besar dari nilai batas kritis. Dua karakter yang dinyatakan tidak valid dievaluasi desainnya berdasarkan penggunaan teknik bahasa bentuk dan divalidasi kembali menggunakan *Peer Review* dengan membandingkan desain sebelum dan sesudah dievaluasi. Dengan demikian, perancangan aset visual berbasis bahasa bentuk melalui pendekatan *design thinking* dinilai efektif untuk mendukung pengembangan *game* edukasi yang menarik, intuitif, dan sesuai dengan karakteristik kognitif siswa sekolah dasar.

Kata kunci: bahasa bentuk, metode pembelajaran, sistem pencernaan, *design thinking*

ABSTRACT

The development of digital technology has encouraged the use of games as interactive learning media that can increase the interest and motivation of elementary school students to learn. However, many educational games still pay little attention to character design as an emotional connection between players and learning materials. This study aims to apply form language techniques in the design of visual assets in the form of 2D characters in interactive educational games for 5th grade elementary school students learning about the human digestive system. The Design Thinking method was used, with the stages of empathize, define, ideate, prototype, and test, focusing on user needs and characteristics. Character design was carried out by utilizing the basic shapes of circles, squares, and triangles to visually represent the roles and characteristics of the characters. The testing stage was conducted through visual perception testing using the forced choice method with binary classification and validated using the Chi-square Goodness of Fit test with a known significance level of 5% and a critical value of 3.841. The design validation results showed that 5 of the 7 designs were declared valid in terms of visual perception because they had values greater than the critical value. The two characters that were declared invalid were evaluated based on the use of form language techniques and revalidated using Peer Review by comparing the designs before and after evaluation. Thus, the design of form language-based visual assets through the Design Thinking approach is considered effective in supporting the development of educational games that are interesting, intuitive, and in line with the cognitive characteristics of elementary school students.

Keywords: shape language, learning methods, digestive system, design thinking