

## BAB VI

### KESIMPULAN DAN SARAN

#### 6.1 Kesimpulan

Penelitian ini dilakukan untuk menerapkan gamifikasi yang diaplikasikan dengan VR untuk inovasi pembelajaran Arduino. Dari hasil yang didapatkan pada penelitian ini dapat ditarik kesimpulan bahwa gamifikasi dapat diterapkan sebagai inovasi di bidang pembelajaran khususnya pembelajaran Arduino. Penerapan gamifikasi dalam bidang pembelajaran ini memberikan beberapa dampak positif yang dirasakan bagi pengguna. Beberapa dampak positif yang didapat dalam penerapan gamifikasi ini adalah proses belajar menjadi lebih menyenangkan dan penyerapan materi lebih maksimal dibandingkan pembelajaran Arduino secara konvensional. Selain itu, penggunaan perangkat VR dan konsep game escape room juga memberikan pengalaman baru dalam proses pembelajaran. Dalam penelitian ini terdapat proses perancangan prototype game VR tentang pembelajaran Arduino, setelah proses perancangan kemudian dilakukan pengujian kepada responden. Hasil yang didapatkan dari pengujian didapatkan bahwa penggunaan konsep gamifikasi dan VR dalam bidang pembelajaran Arduino dapat diterima dengan baik oleh responden. Elemen-elemen gamifikasi yang dimasukkan dalam game yaitu tutorial, hint, reward, dan quiz dapat dinikmati oleh responden. Analisa hasil pengujian dilakukan menggunakan skala GAMEX yang memiliki 6 items yaitu enjoyment, absorption, creative thinking, activation, absence of negative effect, dan domination. Pada hasil yang didapatkan setelah analisa, dua items dalam skala GAMEX yang memiliki tertinggi adalah enjoyment (4.087) dan creative thinking (3.907). Hal tersebut menandakan bahwa dengan menerapkan gamifikasi dan VR untuk inovasi pembelajaran Arduino dapat meningkatkan tingkat kenikmatan saat proses pembelajaran dan memicu pemikiran kreatif.

#### 6.2 Saran

Prototype game yang dirancang pada penelitian ini masih memiliki beberapa keterbatasan dari beberapa sisi dan dapat dikembangkan di penelitian selanjutnya. Keterbatasan dalam prototype yang dibuat terdapat di sisi gameplay yang membutuhkan fitur sistem level, user interface, keterbatasan 3D model dari komponen yang memiliki fitur interaksi, dan mekanisme game. Penambahan model teka-teki pada game escape room ini juga dapat menjadi perbaikan yang menambah kepuasan dalam bermain game. Selain itu penambahan mode multi-player juga dapat meningkatkan pengalaman dalam pembelajaran dan kerjasama dalam bermain game.

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