DESAIN PEMBELAJARAN BERBASIS TEKNOLOGI *AUGMENTED REALITY (AR)* PADA PEMBELAJARAN DASAR TEKNIK PEMBUBUTAN UNTUK MENINGKATKAN KETERAMPILAN BERPIKIR KRITIS DAN PEMECAHAN MASALAH

TESIS

Diajukan sebagai salah satu syarat untuk memperoleh gelar Magister Pendidikan Teknologi dan Kejuruan

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SEKOLAH PASCASARJANA

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LEMBAR PENGESAHAN TESIS

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ABSTRAK

Dasar teknik pembubutan merupakan hal utama yang perlu dikuasai oleh siswa SMK fase E yang mengambil program keahlian teknik pemesinan. Dasar teknik pembubutan yaitu mata pelajaran yang menuntut siswa untuk mengembangkan *basic skill* pada pekerjaan pembubutan sebelum memproduksi. Saat ini guru perlu menggunakan media pembelajaran yang dapat memfasilitasi siswa untuk praktik mesin bubut secara langsung. Salah satu teknologi yang dibutuhkan saat ini adalah media pembelajaran berbasis Augmented Reality (AR). AR adalah teknologi yang mentransformasi dunia maya dengan dunia nyata. AR ini akan membantu siswa dalam penggunaan mesin bubut secara virtual. Tujuan dari penelitian ini adalah membuat desain pembelajaran untuk praktik mesin bubut berbasis teknologi Augmented Reality (AR) yang dapat meningkatkan berpikir kritis dan pemecahan masalah siswa. Metode penelitian yang digunakan untuk merancang desain pembelajaran ini adalah *Design Based Research* (DBR). Model dan pengembangan desain pembelajaran yang dipilih adalah model Taba. Hasil penelitian telah berhasil mengembangkan desain pembelajaran materi dasar teknik pembubutan berbasis AR yang dapat meningkatkan keterampilan berpikir kritis dan pemecahan masalah dengan karakteristik memiliki sintaks yang terdiri dari lima fase PjBl dan *discovery learning*, setiap fase ada kegiatan belajar mandiri dengan media berbasis AR. Adapun kelima fasenya sebagai berikut: 1) penentuan pertanyaan mendasar (pemberian stimulus dan identifikasi masalah), 2) Mendesain perencanaan proyek (pengumpulan data), 3) Menyusun jadwal (Pengolahan data 1), 4) Memonitor peserta didik (pengolahan data 2), 5) Menguji hasil (Pembuktian). Hasil pengujian menunjukan bahwa perancangan desain pembelajaran lebih meningkatkan keterampilan berpikir kritis dan pemecahan masalah yang terbukti pada hasil judgement ahli desain pembelajaran yang menyatakan sudah layak berdasarkan kriteria sintaks model pembelajaran yang terintegrasi dari indikator keterampilan berpikir kritis dan pemecahan masalah. Sehingga desain pembelajaran ini bisa dibuat media pembelajaran berbasis AR.

Kata Kunci: Augmented Reality (AR), keterampilan berpikir kritis, keterampilan pemecahan masalah

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