

## ABSTRAK

**Osin Putra Nadeak: 5213121029. Analisis Keberhasilan Pelatihan CBT-ADeM dalam Meningkatkan Pengetahuan dan Keterampilan Petani pada Pengoperasian Mesin Penggiling Padi *Portable*. Skripsi. Fakultas Teknik Universitas Negeri Medan. 2025.**

Penelitian ini bertujuan untuk menganalisis efektivitas model pelatihan *Competency-Based Training – Authentic, Demonstration, and Mastery (CBT-ADeM)* dalam meningkatkan pengetahuan dan keterampilan petani pada pengoperasian mesin penggiling padi *portable* di Kecamatan Sumbul. Permasalahan utama yang ditemui di lapangan adalah rendahnya pemahaman petani mengenai prosedur pengoperasian, perawatan, dan keselamatan kerja pada penggunaan mesin, sehingga diperlukan model pelatihan yang terstruktur dan berbasis kompetensi. Penelitian ini menggunakan metode *quasi-eksperimen* dengan desain *one-group pre-test and post-test*, melibatkan 15 peserta pelatihan. Instrumen penelitian terdiri atas tes pengetahuan, lembar penilaian keterampilan, serta lembar observasi sikap. Data dianalisis menggunakan uji-t sampel berpasangan (*paired sample t-test*) pada taraf signifikansi  $\alpha = 0,05$ .

Hasil penelitian menunjukkan bahwa pelatihan *CBT-ADeM* efektif meningkatkan kompetensi peserta. Nilai rata-rata pengetahuan meningkat dari 59,47 pada *pre-test* menjadi 82,13 pada *post-test*, dengan selisih 22,66 poin. Pada aspek keterampilan, nilai rata-rata meningkat dari 62,37 menjadi 80,67, dengan selisih 18,30 poin. Hasil uji-t menunjukkan perbedaan signifikan pada kedua aspek (pengetahuan:  $t = -14,5885$ ; keterampilan:  $t = -15,0765$ ;  $p\text{-value} < 0,05$ ). Sementara itu, aspek sikap memperoleh rata-rata 95,56 yang termasuk kategori sangat baik. Temuan ini menunjukkan bahwa model pelatihan *CBT-ADeM* mampu memberikan peningkatan kompetensi secara menyeluruh. Dengan demikian, model *CBT-ADeM* layak diterapkan sebagai pendekatan pelatihan teknis bagi petani dalam pengoperasian mesin pertanian modern.

**Kata kunci:** Pelatihan *CBT-ADeM*, Kompetensi Petani, Mesin Penggiling Padi *Portable*, Pengetahuan, Keterampilan.

## ABSTRACT

*Osin Putra Nadeak: 5213121029. Analysis of the Effectiveness of CBT-ADeM Training in Improving Farmers' Knowledge and Skills in Operating Portable Rice Milling Machines. Undergraduate Thesis. Faculty of Engineering, State University of Medan. 2025.*

*This study aims to analyze the effectiveness of the Competency-Based Training – Authentic, Demonstration, and Mastery (CBT-ADeM) model in improving farmers' knowledge and skills in operating portable rice milling machines in Sumbul District, Dairi Regency. The main issue found in the field is the limited understanding of farmers regarding operational procedures, maintenance, and safety measures, which requires a structured and competency-based training model. This research employed a quasi-experimental method with a one-group pre-test and post-test design involving 15 participants. Research instruments included knowledge tests, skill assessment sheets, and attitude observation sheets. Data were analyzed using paired sample t-tests with a significance level of  $\alpha = 0,05$ .*

*The results indicate that CBT-ADeM training effectively enhanced participants' competencies. The average knowledge score increased from 59.47 (pre-test) to 82.13 (post-test), with a gain of 22.66 points. The average skill score increased from 62.37 to 80.67, with a gain of 18.30 points. The paired t-test results showed a significant difference in both aspects (knowledge:  $t = -14.5885$ ; skills:  $t = -15.0765$ ;  $p\text{-value} < 0.05$ ). Additionally, the attitude aspect achieved an average score of 95.56, classified as very good. These findings conclude that the CBT-ADeM training model effectively enhances farmers' competencies through authentic material presentation, direct demonstration, guided practice, and independent practice. Therefore, CBT-ADeM is feasible to be implemented as a technical training approach for farmers in operating modern agricultural machinery.*

**Keywords:** *CBT-ADeM Training, Farmer Competency, Portable Rice Milling Machine, Knowledge, Skills.*