

ABSTRACT

Pengembangan Model *Thematic Project Based Learning* pada Mata Kuliah *Embedded System*.

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This research is to develop Project Based Learning using the Borg and Gall development model that has been simplified by Puslitjaknov into 5 development steps. The development is Thematic Project Based Learning model In Embedded System course with Aiken's V for validity process. The Embedded System is a combination of Electronics, Physics, Electrical and Programming Language courses that are integrated to achieve project goals, so that in learning a thematic model of project-based learning is needed.

This research was conducted by applying quantitative and qualitative research methods with respondents 102 students divided into 54 control classes and 48 experiment classes derived from Pancabudi University Computer System students, and LP3I Medan Polytechnic Computer Engineering students, Research data collected through questionnaires Likert scale model, validity and practicality have been tested, and the data is then analyzed.

Produces such as (1). Thematic Project Based Learning Model Book in Embedded System courses, (2). Embedded System Learning Module, (3) Edmodo LMS Media Usage Lecturer Handbook, (4). Student Handbook on LMS Edmodo media usage. The Thematic Project Based Learning Model Syntax, namely (1). Start With the Essential Question, (2). Opening Material LMS and 3D Animation, (3). Create the Project Schedule, (4). Designing Hardware, Software, and Integrating, (5) Monitoring the Project, (6) Test Integration Results, (7). Evaluate the Project. The results stated that the Thematic Project Based Learning model was declared valid with an average score of 0.90, practicality with an average score of 92.65, effectivity with a gain score of 18.13, and psychomotor with a gain score of 6.67 that has been tested so that it is worthy of use in Embedded System courses.

Keywords: *Project Based, Thematic, Edmodo, Embedded System.*

ABSTRAK

Pengembangan Model *ThematicProjectBased Learning* pada Mata Kuliah *Embedded System*

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Penelitian ini merupakan penelitian pengembangan dengan tujuan mengembangkan *Project Based Learning* dengan menggunakan model pengembangan *Borg and Gall* yang telah disederhanakan oleh *Puslitjaknov* menjadi 5 langkah pengembangan. Pengembangan yang dilakukan adalah model *ThematicProject Based Learning* pada mata kuliah *Embedded System* dengan *Aiken's V* untuk proses validitas. *Embedded System* merupakan perpaduan antara mata kuliah Elektronika, Fisika, Kelistrikan dan Bahasa Pemrograman yang saling terintegrasi untuk mencapai tujuan proyek, sehingga dalam pembelajaran memerlukan model tematik pembelajaran berbasis proyek.

Penelitian ini dilakukan dengan menerapkan metode penelitian kuantitatif dan kualitatif dengan responden 102 mahasiswa yang dibagi 54 kelas kontrol dan 48 kelas eksperimen yang berasal dari mahasiswa Sistem Komputer Universitas Pancabudi dan mahasiswa Teknik Komputer Politeknik LP3I Medan, Data penelitian dikumpulkan melalui kuesioner model skala *Likert*, validitas dan praktikalitas sudah diuji, dan data kemudian dianalisis.

Penelitian menghasilkan produk seperti (1) Buku Model *ThematicProjectBased Learning* pada mata kuliah *Embedded System*, (2) Modul pembelajaran *Embedded System*, (3) Buku Panduan Dosen Penggunaan Media *LMS Edmodo*, (4) Buku Panduan Mahasiswa Penggunaan Media *LMS Edmodo*. Sintak Model *ThematicProject Based Learning*, yaitu (1). *Start With the Essential Question*, (2) *Opening Material LMS and 3D Animation*, (3) *Create the Project Schedule*, (4) *Designing Hardware, Software and Integrating*, (5) *Monitoring the Project*, (6) *Test Integration Results*, (7) *Evaluate the Project*. Hasil penelitian menyatakan bahwa model *Thematic ProjectBased Learning* dinyatakan valid dengan skor rata-rata 0,90, *kepraktisan* dengan skor rata-rata 92,65, *efektifitas* dengan *gain score* 18,13 dan *psikomotorik* dengan *gain score* 6,67 sehingga layak digunakan pada mata kuliah *Embedded System*.

Kata Kunci: *Project Based, Thematic, Edmodo, Embedded System.*