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## **A model of work-based learning in accordance with the concept of Kampus Merdeka in vocational education**

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**Abstract**--This study aims to determine the validity and practicality of the *work-based learning model* according to the concept of “Kampus Merdeka” in vocational education. The steps of research and development in this research are adapted from Borg and Gall. The validity and practicality of the model are evaluated by subject experts involving the learning model experts, media experts, assessment specialists, and linguists. To ensure the model practicality, three lecturers who taught the Batik course, two instructors from industry, and five students who are taking the Batik course are taken as the subjects to conduct a limited trial test. The instrument used in this study is the validity and practicality questionnaire. The analytical technique used is based on the Aiken test to observe and verify the model’s practicality. The results of the research shows that the validity and practicality of work-based learning model in accordance with the concept of “Kampus Merdeka” is classified as the valid category and very practical to be implemented in the learning process.

**Keywords**--validity, practicality, work-based learning, Borg, Gall.

## **Introduction**

Vocational education is an educational and training program that emphasizes the development of professional, practical, and real-world skills. It prepares learners to enter the workforce with the skills they acquire throughout the program. This program can certainly be an investment in the future to produce competent graduates if it is supported by relevant learning processes that are in accordance with the atmosphere of vocational education. Education plays an important role in improving the quality of human resources. In order to raise the standard of education, the government needs to establish several educational policies and have to implement a number of educational programs. The recent education policy launched by ministry of Education and Culture of Indonesia is “Merdeka Belajar” (freedom to learn). The development of education has become a top priority for Indonesia along with the advancement of the modern era which keeps moving forward. The government is aware that the country’s development is highly dependent on the quality of human resources.

One of the objectives of national education development is to improve the quality of education in Indonesia. Government attention is necessary to increase human resources for this reason. If left alone, Indonesia will always be left behind by other countries. Additionally, the rapid advancement of globalization requires Indonesian citizens to be able to keep up with it. By seeing how important the role of education is in the development of a country, the government is constantly working to raise the standard of education (Anjelina, et al, 2021). Currently, education has also entered the era of industrial 4.0 which conceptualizes rapid change to technology. The learning innovation in this era requires educators to be able to develop their creativity by applying the technology concept in the learning process (Muis, 2019); (Siregar, dkk, 2020) refers to the independent learning program initiated by Nadiem Makarim as the Minister of Culture of Indonesia in 2020.

The emergence of the “Merdeka Belajar” idea is based on the concerns of many parties where the learning process does not correspond to existing conditions in the real world. It does not bring the factual reality that is being discussed recently so it results in a split line between lectures and the real world. (Priatmoko and Dzakiyyah, 2020). This idea is in line with the concept of “Kampus Merdeka” which is a new concept in the scope of higher education learning, where students have freedom in learning. Some issues have arisen regarding the implementation of the “Merdeka Belajar” policy in education systems such as the application of the Merdeka Belajar concept at a practical level and its implications on curriculum management and assessment systems. Moreover, this policy certainly requires a rational learning innovation to encourage students to use internal and external learning resources by utilizing information technology. The competence enhancement in the 21st century has shifted from four criteria (4C) - Communication; Collaborative; Critical Thinking and Problem Solving; and Creativity and Innovation; to 6 criteria (6C) consisting of Critical Thinking; Collaboration; Creative Thinking; Character Education; Citizenship; and Communication to encourage lifelong learners. (Andari, dkk, 2021); (Philiyanti, Prasetyo, & Sari, 2021).

Some funding regarding the research about “Online Learning System for Kampus Merdeka: Innovative Learning In Covid-19 Pandemic” have been implemented. According to (Harijanto, 2021), it shows that students’ learning outcomes increased. (Huang et al., 2020; Azoulay, 2020) stated that the COVID-19 outbreak causes the learning activities to switch online in line with the policy of the ministry of education regarding “Merdeka Belajar” and “Kampus Merdeka” (Director General of Higher Education, 2020). Based on (Calhoun and Finch, 1982), the main mission of vocational education is to prepare students for jobs. In order for students to learn and use their skills in relevant areas based on what is needed in the workplace, work-based learning entails giving them real-world work experience. In the work (Amadi, 2013) states that *work-based learning* model exposes students to a variety of work settings to assist them in creating decisions about their future careers. Also, the cooperation of three parties involving students, educational institutions, and industrial entrepreneurs, will encourage the success of work-based learning. (Ismail, et al, 2015). (Watisin, et al, 2015).

The policymakers, educators, and communities can contribute to the development of Technical and Vocational Education Training (TVET) by supporting the incorporation of work-based learning into standardized TVET practices (Haruna, & Kamin, 2019). Then the findings from (Komariah, 2015) show that Work-Based Learning is able to improve students’ work skills, including dependability, cooperation, assessment skills, initiative, personality, and the capacity to respond to feedback and suggestions. It has been demonstrated that this learning model can help students move from having decent job abilities to having better ones in each indicator. The concept of “Merdeka Belajar” in *work-based learning* model has the characteristics of learning through the production of a project or product and the application of the process in the workplace.

Due to the projects, goods, and industry-related projects and training, the benefits of this developed model are appropriate for application in the vocational field and can help students become more proficient with assignments that result in items. Moreover, this model can also improve student skills with projects that produce products. The existence of projects in learning can spur students to be skilled (Fadilah, Maryono, & Wihidayat, 2019). Projects that result in products will enhance the students learning outcomes (Fadilah, Maryono, & Wihidayat, 2019). (Kuswandi, Surahman, Thariq, & Muthmainnah, 2018). The goal of this research is to create a work-based learning model for vocational education based on the concept of “Kampus Merdeka” which aims to improve students' 6C (Critical Thinking, Collaboration, Creative Thinking, Character Education, Citizenship, and Communication skills). The concept is adopted from a work-based learning model that emphasizes nuanced learning in the work environment, both in terms of adequate facilities, relevant technology, and relevant curriculum between campus and industry.

The concept of “Merdeka Belajar” and “Kampus Merdeka” allow students to have a freedom of learning to construct the project in industry. The project task combines learning steps, project clarity, project monitoring, reporting, and others that place an emphasis on creating an independent product and group product. The designed model in this research is developed in the Batik course which is one of the Indonesian methods of dyeing cloth and making it resistant using wax. This

course requires students to learn how to make batik and produce a product in the form of sheets of Batik cloth. By combining the ideas of work-based learning and researchers will improve the model's shortcomings in order to add a novelty element by fusing the ideas of “Merdeka Belajar” and “Kampus Merdeka”.

This model is also modified to fit the needs of the students, student characteristics, strategies, approaches, and learning techniques and is expected to be able to improve students' 6Cs -Critical Thinking, Collaboration, Creative Thinking, Character Education, Citizenship, and Communication in vocational education. The importance of this research can assist in resolving learning issues that have only been encountered in the classroom, have not yet been experienced in the workplace, and still have not been depicted in a way that meets the needs of the community and industry, preventing the end result from becoming appealing to consumers and having a high market value. The concept of Merdeka Learning - Merdeka Campus is a relatively new idea and has only been running since 2020, so it is necessary to make improvements and modifications with the application of various learning models so that the current learning model has the value of innovation and becomes effective learning. This research is conducted in the Batik course at the Kriya Seni ISI Padang Panjang (Art Craft Study Program), by carrying out a practicum that consist of project production assignments given in class at the Canting Buana Creative Batik industry, which is located in the Silaing, Padang Panjang. This article aims to measure the validity and practicality of the work-based learning model based on the concept of Kampus Merdeka in vocational education, so that practical model can be used in learning.

## **Method**

Research and development is the process of researching and developing a product so that it can be used in educational institutions. (Gay, Mills, and Airasian, 2011). Thus Research and Development are synonymous with conducting research related to product development with various processes or steps that must be carried out. In this study, the steps of the Borg and Gall model are used. This study assesses the practicality of the Blended Learning Model which has previously been declared valid. The subjects of the practicality test are three lecturers who taught the Visual Programming Courses. Then the trial test is carried out limited to five students. The data analytical technique employed is the Aiken test to observe the practicality of the developed model and a practicality questionnaire is used as the instruments to gather the data. The products evaluated for their practicality by the lecturers includes model books, textbooks, and lecturer manual books. Meanwhile, the students assess the practicality of model books, textbooks, and student manual books.

## **Results and Discussions**

A model of work-based learning based on the concept of Kampus Merdeka in vocational education which is applied in the Batik course has been developed as a result of this research. This model has been successful in creating a concept that embraces a work-based learning model and stresses learning that is nuanced in the work environment in terms of suitable facilities, relevant technology, and relevant curriculum between campus and industry. In the learning activities

adopted the concept of “Merdeka Belajar - Kampus Merdeka”, students have the freedom to learn how to accomplish projects in the industry. The project tasks usually are combined with learning steps available in the project-based learning model consisting of project clarity, project monitoring, and reporting that places more emphasis on producing independent and group products.

The developed model in this research consists of eight syntaxes as follows: 1) Learning orientation, 2) Identifying sources and solving problems, 3) Preparation of practice schedules in industry, 4) Independent learning in industry, 5) Monitoring of learning in the industry, 6) Selecting the focus of the object of batik work in the industry, 7) Presentation and reports according to the focus of the object in the industry, 8) Evaluating industry experience and learning outcomes. Once the model has been developed, then the validity and practicality tests are carried out. Validity test is performed in order to determine the accuracy and validity of the developed model product, while practicality test is used to determine the practicality or convenience of the developed model. The validity results of the product are as follows:

### Model Book Validation

In order to verify the model book validation, four experts from different expertise are involved in this assessment as a validator, namely: 1) Linguist, 2) Model expert, 3) Information and Technology expert, and 4). Vocational and assessment experts. The book product of the work-based learning model in vocational education based on the concept of “Kampus Merdeka” can be seen in Figure 1.

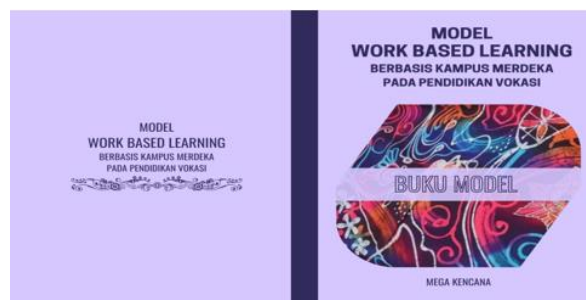


Figure 1. The Model Book of Batik Course

The validation results of the model book can be seen in Table 1.

Table 1  
Validation results of Model Book

Rational Model	Supporting Theory	Model Syntax	Social System	Reaction Principle	Supporting System	Instructional Impact and Accompaniment	Average Score
0,9	0,88	0,89	0,89	0,88	0,87	0,9	0,89

The validation results listed in table 1 declare that: 1) The rational model has an average score of 0.9 with a valid category, 2) Supporting theory for the model acquires an average score of 0.88 with a valid category, 3) The average score of model syntax is 0.89, 4). The social system average score is 0.89, 5). The Principle Reaction average score is 0.88, 6). The support system average score is 0.87. 7). Instructional Impact and accompaniment has an average score of 0.9. In general, the overall assessment indicator for the model book is 0.89 (average value) and it is classified as a valid category.

### Teaching Modul Validation

The validation of teaching modul for Batik course is carried out by expert in that field. The product for the teaching module in the batik courses is shown if Figure 2 and the validation results of this teaching module can be seen in Table 2.



Figure 2. Teaching module of Batik course

The results of the validity of the teaching module can be seen in the following table:

Table 2  
Validation Results of Teaching Module

Components of Content Eligibility	Components of Language Eligibility	Components of Graphics	Components of Eligibility of Serving	Average score
0,85	0,87	0,86	0,87	0,86

From the table 2, it can be concluded that the validation results of the teaching module as follow: Hasil dari validasi modul ajar mata kuliah batik yakni pada indikator 1). Components of Content Eligibility are categorized as valid with an average score is 0.85, 2) Components of language eligibility have an average score of 0.87. It is also categorized as valid, 3) Components of Graphics is also classified in the valid category with an average score is 0, 86 4), Components of Eligibility of

Serving has an average score of 0, 87. Therefore, the overall score for the assessment of the teaching module validation is 0, 86 which is defined as valid.

### Lecturer Guidebook Validation

The lecturer's guidebook for the work-based learning model in vocational education based on the concept of Kampus Merdeka can be seen in Figure 3.

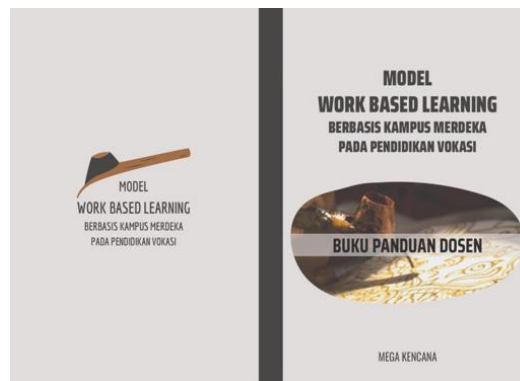


Figure 3. Lecturer Guidebook for Batik Course

The validation of the lecturer guidebook for the *work-based learning* model that adopt the concept of “Kampus Merdeka” in vocational education is presented in Table 3.

Table 3  
The validation results of the lecturer guidebook

Writing Format	The use of Language	Introduction	Content Aspect	Evaluation System	Average Scores
0,88	0,9	0,89	0,87	0,89	0,88

The validation results presented in table 3 state that: 1) The writing format acquires an average score of 0.88, 2) The use of language has an average score of 0.9, 3) The average score of introduction is 0.89, and 4). The content aspect gets an average score of 0.87, 5). The evaluation system's average score is 0.88. Overall, the validation result of the lecturer guidebook is classified in the valid category with an overall average score is 0.88.

### Student Guidebook Validation

The student guidebook for the work-based learning model in vocational education based on the concept of Kampus Merdeka can be seen in the Figure 4.



Figure 4. Student Guidebook for Batik Course

The validation results of the student guidebook is shown in Table 4.

Table 4.9  
Student Guide Validation Results

Writing Format	The use of Language	Introduction	Content Aspect	Evaluation System	Average Scores
0,89	0,88	0,89	0,87	0,9	0,89

The validation results presented in table 4 declare that: 1) The writing format acquires an average score of 0.89, 2) The use of language has an average score of 0.88, 3) The average score of introduction is 0.89, 4). The content aspect receives an average score of 0.87, 5). The evaluation system's average score is 0.9. Overall, the validation result of the lecturer guidebook is categorized as valid with an overall average score is 0.89.

### Instructur Manual Book Validation

The instructur manual book for the *work-based learning* model in vocational education based on the concept of Kampus Merdeka can be seen in Figure 5 and its validation results is presented in Table 5.



Figure 5. Instructur Manual Book for Batik Course

Table 5  
Validation Results of Instructur Manual Book for Batik Course

Writing Format	The use of Language	Introduction	Content Aspect	Evaluation System	Average Scores
0,89	0,91	0,88	0,9	0,91	0,9

The validation results presented in table 5 state that 1) The writing format acquires an average score of 0.89, 2) The use of language has an average score of 0.91, 3) The average score of introduction is 0.88, and 4). The content aspect obtains an average score of 0.9, 5). The evaluation system's average score is 0.9. Overall, the validation result of the lecturer guidebook is categorized as valid with an overall average score is 0.9.

The practicality test results of the product are explained as follows,

### **Student Practicality Test**

The results of the limited assessment for practicality testing carried out on 5 students with the high, medium and low abilities is presented in Table 6.

Table 6  
The results of the limited assesment for student practicality test

Explanation	Score
The Practicality of Model Books	0,90
The Practicality of Teaching Modules	0,91
The Practicality of the Student Guidebooks	0,89
Average scores	0,9

The results of the limited assessment for the student practicality test of the product consist of 1) The Practicality of Model Books with a score is 0, 90. This score is declared as very practical 2) The Practicality of Teaching Modules has a score of 0.91 in a very practical category. 3) The Practicality of the Student Guidebooks with the score is 0, 89 and this score is also categorized as very practical. According to the results obtained from the test, it can be concluded that this instrument is very practical to be implemented.

### **Lecturer Practicality Test**

The results of the limited assessment for practicality testing carried out on three lecturers is presented in Table 7.

Table 7  
The results of the limited assesment for lecturer practicality test

<b>Explanation</b>	<b>Score</b>
The Practicality of Model Books	0.87
The Practicality of Teaching Modules	0.89
The Practicality of the Student Guidebooks	0.89
Average scores	0.88

The results of the limited assesment for practicality testing carried out on three lecturers consist of : 1) The Practicality of Model Books with the average score is 0.87, 2) The Practicality of Teaching Modules with the average score is 0.89, and 3) The Practicality of the Student Guidebooks with the average score is 0.89. Overall, the practicality test results are defined as very practical to be used in the learning process.

### **Instructor Practicality Test**

The results of the limited assesment for practicality testing carried out on two instructors are presented in Table 8.

Table 8  
The results of the limited assesment for instructor practicality test

<b>Explanation</b>	<b>Score</b>
The Practicality of Model Books	0,89
The Practicality of Instructor Guidebooks	0,88
Average scores	0,89

The results of the limited assessment for practicality testing carried out on two instructors consist of 1) The Practicality of Model Books with an average score is 0.89, 2) The Practicality of Instructor Guidebooks with an average score is 0.88. Overall, the practicality test results are declared as very practical to be used in the learning process. Based on the validity and practicality test that have been carried out on lecturers, students, and instructors in developing a work-based learning model based on the concept of “Kampus Merdeka” in vocational education, the results demonstrate that the validity and practicality of the developed products such as the model books, batik course modules, lecturer guidebooks, student guidebooks, and instructor guidebooks are categorized as valid and practical. According to Purwanto (2010), if a product is deemed practical, it can be used to enhance learning.

## Conclusions

In order to implement a learning model, it is necessary for the developed model to be realistic and valid from the perspectives of lecturers, students, and instructors so that the model is in accordance with the current education system. In addition, the model must also outline simple-to-follow procedures for the learning process. According to the results of the validity and practicality carried out on the developed products developed including model books, Batik course modules, lecturer manual books, student manual books, instructor manual books, it can be concluded that all the test results can be defined as a valid category and very practical to be implemented in the learning process.

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