

Developing a Problem Based Instruction Learning Model in Creative Entrepreneurship Product Subject to Achieve Entrepreneurial Competency and Business Creativity

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ABSTRACT

Entrepreneurship education plays a very important role in preparing the younger generation to face the dynamics of modern business. In order to meet these demands, the focus of this research is the development of the Problem-Based Instruction (PBI) Learning Model in the subject of Creative Entrepreneurship Products at the Vocational High School (SMK) level. The aim of this research is to examine the effectiveness of PBI in improving students' entrepreneurial competence and business creativity. The method in this research is the ADDIE development method with research subjects as vocational school students. In the introductory stage, the importance of entrepreneurial competence and business creativity in the era of globalization and economic transformation is emphasized. The Entrepreneurship Creative Products subject at SMK offers an ideal platform to develop these skills. The PBI model was chosen because it emphasizes student-centered learning and contextual problem solving. Using a development research approach, this research involves the stages of problem definition, model design, material development, implementation and evaluation. It is hoped that the results of this research can contribute to the development of a learning model that combines entrepreneurial competence and business creativity through the PBI approach. Through the application of the PBI Model to the Creative Entrepreneurship Products subject, it is hoped that students will be better prepared to face future business

challenges with broader insight and stronger skills.

Keywords: problem based instruction, entrepreneurial competence, business creativity

INTRODUCTION

Entrepreneurship education plays a key role in developing the skills, insight and attitudes needed to become successful business people in the dynamic modern era. (Turmuzi et al., 2022) Global economic transformation and technological developments have changed the business landscape significantly. In facing this challenge, students need to be equipped with strong entrepreneurial competencies and sufficient business creativity to encourage innovation and sustainable economic growth. In the midst of these changes, entrepreneurship education has a central role in forming quality entrepreneurial candidates. (Subroto, 2015) Vocational High Schools (SMK) have a strategic role in providing a foundation of practical skills to students. (Achdiani et al., 2017) In this regard, one of the topics that sticks out is Creative Entrepreneurship Products. Students can express their creative potential, create products based on innovation, and gain a deeper understanding of business dynamics through this course. Yusuf & Mukhadis, 2018).

However, conventional learning approaches are often unable to accommodate the needs for more dynamic entrepreneurial development and business creativity. Therefore, the need for innovative and contextual learning approaches is increasingly emphasized. (Harnani, 2020) (Piiro, 2011) One approach that shows great potential in facilitating entrepreneurship-oriented learning is the Problem-Based Instruction (PBI) Learning Model. Students are invited to play an active role in analysing problems, formulating solutions, and collaborating with classmates. This approach encourages critical thinking, analytical skills, and the ability to work in teams – all aspects that are crucial in facing the challenges of an increasingly complex business world. Within this framework, this research aims to develop and implement the Problem-Based Instruction Model in the subject of Creative Entrepreneurship Products at Vocational Schools. Apart from that, this research also aims to test the effectiveness of the Problem-Based Instruction Model in increasing students' entrepreneurial competence and business creativity. By designing and implementing learning models that suit student needs and the demands of the current business world, it is hoped that this research can make a real contribution to the development of entrepreneurship education at the vocational school level. Thus, this research has an important objective in presenting a learning approach that is more responsive to students' future needs, preparing them to become innovative, adaptive, and successful business practitioner in an increasingly complex and changing business environment

By designing and implementing learning models that are relevant to student needs and modern business challenges, it is hoped that this research can make a significant contribution to the development of entrepreneurship education at the vocational school level. Through the application of the PBI Model, students are expected to experience a deeper and more meaningful

learning experience. They not only learn about entrepreneurship, but also experience it first-hand. The concepts learned in class are applied in solving real problems, creating a closer connection between theory and practice. (Yulidatullah, 2018) (Material for measuring class resistor values at State Vocational Schools et al., 2018). In the context of rapid economic and business development, the results of this research also have broader implications. It is hoped that the results of this research can provide practical recommendations for educators and policy makers in the education sector to improve learning about Creative Entrepreneurship Products. Furthermore, the results of this research can be an inspiration for further research on developing learning models that are responsive and relevant to the future needs of entrepreneurs. A problem-based learning approach has the potential to form a generation of entrepreneurs who are innovative, adaptive, and ready to face increasingly complex business challenges in the future. Therefore, this research encourages further exploration of learning approaches that focus on creativity, entrepreneurship and business readiness of vocational school students.

LITERATURE REVIEW

The Problem-Based Instruction (PBI) Learning Model

In many cases, conventional top-down learning methods are not always effective in forming the entrepreneurial skills needed by students to face modern business challenges. (Erni Ratna Dewi, 2018) (Trianto, 2020) Learning that relies on theoretical explanations by teachers is often unable to develop critical thinking, problem solving and creativity skills that are important in entrepreneurship. Therefore, the need arises for a more innovative and student-centered learning approach. The Problem-Based Instruction (PBI) Learning Model offers an approach that focuses attention on students as the center of learning and integrates real problem solving in their learning experiences. (Nafiah & Suyanto, 2014)

(Yunin Nurun Nafiah, 2014) PBI stimulates students to identify, analyze, and solve real problems relevant to the business world. In the context of Creative Entrepreneurship Products subjects, this approach allows students to connect theoretical concepts with real situations in the market. Through the application of PBI, students not only understand the basic principles of entrepreneurship and innovation, but also have the opportunity to apply this knowledge in real contexts. They serve as active “problem solvers,” seeking creative solutions to the entrepreneurial challenges they face. PBI also promotes teamwork skills, critical thinking, and effective communication skills.

Application of Problem Based Instruction Learning Model in the subject of entrepreneurial creative products

The problem based instruction learning model focuses learning on solving real problems that are relevant to real life and the business environment. (Fristadi & Bharata, 2015) (Glazeer, 2001.)Through the application of the Problem Based Instruction learning model, students are expected to not only gain a theoretical understanding of entrepreneurship, but also have the opportunity to apply these concepts in real world situations. (Pradnyadinata et al., 2018) (W. Pradnyadinata, 2018) (Leola Dewiyani, 2017) (Dewiyani & Kosasih, 2017) This will enable students to develop critical, innovative and solution thinking skills. In addition, the PBI Model also facilitates teamwork, effective communication, and the ability to solve problems collaboratively – skills that are important in entrepreneurship. In this research, the development research approach will be used as the main method. Systematic development steps will be followed, including the stages of problem definition, model design, material development, implementation, and evaluation. It is hoped that the results of this research can provide practical guidance for the development of learning models that

combine entrepreneurial competence and business creativity in Creative Entrepreneurship Products subjects at vocational schools.

In the context of entrepreneurship education, vocational high schools play an important role in equipping students with practical skills relevant to the ever-changing business world. The subject of Creative Entrepreneurship Products has a special role in stimulating creativity, innovation and the application of business concepts in the development of products that have market value. However, challenges arise in integrating these concepts into a learning approach that focuses on business practices and realities.

MATERIALS & METHODS

This research will use the ADDIE Research and Development approach (Analysis, Design, Development or Production, Implementation or Delivery and Evaluations) developed by Dick and Carry (Mulyatiningsih, 2016) With structured stages to develop, implement and test the Problem-Based Instruction (PBI) Learning Model in the subject of Creative Entrepreneurship Products at the Vocational High School (SMK) level. The subjects of this research were 30 Vocational School students in the Fashion Department. The stages in this research are: 1) analysis stage, namely by developing research instruments and validating them by teach design experts, scientific field experts and learning media experts. 2) The next stage is design, namely designing a problem based instruction learning model in the subject of Creative Entrepreneurship Products which includes selecting real problems, preparing learning scenarios, designing assignments and evaluating learning. 3) The third stage is developing creative Entrepreneurship Product learning materials that can be used with Problem based instruction learning model. 4) the next stage is the implementation stage, namely implementing the PBI learning model with limited trials and field trials. 5) The final stage of the

ADDIE model is the evaluation stage, namely data collection and analysis of field test data. Qualitative data will be obtained through classroom observations based on instruments that have been validated by three experts like experts in the field of learning design, experts in the field of entrepreneurship and learning media experts.

Field notes are also carried out to obtain data on understanding student interactions, student participation and also learning dynamics. (Basril et al., 2022) Quantitative data analysis using pre and post. The criteria for the effectiveness of the learning model are as in table 1 below.

Table 1. Criteria for model effectiveness

Score	Qualification	Information
3,33 < Score < 4,00	Very Good	Very Good To Use
2,33 < Score < 3,33	Good	Can be used with minor revisions
1,33 < Score < 2,22	Fair	Can be used with major revisions
Score <= 1,33	Low	Must not be used

Source: (Ninu Widiarini, 2016)

The design for this research trial uses a one group pre test-post test design (Fraenkel et al., 2012) with the following pattern:

Table 2 One group Pretest-Posttest Design

O ₁	X	O ₂
Pretest	Treatment	Posttest

The pre-test was conducted by providing intervention and then carrying out initial measurements on the research subjects. After carrying out the pre-test, then carry out a second measurement (post-test) using the same instrument. Data analysis using the t-Test (Paired t-test) after testing the data for normality.

RESULT AND DISCUSSION

This research instrument was validated by experts in the field of learning design, experts in the field of science and experts in learning media, showing that the problem based instruction learning model in the subject of Creative Entrepreneurship Products includes: 1) Theory that supports the Problem Based Instruction (PBI) learning model 2) Background to the development of the PBI learning model in creative entrepreneurial product subjects 3) Objectives of developing the PBI learning model 4) Understanding and developing Creative Entrepreneurship Product material with the PBI learning model 5) Approach to

the problem based instruction learning model 6) Quality of guidance and direction given by teachers in implementation problem based instruction learning model on entrepreneurial creative product subjects 7) Description of the PBI learning model 8) Syntax (steps of the problem based instruction learning model 9) Problem based instruction social system 10) Evaluation and assessment of entrepreneurial creative product subjects using the problem learning model based instruction 11) Expected learning outcomes using the problem based instruction learning model. The validation results can be seen in the table below:

Table 3. Validation Results of the Problem Based Instruction Learning Model

Validators	Score	Average
Learning Design	37	3,36
Field of Entrepreneurship Science	37	3,36
Instructional Media	36	3,27

The learning design (teaching module) which includes the theory that supports the learning model, background, learning objectives, understanding of the material, learning approach, description of the problem based instruction learning model, syntax and evaluation and learning results are declared valid with the average score from the validator being 36. 67 or 83.33%, so it is stated that the instrument can be used as a tool for collecting data in the field. The validity of the instrument is very important because it ensures that the problem-based

instruction learning model has a theoretical basis and its design is in accordance with the needs and characteristics of students (Susanto, 2015).

The problem based instruction learning model used in the Creative Entrepreneurship Product subject has several revisions which can be seen in table 4 below:

Table 4. Revised PBI Model in the subject of Creative Entrepreneurship Products

Validator	Revision
Learning Design	The syntax of the Problem Based Instruction learning model is further clarified. Group presentations must be clear and even
Field of Entrepreneurship Science	The measurability of learning objectives must be adjusted to the material provided. The group team identifies problems and solutions as a way out of the problem
Instructional Media	The teacher's guide as a facilitator is more detailed and clearer as well as a guide for students. It is recommended that students study the guidelines and materials first so that discussions and presentations run smoothly

Before conducting the trial, revisions and input from the three validators were done in order to improve the research instruments. The next stage is to carry out field tests and analyze the data to determine the normality of the data. The test uses the Shapiro Wilk Test because the data is below 100 (Andi Quraisy, 2020) (Razali, N.M. and Wah, Y.B., 2011). To make a decision whether the data is normally distributed or not, you need to look at the significance value. If the significance value is >0.05 , it is said that the data is normally distributed.

Table 5. Normality Test Results

	K-S test statistic (D)			Shapiro- Wilk Test		
	Statistic	df	Sig.	Statistic	df	Sig.
Pretest	.117	30	.200*	.936	30	.071
Post test	.095	30	.200*	.968	30	.477

From table 5 of the data normality test, it is known that the df (degrees of freedom) value for the pre-test and post-test is 30,

therefore testing using the Shapiro Wilk test is said to be appropriate. From the table above it can also be seen that for the pretest $\text{Sig.} > \alpha 0.05$ because $0.071 > 0.05$ and for the posttest $0.477 > 0.05$. So it can be said that both the pre-test and post-test are normally distributed, so the data can be used for further testing, namely to find out whether there is a difference between the pre-test and post-test using the Problem Based Instruction learning model in the Creative Entrepreneurship Product subject. (13) The next analysis is to carry out the Paired sample T test. This test was carried out to find out whether there was an average difference between the same samples treated before and after using the problem based instruction learning model. From the test results using SPSS, the following data was obtained:

Table 6. Paired T- Test

Test	n	Discriptive statistic	Paired sample correlation		Paired T- Test			
		M (Std. D)	n	Correlation	Sig	t	df	Sig (2 – tailed)
Pre Test	30	72.57 (8.63)	30	0,423	0,020	-13.566	29	.000
Post Test	30	92.03 (4.43)						

From the table above, the mean or average of testing (Pre-Test) before using the problem based instruction learning model was 72.57 with a standard deviation of 8.63 and the test value after treatment using the problem based instruction learning model was 92.03 with a standard deviation of 4.43, and a correlation of 0.423 with a probability value (Sig.) $0.020 < 0.05$. A correlation of 0.423 indicates that the

correlation before and after using the problem-based instruction learning model in the Creative Entrepreneurship Products subject has a correlation. Meanwhile, the results of the Paired sample t-test show a significant number between the pre-test and post-test with a significance value (2-tailed) $p = 0.000, < 0.05$ as in table 3 above, it can be said that the null hypothesis in this study is rejected and the alternative hypothesis

(Ha) is accepted, which means there is a difference between the pre-test and post-test, so it can be said that there is a change in increasing entrepreneurial competence and business creativity.

By using the problem-based instruction learning model, which is a learning model that focuses on solving real problems with the teacher as a facilitator, because with this learning model students are given the opportunity to improve their entrepreneurial competence and also how they can be creative in doing business (Made Jayahartwan, 2022). The research subjects, namely vocational school students majoring in Fashion Design, they developed an analysis of how to start a business in the field of fashion design who also studied digital marketing which of course had to master business aspects which are the key to entrepreneurial success (David Hidayaatullah, 2022). Student involvement in real case studies provides practical experience for students, for example when they are involved in a fashion show in Jakarta, where of course they will work together in small teams to be creative in creating fashion trends. This practical experience impacts their business decisions. (Musa Pelu, 2019).

The problem based instruction learning model in the Creative Entrepreneurship Products subject can stimulate students to reflect after they study case studies and problems in the real world, where of course the teacher plays an active role as a facilitator and provides guidance and feedback to students during the problem solving process by discussing. (Reni Ika, 2018)

CONCLUSION

The use of the problem-based instruction learning model in this entrepreneurial creative product subject requires team collaboration of students who work together to solve problems, so that a reflection of the actual business environment can be discussed together. This learning model also stimulates student creativity and encourages

students to think creatively in finding solutions when there are problems. Out-of-the-box ideas are also an important aspect in business development. Through learning that involves students and connects with real business problems, it will give students experience as a provision in facing business competition in the future.

Declaration by Authors

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