

Module Validity (M-BMC) Project Based Learning Methods for The Topic of Business Model Canvas

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Abstract

Project-based learning is one of the learning strategies that can be implemented to attract students' interest and improve students' understanding of the business model canvas concepts learned. This study was conducted to develop a project-based learning module for the business model canvas topic for agricultural vocational college diploma students. The module was developed based on Dick and Reiser's (1996) design model and adapted from Sidek's module construction model, however this study only focuses on evaluating the validity of the module. This module is developed by integrating nine elements that are in the business model canvas. The module was developed to apply a project-based learning strategy involving mind canvas mapping. The findings of the study show that the module has a high percentage of expert agreement which is 93% for face validity and 97% for content validity. The module is expected to attract the interest of agricultural vocational college diploma students to learn the business model canvas topic and apply entrepreneurial skills, critical and creative thinking skills, 21st century skills and high-level thinking skills in students. The implication of this study is that the project-based learning module that was developed can help lecturers in the implementation of teaching and learning methods in vocational colleges to improve students' understanding of the business model canvas concept in order to carry out entrepreneurial projects in vocational colleges.

Keywords: Development, Learning Module, Project Based Learning

Introduction

The Malaysian Education Development Plan 2015-2025 (Higher Education) or PPPM (PT) was drafted based on the vision and aspirations of PPPM in educating talented, skilled and knowledgeable students to be ready to face the challenges of the 21st century. The Ministry of Education has outlined strategies and initiatives to provide a balanced education between knowledge and morals, as well as encouraging students to cultivate an entrepreneurial mindset. In connection with that, PPPM's first leap (PT) in producing holistic, entrepreneurial

and balanced graduates. In realizing these wishes, among the initiatives focused by the Ministry and IPTA/S is to improve the learning experience of students by designing curriculum and implementing programs through further expanding collaboration with the industry, increasing experience-based and service-based learning to develop skills suitable for learning 21st century. In framing the effort, a variety of appropriate recommendations were made to improve learning with the needs of students (personalized learning) in the classroom. Education and skills training are focused on developing entrepreneurship in students as well as entrepreneurial skills. The implementation of entrepreneurial elements is also planned and implemented with the aim of providing more career paths for vocational education graduates in vocational colleges to produce 10% graduates as entrepreneurs as targeted by the ministry. In 2019, the entrepreneurship course (UES 3012) of the vocational college was improved by introducing a new topic which is the business model canvas Hapsari et al (2023) the business model canvas topic is a management tool that allows individuals to describe, design, create and present models the business to be run. The elements found in this business model canvas provide a structured approach to easily understand each key component of the business and how those components interact with each other. According to a study by Kamarudin et al. (2022) showed that the use of effective teaching models can improve student learning in the Principles of Accounting subject, therefore in the context of teaching a business model canvas, the use of teaching aids can help visualize the concepts taught, increase student understanding, and increase interaction between lecturers and students and lecturers can convey information more clearly and effectively to students. Therefore, lecturers are necessary creative in developing and using appropriate teaching aids to improve teaching and learning specifically in the business model canvas teaching. According to the study of Hutasuhut et al (2020) teaching aids such as modules can help students who have difficulty explaining concepts and understanding the relationship between each element found in the business model canvas to produce good business ideas. This module was developed based on Dick and Reiser's (1996) design model and adapted from Sidek's module construction model, however this study only focuses on evaluating the validity of the module. This module is developed by integrating nine elements that are in the business model canvas. The module was developed to apply a project-based learning strategy that involves mapping the canvas of the mind so that students carry out entrepreneurial projects.

Entrepreneurship learning modules at the vocational school level are more in lectures, product sales assignments, and observations. The matter has been discussed in relation to education issues in Malaysia, there is feedback from the industry and related bodies about vocational college graduates still lacking in entrepreneurship skills (Ministry of Education Malaysia, 2013). Entrepreneurial skills are important to ensure that graduates are able to compete in the market and can build career opportunities without having to depend on any party. In addition, entrepreneurship courses at the vocational college level still use traditional teaching techniques where teaching is in the form of lectures and giving notes. This situation only provides theoretical knowledge and the basis of entrepreneurship will be limited without the practical skills that are seen to be able to complement the learning outcomes and through experience and practice are able to generate students' enthusiasm and interest in entrepreneurship (Radzi & Ghani, 2021).

According to the study of Hutasuhut et al (2020), entrepreneurship education must be geared towards learning activities that can increase understanding, knowledge about business and entrepreneurship for those who want to become an entrepreneur. The level of students'

knowledge about entrepreneurial readiness affects their desire for entrepreneurship. For this reason, entrepreneurship education at the University must be designed with various learning activities that can form the personal value of entrepreneurship. However, entrepreneurship learning so far is still at a minimal level in diversity and does not use many models that lead to the formation of values (affection).

According to Noh et al (2020) in generating income is positive and understanding increases as well as the effectiveness of this business model canvas based on the results of a study of student acceptance rates using the business model canvas. In addition, the purpose of this business model canvas in learning to improve students' knowledge or learning outcomes in entrepreneurship. From the results of the survey, one can also refer to the previous concern, because the business model canvas is the best medium to present and provide students with information about business ideas and the environment, regardless of their educational background. The results of this study are expected to help solve the problems of students from all walks of life who find it difficult to generate ideas and business environments from reading articles on business model canvas. The impact of this study is that students' interest in the field of entrepreneurship increases, facilitating the process of students starting a business in the field of interest as well as managing the risks and problems that will be encountered.

According to Husna et al (2020) research findings show that there is a relationship between the entrepreneurship curriculum with entrepreneurial intentions. The findings of the study show that it is in line with the results of several previous studies that found that the entrepreneurship curriculum can have an impact on students' intentions towards entrepreneurship. Meanwhile, based on the results of a study by Alias & Ismail (2021) it was found that students' intention to become entrepreneurs increases, when high self-efficacy is found in students. Self-efficacy is the main factor that forms the entrepreneurial attitude of students. However, the study also shows that if students experience the real world of entrepreneurial activities in entrepreneurship education activities, these activities reduce students' desire to become entrepreneurs. Therefore, entrepreneurship education activities should be carried out in a different form, more interesting and capable of encouraging students to produce innovation and creation and subsequently choose entrepreneurship as a career.

According to Shapri & Che Ahmad (2020), a level of validity and reliability is required to ensure that the module is suitable for development purposes and that the content of the module is valid and usable. According to Anizar et al (2018) who also agree with this statement, it is suggested that learning content experts and users need to test and evaluate the validity and reliability before the project-based learning module (M-BMC) will be used for students. Therefore, the study to test the validity and reliability of the project-based learning module for this business model canvas topic uses a teaching design based on the Dick and Reiser (1996) model and the theory underlying the development of the module is the pad theory and meaningful learning in developing quality modules.

Methodology

This study is a quantitative study that uses survey research methods to collect data through questionnaires to identify the validity of the module. According to Ghani & Aris (2012), the

validity of module content is determined by the opinion of experts who are qualified and knowledgeable in the field of language, education and modules. According to Aliff Nawi et al. (2015), module validity refers to the accuracy of the concept and content of a module. The developed module needs to be evaluated and viewed by experts in the chosen field to obtain the validity of the content of the module. Expert opinion is important because there is no complete objective method to explain the content validity of an instrument even by using a statistical approach (Polit & Hungler, 1991). Therefore, the developed module is determined to be validated first before being used by the study respondents. The validity of the developed module takes into account two main aspects, namely the validity of the content and the validity of the language. However, the main focus is on the validity of the module content. After the project-based learning module (M-BMC) for the business model canvas topic is built, a review from the language and content aspects of the module is done first. The validity of the content and language in the developed module is done through expert verification to see the content and language usage of the module as a whole. There are five things that are evaluated for the validity aspect of the module content. Meanwhile, there are five main things that are evaluated for the aspect of language use in the developed module, namely: a) The content of this module meets the target population., b) The content of this module is implemented perfectly, c) The content of this module is appropriate to the time allocated the content of this module can improve the student's achievement performance e) The content of this module can change the student's attitude towards excellence. A total of nine expert panels were selected to validate the content of the module based on their expertise in Entrepreneurship and Business, Education, Technical and Vocational Education, Entrepreneurship and Technical and Vocational Education, Business Management Studies and Lecturers who teach entrepreneurship courses. In addition, the review of the developed module is also to obtain validity from the aspect of understanding the module and the accuracy of the language used. The module developed uses the appropriate Malay language and terms. The module developed is reviewed by a Malay teacher so that the module is easy to understand by students and lecturers who teach entrepreneurship courses. All nine members of the validity expert panel meet the characteristics that have been set. Validation by a panel of experts was carried out to determine whether the content of the developed module could really be tested. Table 1 shows a list of the panel of validity experts involved in this research.

Table 1

List of validity expert panel

Bil	Name	Expertise
1	Academic Lecturer	Doctor of Philosophy university lecturer in the field of Entrepreneurship and Business..
		IPG lecturer with the rank of Doctor of Philosophy in the field of education
		University lecturer with the rank of Doctor of Philosophy in Technical and Vocational fields
		University lecturer with the rank of Doctor of Philosophy in the field of Entrepreneurship and Technical and Vocational Education.
		University lecturer with the rank of Doctor of Philosophy in the field of Business Management Studies.
2	Entrepreneurship Course Lecturer	Entrepreneurship Course Lecturer at vocational college.
3	Language Lecturer	Vocational College Malay Language Lecturer

Each expert was given a set of questionnaires on content and language validity to determine the level of content and language of the module according to Russell's (1974) view. Validity values are calculated using Sidek and Jamaluddin's formula. The expert evaluation results were calculated using the percentage of expert agreement formula proposed by (Sidek and Jamaludin, 2005). Based on figure 1, the expert agreement percentage formula used to obtain the content validity results of the project-based learning module.

There are five response options in the form of a five-point Likert scale, namely Strongly Agree (5), Agree (4), Not Sure (3), Disagree (2) and Strongly Disagree (1). Questionnaire to determine the validity of the module content. The calculation of the percentage validity of the module content in figure 1 is the total expert score divided by the total maximum score then multiplied by 100. The expert score is based on a Likert scale determined where as an example of a five-point Likert scale is divided by the product of the five-point Likert scale by the number of statements and multiplied by 100 Then the results obtained According to Sidek and Jamaludin (2005); Tuckman & Waheed (1981), achieving validity of 70 percent or above is considered to have high module content validity. To calculate the level of agreement of validity of the content of the module, the total score filled by the expert (x) will be divided by the total actual score (y) and multiplied by 100.

Here is the formula:

$$\frac{\text{Total Expert Score (x)}}{\text{Content}} \times 100\% = \text{Validity Achievement}$$

Figure 1 Calculation of content validity percentage

Results of the Study*Validity of Module Content (M-BMC)*

The content validity of the module was evaluated by experts selected to determine the level of content validity of the project-based learning module (M-BMC). The analysis results from the content validity of the project-based learning module (M-BMC) for the business model canvas (BMC) topic that was evaluated by a panel of 9 validity experts are based on the module content validity questionnaire by Rusell (1974) which was modified by Sidek and Jamaludin Ahmed (2005). Table 1 shows the content validity of the project-based learning module (M-BMC):

Table 2

Module Content Validity Results

Experts	Item					Total percentage
	The content of this module meets its target population.	The content of this module is executed perfectly	The content of this module corresponds to the time allotted.	The content of this module can improve student's achievement performance.	The content of this module can change the attitude of students towards excellence.	
P1	5	5	5	5	5	1.00
P2	4	4	4	4	3	0.76
P3	5	5	4	5	5	0.96
P4	5	5	5	5	5	1.00
P5	5	4	4	5	4	0.88
P6	5	4	4	5	4	0.88
P7	5	5	5	5	4	0.96
P8	5	5	5	5	5	1.00
P9	4	4	5	5	5	0.92
						0.93

Based on Table 2 shows the overall percentage of sessions and module activities (M-BMC) of project-based learning 0.93% for each session and activity that has been confirmed by validity experts. This means that the level of validity of the project-based learning module (M-BMC) is reliable and usable. Experts have also provided written comments related to the content of the module so that improvements can be made in the module.

Table 3

Overall Content Validity Value of the Module

Experts	Item				
	The content of this module meets its target population.	The content of this module is executed perfectly.	The content of this module corresponds to the time allotted.	The content of this module can improve the student's achievement performance.	The content of this module can change the attitude of students towards excellence.
P1	5	5	5	5	5
P2	4	4	4	4	3
P3	5	5	4	5	5
P4	5	5	5	5	5
P5	5	4	4	5	4
P6	5	4	4	5	4
P7	5	5	5	5	4
P8	5	5	5	5	5
P9	4	4	5	5	5
Total percentage%	0.96	0.91	0.91	0.98	0.89

Table 3 shows the value of content validity based on the validity assessment by nine expert panels who have made the content validity assessment. In this section, all the expert panels (9 people) have given their views on the given items. The percentage obtained is 0.96 %, which is against the statement of module content that meets the target population. For the second statement in the implementation of the module in each activity of the nine elements in which there is a business model canvas (BMC) has scored 0.91%, while the statement of conformity with the allotted time has scored 0.91%. Next, the statement of the content of the module is able to improve the student's achievement and gets a score of 0.98% and the evaluation of the last item of the statement of content is able to change the attitude of the students towards excellence and gets a score of 0.89%.

Therefore, based on the evaluation of the content validity of the whole module, it can be concluded that all the statements related to the validity of the content scored above 70% which has shown that the content developed has good validity. This shows that the content of the developed project-based learning Module (M-BMC) is consistent and appropriate with the stated objectives. All the experts have commented and informed and some comments for the improvement of the module.

Conclusion

This study aims to administer the validity of the teaching and learning module (PdP) that uses the Project-Based Learning method for the Business Model Canvas (BMC) topic in the Entrepreneurship Course (UES 3012) of the vocational college. Content validity is necessary in a module. This is due to content validity being an aspect that needs to be implemented for the process of building a complete module (Sidek & Jamaluddin, 2005). The module (M-BMC)

using the project-based learning method has met the validity of the module as suggested by Rusell (1974) which was adapted (Sidek & Jamaluddin, 2005).

The project-based learning module (M-BMC) built by the researcher has good validity. The items measured in the SSKK and SSPM instruments obtained a high agreement value based on expert opinion. Research findings from the module content validity questionnaire show that the module (M-BMC) has a high validity with a value of 97%. Among the researchers who determine the value of validity based on the content validity index (Content Validation Index, CVI) are (Bahari and Saleh, 2023; Harun & Yaacob, 2021). The findings from the validity analysis help the researcher implement teaching and learning using the module (M-BMC) more effectively and systematically in carrying out each activity to complete a business model canvas.

In conclusion, this study has shown that this project-based learning module (M-BMC) has acceptable validity to measure the achievement of third semester (3) agriculture diploma students who take an entrepreneurship course. The findings from the validity analysis help researchers implement learning and teaching using this module more effectively. The project-based learning module (M-BMC) for the business model canvas topic provides many benefits, including increased understanding of business concepts, development of creative and critical thinking, collaboration skills, and practical applications in the real world. Future improvement suggestions for further research are to conduct a study of the effectiveness of the project-based learning module (M-BMC) on the assessment of student knowledge before and after using the project-based learning module (M-BMC) for the business model canvas topic implemented in the teaching process and learning. This aims to measure the level of student achievement in improving understanding and further building business ideas through the business model canvas.

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