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EVALUATING THE ENTREPRENEURSHIP CURRICULUM: A STRUCTURAL EQUATION MODELLING ANALYSIS

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Abstract:

There is a vital need in producing knowledgeable and skillful human capital in facing the world today. All curriculum in community colleges must be implemented in an organized way as to improve the students' readiness to become an entrepreneur later in life. The study aims to evaluate the implementation of the entrepreneurship curriculum in community colleges, the institutions from technical and vocational education and training. The evaluation is based on the CIPP Model (context-input-process-product) regarding all the four dimensions - context, input, process and product. A random sampling technique was applied to collect data from 450 students in community colleges. The questionnaire is developed by the researchers based on the Daniel Stufflebeam CIPP evaluation format. A structural equation modelling software called Analysis of Moment Structures (AMOS) was applied to test the hypotheses. The findings showed that overall respondents agree that the implementation was at high level. The results revealed a reasonable fit with the curriculum evaluation model with an interrelationship between all the four dimensions of evaluations. Theoretical, methodological and practical implications are discussed. In short, this study provides support for the effectiveness of the curriculum implementation in community colleges.

Keywords:

Curriculum Evaluation, CIPP Model, TVET Students, Community Colleges



Introduction

Entrepreneurial skills are among the most important soft skills at either the secondary or tertiary level (Norasmah et al., 2003). Entrepreneurship is a potential field in generating human resources which able to improve the country's political stability and the economic and social stability. The curriculum application should start from early years of schooling. This exposure to the curriculum on entrepreneur is in line with the aspiration of the Malaysian government in creating a competitive and thriving entrepreneurial community. This is not easy to achieve but it might not be impossible. Furthermore, entrepreneurship has also become more and more important factors in serving the economic and social development of a country (Landstrom, 2005). Why is it so? It is because in entrepreneurship, the activities involved promotes innovation and thus, increases employment opportunities. This in turn will improve global competitiveness of a company (Bennet, 2006).

Literature Review

Curriculum implementation involves a continuous activity applies in the classroom, and it is not a static activity (Onstein & Hunkins, 1988). Curriculum could also be considered as a process involving what students must do, what the students must know, and the teaching methods involved during the teaching and learning process (Labuta & Smith, 1997). Curriculum itself should be viewed as a philosophical and personal approach which includes theories and ideas, rather than technical approach (Eisner, 2006). For this study context, curriculum implementation is seen as a set of formal education with written documents and designed activities. Most of the teaching and learning processes involved here are conducted in the classrooms or laboratories. The planning of the curriculum happens before, during and after class all through the year.

Looking at the curriculum implementation by Saylor (1981) (as in Figure 1), it shows that the most important thing is in the evaluation process. An improvement could be made to the curriculum after it has been evaluated. Why evaluation needed? Curriculum must be evaluated to maximize the achievement of goals, to gain constructive feedback and hence, to plan again all the elements involved in the curriculum implementation. Objective of the curriculum will be influenced by the external factors such as the legal requirements, data collected, the professional bodies, communities and the guidelines from the ministry. The selection of curriculum goals and objectives is influenced by external factors such as legal requirements, research data, professional associations, knowledge of the community and the ministry guidelines. Curriculum designers then choose a combination of curriculum design, implementation strategies, and curriculum evaluation. Saylor's (1981) model also emphasizes the process of curriculum evaluation in curriculum implementation. Assessments are used to maximize the achievement of goals, get feedback from the curriculum that is in force and redesign the elements of the evaluated curriculum.

In general, aspects which involve in curriculum evaluation are the objective of the curriculum, the activities involved, the staffs which include the administration staffs and the educators and the impact of the system (Pang, 2010). Evaluation is also aimed at assessing the impact to the students such as looking at the impact of learning on students in terms of learning, student ability, intelligence, cognitive and affective aspects (Abd Rahim, 2003). Curriculum evaluation is an activity that provides a goal to enable administrators to make educational plans (Abdul Rahim, 2007).



The purpose of the assessment is to measure the impact of the curriculum on the goals and objectives, and to identify planned courses, curriculum design, content selection, program implementation, actual learning activities and opportunities whether they meet the intended outcomes (Foong, 2014). This is to enable stakeholders and curriculum makers to draw conclusions and make decisions about the implementation of the existing curriculum and to make future improvements (Ornstein & Hunkins, 1998; Stufflebeam, 1985). Curriculum evaluation terms are also used to refer to the success or failure of certain educational programs, to compare objectives and outcomes, as well as performance and evaluation studies (Stufflebeam & Shinkfield, 1985; Tellep, 1989). Curriculum evaluation is also intended to evaluate and measure the level of teaching and learning of a curriculum, its effectiveness among all parties involved through the educational process either in terms of objectives, curriculum syllabus, teaching and learning process, level of achievement and indirectly can make improvements in curriculum (Zainora, 2015). In this study, researchers conclude that the purpose of the curriculum evaluation is to analyse the effectiveness of the curriculum implementation in terms of objectivity, curriculum resource requirements, teaching and learning method and student achievement in terms of motivation and interest in the curriculum.



Figure 1. Curriculum Implementation Model

Entrepreneurship Curriculum In The Context Of Community Colleges In Malaysia

Entrepreneurial subject requires transformation in its learning approach so that it is in line with current situations. In the traditional teaching approach, most teaching processes are more teachercentered rather than student-centered (Gibb, 2005). Students have less opportunity to use thinking skills as most of them involve memorizations only. Flouris and Pasias (2003) believe that the changes in entrepreneurial curriculum nowadays are closely related to the pedagogic skills, teaching and learning delivery method, content knowledge and also assessment techniques. In addition, to improve the curriculum, one must follow certain rules such as i) conduct detailed research on the curriculum itself, ii) invite successful entrepreneurs into the classroom to deliver knowledge and skills, iii) try to have assignments with guidance from trained entrepreneurs, iv) visit related companies, v) form an entrepreneurship club, or vi) bring students into the business startup experience.

In general, the purpose of conducting the entrepreneurship curriculum in community colleges all over Malaysia is to expose students with knowledge, skills and interest in entrepreneur. Currently, students need to be able to explore most opportunities out there if they were to survive. The curriculum implemented at community colleges are under the responsibility and supervision of the Curriculum Division for the Academic Division of the Community College Education Department. The unit is responsible for planning, developing and coordinating new curriculum for Diploma Programs, Community College Certificates, National Modular Certificates, Special Skills Certificates and Short Course Modules for Lifelong Learning. In addition, the functions



of this unit include implementing and coordinating curriculum reviews and equipment specifications. The unit also handles planning, development coordination and expenditure for teaching and learning, including relevant teaching content and materials. One module is offered to community college students, the MPU1222 Entrepreneur module. This entrepreneurial course is compulsory for all students and is designed to provide entrepreneurial exposure to all community college students to help students venture into entrepreneurship after graduation.

Problem Statement

Since 2000, there has been no formal feedback collected from the students, lecturers, administration staffs, alumni or stakeholders about the effectiveness of the entrepreneur curriculum in preparing the students in their future undertakings. If we look at the trend in Occupational Selection in 2015, out of 115 091 graduates, only 5.88% graduates choose entrepreneurship as a career. Furthermore, if we look at the trends regarding community college graduates for the year 2015, only 11.48% students chose entrepreneurship as a career while 86.33% opted for paid work and other jobs was 1.83%. (Statistical Report of the Ministry of Higher Education Graduate Studies Survey 2015). Although the curriculum is taught in the community colleges, the students are not keen to choose it as their career. They favour job with fixed income. Previous research has been conducted in examining the impact of entrepreneurship courses on students' intention to become entrepreneurs such as research by Hamidi, Wennberg and Berglund (2008). However, that is in the western context. In Malaysian context, studies by Mohd Khata and Ahmad Firdaus (2012) did conduct research, but it involves technical students from two MARA institutes. To date, there has been no research which evaluate the curriculum in a very comprehensive manner which includes all the four dimensions of the CIPP Model.

Framework for Evaluating the Curriculum Implementation

A program such as curriculum could be evaluated in four main dimensions – context, input, process and product dimensions by using the CIPP Model by Daniel Stufflebeam (Stufflebeam, 1971). This model is a very exclusive model as it has evaluated various educational programs and project all over the world (Stufflebeam, 2003). Each dimension in the model serves a decision whereby context evaluation supports planning decision, input evaluation supports structuring decision, process evaluation supports implementing decision and the last one, product evaluation supports recycling decisions. Let us look at each evaluation dimension in detail. Context evaluation emphasizes in getting information of new program objectives or the modification of existing objectives. It is like asking oneself with questions such as, 'Which objectives should be obtained?' or 'What is the context of the program?' (Isaac and Michael, 1982). Input evaluation is focusing on the process of assessing all the strategies used or the resources and procedures implemented to achieve the objective of the program. It is like asking 'Which strategies or procedures should be used?' (Stufflebeam, 2003). Next is the process evaluation which assesses the processes involved in achieving the program goal. Lastly is the product evaluation or the outcome evaluation. It assesses the outcomes of the program. All the four evaluation dimensions are not static. They are supposed to work in a dynamic way. So, when a researcher was to evaluate any program, one can use any one of the dimensions or they can use all the dimensions to gain a better picture. There are few studies involved evaluating English curriculum as in Hakan and Seval (2011), evaluating the quality of a program involving hospitality, tourism and leisure as in Horng et al. (2009) or evaluation of a nano-technology curriculum by Tseng at al. (2010). There are a lot of studies involving evaluation of educational programs all over the world using the CIPP Model so that is why they are not listed here.



The Present Study

This study looks at the interrelationship between the evaluation dimensions (context, input, process and product dimensions) following the CIPP Model of evaluation. In this study, i) context dimension focuses on the importance of curriculum, the objective of the curriculum, instruction and assessment structure. (Example of items to be rated by students are: Entrepreneurship is one of my career choices and the objective of the entrepreneurial curriculum is practical, ii) input dimension focuses on content, teaching and learning resources and infrastructure (Example of items: The contents of the entrepreneurship curriculum are up to date and Entrepreneurship curriculum learning method, assessment method and the use of resources (Example of items: Lecturers relate the theory of entrepreneurship to the actual situation and respond to students' views, iv) product dimension focuses on knowledge, their motivational and readiness to be an entrepreneur (example of items: After studying the entrepreneurial subject, I am interested to be an entrepreneur and the Entrepreneurship subject helps me to enhance my professional level).

Aim Of This Paper

The aim of this paper is to evaluate the implementation of the entrepreneurship curriculum in community colleges in preparing a summative report on the effectiveness of the system. The model proposed studies the interrelationship between the evaluation dimensions (context, input, process and product). It is hypothesized that context is positively associated with input, process and product, process is positively associated with product, and input is positively associated with both process and product.

Methods

This study uses a quantitative approach using survey design. Survey is used as it is the most suitable research design in identifying practises (Muijs, 2011). The questionnaire is developed by the researcher following the conceptual framework suggested by Stufflebeam on evaluating a program (Stufflebeam, 2011). Seven community colleges have been chosen from Selangor and Kuala Lumpur. The total number of respondents are 1140. According to Krejcie and Morgan (1970), if the total number of respondents are 1100, 285 respondents are appropriate. The researcher decided to choose 450 respondents. A random sampling technique has been used as it is the best sampling technique (Chua, 2006). The questionnaire consists of four main parts concerning context, input, process and product dimensions. The last part is the demographic part. There are 75 items altogether (context dimension -21 items, input -15 items, process -22 items and product -17 items). Respondents are required to choose the answer that best described their attitudes or behavior. The researcher developed the items following the operational development for all the constructs. The constructs are developed following the characteristics listed by Stufflebeam in the CIPP Model. The researcher also refers to the previous instruments from various countries. But still, the focus has been made towards those instruments developed in Asian context. To date, there is no instrument with all the evaluation dimensions. Some of the instruments which are referred to research by Shapiee (2002) on evaluating a special education program in Sarawak, research on the effectiveness of a Diploma in Teaching Program by Ghazali (2003), research on evaluating Islamic Education Curriculum by Azizi (2015) and research evaluating school-based assessment in Malaysia by Nor Hasnida (2015). After developing the items for each dimension, the instrument went through pilot study to check for reliability and validity of an instrument. For content validity, the items were checked by three professors who are an expert in evaluation and curriculum. After that, the items were checked for their reliability



using the internal consistency (Cronbach Alpha value) and then for validity, the items went through exploratory factor analysis using SPSS. Finally, out of 75 items, 7 items were deleted.

Results

Demographic Description

There are 270 females (60.0%) and 180 males (40.0%). Nearly two thirds of them are Malays and the rest are Chinese, Indians and other races. The number of respondents who come from urban and rural are quite similar. Looking at the socio-economic status, most of them (64.0%) comes from a family earning RM2500 to RM3000.

Confirmatory Factor Analysis

Before the data go through structural equation modelling analysis, all the main constructs must go through a process called Confirmatory Factor Analysis (CFA) which is also using AMOS Software. A measurement model of context, input, process and product dimension have shown a valid and reliable measurement model. Normally, researchers use CFA if the models have been developed based on literature. The results of CFA of each evaluation dimension are shown in Table 1.

2 nd order	1 st order factor	Standardized			
factor		Factor			
		Loading			
CONTEXT	Importance of	0.858			
DIMENSION	curriculum	0.910			
	Objective of the	0.882			
	curriculum	0.770			
	Delivering structure				
	Assessment structure				
1 st order factor	Item	Standardized	CR Alpha	CR	AVE
		Factor	(>0.7)	(>0.6)	(>0.5)
		Loading			
		(>0.5)			
Importance of	B1	0.760	0.820	0.770	0.660
curriculum	B2	0.680	0.880	0.820	0.620
	B4	0.778	0.780	0.688	0.733
Objective of the	B5	0.670	0.890	0.667	0.662
curriculum	B7	0.721	0.882	0.670	0.670
	B11	0.550	0.900	0.772	0.771
Delivering	B14	0.640	0.820	0.770	0.660
structure	B15	0.680	0.780	0.820	0.620
	B16	0.728	0.782	0.688	0.733
	B17	0.711	0.788	0.720	0.670
Assessment	B19	0.640	0.820	0.770	0.660
structure	B20	0.680	0.780	0.820	0.620
	B21	0.728	0.782	0.688	0.737

Table 1. The CFA Results Reporting For The Measurement Model



	1	1	1	10.0000	, 10121 0.20020
INPUT	Table of Content	0.868			
DIMENSION	Teaching and	0.910			
	Learning Materials	0.880			
	Infrastructure				
Table of	C1	0.760	0.826	0.670	0.660
Content	C3	0.680	0.888	0.620	0.720
	C5	0.778	0.744	14 0.588 0.8	
Teaching and	C7	0.766	0.827	0.771	0.662
Learning	C8	0.682	0.881	0.821	0.622
materials	C11	0.776	0.785	0.688	0.733
Infrastructure	C12	0.760	0.820	0.770	0.676
	C13	0.680	0.880	0.820	0.633
	C14	0.778	0.780	0.688	0.733
PROCESS	Teaching n Learning	0.778			
DIMENSION	method	0.820			
	Assessment	0.899			
	technique	0.077			
	The use of TnL				
	material				
Teaching n	D1	0.660	0.811	0.760	0.660
Learning	D3	0.670	0.778	0.810	0.620
method	D4	0.734	0.765	0.655	0.733
method	D10	0.667	0.760	0.670	0.735
	D10	0 777	0.720	0.780	0.660
	D14	0.720	0.822	0.820	0.778
Assessment	D15	0.640	0.820	0.770	0.660
technique	D16	0.680	0.780	0.820	0.620
	D17	0.728	0.782	0.688	0.733
	D18	0.711	0.788	0.720	0.670
The use of	D19	0.860	0.820	0.770	0.620
Teaching and	D20	0.680	0.877	0.865	0.680
Learning	D21	0.678	0.782	0.676	0.754
material	D22	0.770	0.788	0.779	0.880
PRODUCT	Mastery Level	0.891			
DIMENSION	Motivational to	0.899			
	become entrepreneur	0.780			
	Readiness to become	0.899			
	entrepreneur				
Mastery Level	D1	0.640	0.820	0.770	0.660
	D3	0.680	0.780	0.820	0.620
	D4	0.728	0.782	0.688	0.733
	D10	0.712	0.788	0.720	0.670
	D11	0.722	0.820	0.680	0.592
	D14	0.740	0.880	0.662	0.825
Motivational to	D15	0.860	0.820	0.770	0.620
become	D16	0.680	0.877	0.865	0.680
entrepreneur	D17	0.678	0.762	0.676	0.000
	D18	0.770	0.788	0.779	0.880
i i i i i i i i i i i i i i i i i i i			5.750		



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Readiness to be	D19	0.642	0.810	0.777	0.660
entrepreneur	D20	0.685	0.711	0.820	0.620
	D21	0.728	0.722	0.688	0.733
	D22	0.711	0.754	0.720	0.670

All the four measurement models have resulted in an acceptable fit after going through few processes. Based on modification indices, some paths of covariance between error terms are added. Few items with low standardized estimates and few cases have been deleted. Out of 68 items, 42 items are retained. With these 42 items, all four measurement models have shown an excellent fit to the data. So, the measurement models are now valid and reliable. Characteristics for each of the four final measurement models tested are shown in Table 2.

Measurement	Fit indices value	Number of	Multivariate
Model		items	kurtosis
Context	$X^2 = 122.751$; df = 26; $X^2/df =$	10	40.65
dimension	4.751;		
	GFI = 0.992; AGFI = 0.989; NFI =		
	0.988;		
	CFI = 0.988; TLI = 0.986; RMSEA		
	= 0.021		
Input dimension	X2 = 112.067; df = 30; X2/df =	9	37.65
-	3.767;		
	GFI = 0.994; AGFI = 0.979; NFI =		
	0.995;		
	CFI = 0.997; TLI = 0.993; RMSEA		
	= 0.064		
Process	X2 = 131.067; df = 20; X2/df =	13	45.22
dimension	6.767;		
	GFI = 0.994; AGFI = 0.979; NFI =		
	0.995;		
	CFI = 0.997; TLI = 0.993; RMSEA		
	= 0.048		
Product	$X^2 = 113.462$; df = 27; $X^2/df =$	10	42.23
dimension	4.142;		
	GFI = 0.992; AGFI = 0.990; NFI =		
	0.989;		
	CFI = 1.000; TLI = 0.988; RMSEA		
	= 0.013		
Total		42	

Table 2. Characteristics Of Each Of The Final Measurement Models

Structural Equation Modelling

There are two-stage approach: assessing the confirmatory factor analysis (CFA) and the structural equation modelling (SEM) analysis. It is preferable as it could avoid bad measures. All the measurement models are validated using CFA, then followed by the assessment of SEM (Hair et al., 2006). Theoretically, SEM is theory-driven to determine the interrelationships between constructs in a full structural model. According to Byrne (2010), based on theoretical relationship among the constructs grounded in the empirical research, all the measurement



models are put together into a structural model. Figure 2 shows the hypothesized structural model.



Figure 2. The Hypothesized Structural Model 1

Based on the theoretical interrelationships among constructs, a structural model was assembled (Byrne, 2010) as shown in Figure 2. It was hypothesized that the input was positively related to process and product dimensions. Process was positively related to product. Product was positively related to context and context was positively related to input dimension. The hypothesized structural model 1 was tested assuming the above relationship. This structural model was formed with 40 observed variables.



Figure 3. The Final Causal Path With The Standardised Estimates

The hypothesis model is not rejected and out of five causal paths specified in the hypothesized model, three paths were found to be statistically significant. These paths reflected the impact of Input on Process and Product, and Process on Product. The fit statistics for this final model was as follows: GFI=0.901; AGFI=0.877; NFI=0.922; CFI=0.954 and RMSEA=0.060. All values of standardized estimates were sound, and all were less than 1.00. According to Chin (1998), for a model to be meaningful, the value of standardized estimates should be above 0.3. Looking at Table 3, it shows the value of squared multiple correlations. The value represents the proportion of variance explained by the predictors (Byrne, 2010). Only values for the main constructs were shown. For example, 70.6 percent of the variance associated with process was accounted for by its predictor - input dimension. 57.7 percent of the variance associated with product was accounted for by process and input dimensions.

Table 3. Squared Multiple Correlations				
Construct	Estimate			
Context	0.000			
Input	0.000			
Process	0.706			
Product	0.577			

rable 5. Squared Multiple Correlation	3. Squared Multiple Correla	ple Corre	Multi	uared	3. Sc	able 3]
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Discussion

Entrepreneurship is an important element in higher education level as entrepreneurship leads to innovation that ultimately drives the high-income economy. Educational institutions play a key role in fostering entrepreneurial skills among students to generate more entrepreneurs in the future (Fuchs, Werner, & Wallau, 2008). In the context of Higher Education Institutions, the ministry has introduced the Higher Education Institute Entrepreneurial Development Policy aimed at promoting and enhancing the development of a more organized and holistic entrepreneurship programs. The findings of this study have expanded the existing body of knowledge on the effectiveness of the curriculum implementation. As there is an urgent need to know the effectiveness of the system, this study explores the interrelationship of all the elements using the CIPP Model. In addition, the use of SEM is also promising whereby it shows quite a high percentage of the variance. There is a strong positive and significant relationship between 'teaching and learning method' and 'the use of teaching and learning materials' and 'students' academic performance' and their 'readiness to be an entrepreneur'. In other words, according to students, when the lecturers teaching methods are good, plus the materials are constructive in helping them to understand the task, then their performance improve. These findings are supported by a study by Abduh (2012) who found that the entrepreneurship curriculum at Bengkulu University is gaining popularity as more students want to become entrepreneurs and want to take entrepreneurial education as their field of study. In the entrepreneurial curriculum, knowledge such as business plans, financial planning and financial reporting is very important for students. Students were more satisfied with innovative teaching methods such as classroom discussions, group discussions and group presentations compared to traditional teaching methods. Majority of students are having difficulty in understanding the subject of entrepreneurship due to the differences in teaching materials and teaching methods. The findings show the importance of teaching methods and learning materials in helping the students to understand the subject of entrepreneurship. Teaching and learning methods need to be further enhanced and innovated to help students better understand the content of the lesson.

Learning through problem solving, or more commonly known as problem-based learning is an effective teaching method given to students in entrepreneurial education (Tan & Ng, 2006). It provides a learning environment in which students can learn to make decisions, take risks, take responsibility, seek experiences, learn mentoring (guidance) and reflection (Wee 2004). It is used to enhance student creativity in solving problems involving entrepreneurial learning (Klofsten, 2000). Students are encouraged to actively engage with the learning materials provided, lecturers or teachers as facilitators, and students will interact with students and teachers. The combination of new technologies and traditional resources can provide students with a variety of learning experiences. In problem-based learning, students are encouraged to be actively involved in the entrepreneurial process and not simply understand the theory (Ahmad, Ismail, & Buchanan, 2014). This is different from traditional learning that use only one-way interaction.

Tan & Ng (2006) discuss two issues in the problem-based learning approach to entrepreneurship education. First, problem-based learning emphasizes understanding of students in terms of the delivery of content and could further inform students of the real entrepreneurial process. Secondly, problem-based learning also could bring students to experience real-world entrepreneurship problem-solving which is very important in entrepreneurship. It could also emphasize the learning process and develop critical thinking skills amongst students.



Conclusions and Implications

In conclusion, this study does provide support to the effectiveness of the curriculum implementation in community colleges. In addition, the CIPP Model and the curriculum model also are supported. From the findings, we can suggest that there is an urgent need for the higher authorities to improve some aspects to ensure that the curriculum can produce a positive impact to the students later in life. However, this curriculum must be continuously evaluated if we were to know the real impact. This study also has its limitations. The samples were students and not the lecturers or the administrative staffs, so it limits the validation of the questionnaire. Furthermore, data collection only involve survey and not observations and interviews so again it might limit the findings. Lastly, the use of SEM is itself has its own limitations when items are deleted when the model is not fit.

Theoretical, the methodological and practical implications are discussed suggesting the importance of study. The framework of this study which is the CIPP Model is supported by the findings of the study. It shows that there is an interrelationship between all the constructs hence, the program is effective. The strong association between input and process dimensions suggests that teaching and learning resources and infrastructure supplied to the community colleges should support an effective implementation of the curriculum. However, the lecturers need to scrutinize on the capability of assessment method and techniques to ensure that there is a strong relationship between those procedures with students' readiness to become an entrepreneur and their motivational state to become an entrepreneur. This is important because assessment is the bridge between teaching and learning. The reason for this might be lecturers are not aware of these, and they do not really focus on constructive alignment of the curriculum, pedagogy and assessment method itself. There is no direct effect of input dimension on students' motivational state and readiness towards being an entrepreneur. However, the strong indirect effect between both dimensions shows a good implication to the administrative and the decision-makers. If we fail to improve all the elements in the input dimension, it might affect the processes implemented and hence, affect the effectiveness of the product dimension. Finally, the objectives of the implementation of the curriculum are very difficult to achieve. The findings also shows that the structural equation modelling procedures support the conceptual framework planned in this study. The capability of SEM as a technique in exploring several relationships between variables simultaneously is very suitable for this study. Furthermore, SEM is capable in estimating error variance parameter, so it is a very good tool in improving the accuracy of the results (Byrne, 2010). In terms of practicality, lecturers' knowledge and skills in assessing students should be improved. Training should be provided extensively.

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