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Innovative Educational Program: A New Edge of Education

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Abstract: Quality education program is always expected in order to produce competent and knowledgeable graduate to meet the demand from the employers' market. Despite the popularized of online education, in-class education programs are still remained as the core of the mode of education in present days. This study focuses on the learning outcome of innovative education programs and assesses the competitive advantages of those degrees as perceived by the employers. To define innovation education, it is best described as an innovative way of teaching in expanding students' critical thinking skills, personal leadership and entrepreneurial skills in building a pool of knowledge workers. Present findings indicate that with better technological skills, critical thinking and strong leadership, the prospect of these graduates are believed aplenty. Nevertheless, the efforts set up by higher education to train such graduates are a vital link to the quality of the innovative education programs.

Key words: Quality education program, entrepreneurial skills, innovative education

INTRODUCTION

Innovative education is defined as an innovative teaching in expanding students' critical thinking skills, personal leadership and entrepreneurial skills in building a pool of knowledge workforce. The innovative educational programs (hereafter, IEP) are designed to build a pool of productive, innovative and knowledgeable workforce in order to meet the needs and requirements of employers of a knowledge-based economy. In this study, the innovative educational programs refer to Bachelor of Knowledge Management (Hons), Bachelor of Financial Engineering (Hons), Bachelor of Information Technology (Hons) (Knowledge Engineering), Bachelor of Economics (Hons) (Knowledge Economics), Bachelor of E-Business (Hons) and Bachelor of E-Commerce (Hons), which are offered at Multimedia University, Malaysia.

As compared to traditional educational programs that have been offered decades ago, innovative education is a new concept and it is aimed to produce a pool of workforce who can meet the needs of the ever-changing business world. The existing literatures mostly focus on comparing online versus in-class education whereby the innovative education is far beyond the use of internet or electronic delivery methods in delivering knowledge. The innovative program, in fact, emphasizes more on innovative ways of disseminating knowledge to students interactive with multimedia enhancements. The researches on innovative education programs, at the best of our knowledge, are quite limited. As such, this study conducts a survey on both students and employers who the former are enrolling under these programs while the latter are employing such degree holders in their workplaces. The aims of this study are to examine students' opinion on teaching, assessment methods under these programs and also assess both students and employers' perception toward these programs.

As today, the development in education has progressed tremendously. Virtual education has been introduced and received great response as an alternative teaching method. Innovative educational programs, on the other hand, are in-class educations which offer innovative way to enhance the delivery of knowledge added with great leadership and critical thinking inputs. It is hoped that students especially equipped with new knowledge and critical thinking skills can be competent to meet today's intensely hostile corporate world. At the same time, students are also expected to be knowledgeable and innovative in filling the gap of labor market.

Great attention has been brought to improve teaching and assessment methods in finance and economics as well as the urge of increased use of innovative learning techniques in United States. Nonetheless, little attempt has been conducted on emerging economics such as Malaysia.

In the literatures, Wegner *et al.* (1999) presented a two-semester study in the United States on the outcome

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of internet-based learning on students' attitudes toward their learning experiences. By comparing the students who received instruction in a traditional lecture (control group) with those attended no classes on-campus (experimental group), researchers supported that students from the latter group had a more positive feeling about their experience than the former group. In particular, 36% of the class from the experimental group cited the opportunity to solve problems, use consensus building skills, exercise autonomous learning as a group and communication skill as competencies gained over what they normally would get through traditional instructional delivery models.

Based on the health education students in a medium-sized (8,000-9,000 enrolments) community college at the central coast of California, Diaz and Cartnal (1999) conducted a comparison study of the learning styles of students who enrolled in non-traditional classes with those who enrolled in traditional classes. The findings supported that the non-traditional students exhibited more independent learning styles.

Meanwhile, Becker and Watts (2001) reported the overall findings of the year 2000 and 1995 surveys on the teaching methods in undergraduate economics courses in the United States. The results concluded that chalk and talk method is still the dominant teaching method in both surveys. The 2000 survey did not show the increased use of innovative teaching method such as computer-based teaching, games, simulations in teaching as it supposedly except in statistics and econometrics courses.

At the same time, Saunders (2001) conducted a national survey on teaching methods and assessment techniques for the undergraduate introductory finance course in spring 2000 in the United States. The survey results showed that the student overall grades are mainly assessed from individual in-class examinations. About 84% of faculty instructors used computer-based teaching methods in teaching the introductory finance course. He concluded that active teaching techniques beyond the chalk and talk are needed to be incorporated in the class.

Later, Becker (2004) advocated that economics course needed to be taught beyond the outdated chalk and talk lecture methods to the active learning techniques made available by experimental economics, games and simulations and the internet.

Pomorina *et al.* (2005), from the Economics Network of Higher Education Academy, United Kingdom, also carried out a national student's survey on students' perception of learning economics. With respect to teaching method, the results showed that students identified most useful activities in seminars including active workshop with group discussion, presentation and problem-solving exercises as useful skills for future employment.

Colander (2004) further discussed that content is the central in economics teaching. He suggested a common sense approach in teaching in which teachers should focus on the content first and then on their teaching. In this common sense approach, class size and available technology will determine the use of technology.

Later, Pang *et al.* (2006) provided fruitful insights into the link between school teaching practices and student learning outcomes which could be theoretically rounded by the variation theory from the field of phenomenography and a framework was introduced to implement the pedagogy of awareness in the classroom. The notion of pedagogy of awareness was introduced as consisting of three dynamically linked elements which included variation in students' ways of experiencing the object of learning, variation in teacher's way of experiencing the object of learning and the use of variation as a pedagogical tool to enhance student's learning.

Eckrich and McCall (2005) examined the introduction of innovative management in a marketing course taken by business students in which the course consists of three important components including traditional classroom activities, site visits and a field trip to a new-product trade show. The outcome of innovative management was exceptionally positive and the course was highly rated by students. As such, the introduction of innovation is essential in enhancing the quality of education.

Furthermore, Lobel *et al.* (2005) investigated similarities and differences between two teaching environments: traditional versus non-traditional environment in Concordia University in year 2001. Their study concluded that the students from the non-traditional environment were found to be more likely to participate and express themselves. In contrast, interaction followed the traditional programs, resulting in fewer students interacting and hence, lower interaction overall.

The most recent study by Likar (2007) stated that innovation in education is significant in driving a country to a knowledge-based economy and the role of teachers is of paramount important. E-learning is defined as the adoption of media elements to deliver knowledge and skill to meet the learning goals for an individual or an entity. Jayanthi *et al.* (2007) made a comparison between the traditional teaching and the e-learning method for a group of engineering students and their results indicated that the systematic use of e-learning tools will enhance the quality of teaching.

MATERIALS AND METHODS

This study was conducted by using primary data in which questionnaires were distributed to both students and employers in examining the effectiveness of innovative educational programs currently available in Multimedia University, Malaysia. There are six innovative programs that this study covers. The degrees include Bachelor of Knowledge Management (Hons), Bachelor of Financial Engineering (Hons), Bachelor of Information Technology (Hons)(Knowledge Engineering), Bachelor of Economics (Hons) (Knowledge Economics), Bachelor of E-Business (Hons) and Bachelor of E-Commerce (Hons). For the employer's aspect, a random sample of 200 companies located at Multimedia Super Corridor (hereafter, MSC) was identified and the questionnaires were distributed to the respective human resource directors concerned. Out of that, a total of 183 and 182 questionnaires had been collected from both students and employers.

Prior to the distribution of questionnaires, a pilot study was done on January 2006. The distribution of questionnaires was started on April 2006. The total respondents are 183 and 182 from both students and employers. There are 21, 88, 11, 13, 10 and 40 respondents from degrees of Bachelor of Knowledge Management (Hons), Bachelor of Financial Engineering (Hons), Bachelor of Information Technology (Hons) (Knowledge Engineering), Bachelor of Economics (Hons) (Knowledge Economics), Bachelor of E-Business (Hons) and Bachelor of E-Commerce (Hons), respectively.

The sample data comprises of primary data by carrying out a survey research. Students pursing under these innovative educational programs were asked for demographic characteristics (e.g., age, year of study, literacy level of computer skill), subjects' majoring (core/compulsory), teaching and assessment, overall and learning outcome as well as career prospect and advancement of innovative educational programs. On the other hand, for the employer's side, they were asked for demographic characteristics (e.g., number of employees, nature of business), overall and learning outcome as well as employment of graduates pursuing under these innovative educational programs.

The analysis techniques used in this study include reliability test and factor analysis in examining the students' and MSC companies' perception towards the innovative educational programs offered by Multimedia University. The following section discusses both techniques used.

Reliability test: A reliable measurement supplies consistent results. Though reliability is a necessary condition for validity, it is not a sufficient condition. A measurement that is free of random and unstable error will be deemed reliable. In order to test the reliability of the surveyed data, a reliability test is conducted by measuring the alpha value of all responses. The alpha value of at least 0.7 is deemed reliable.

Factor analysis: The factor analysis is a technique for ordering and simplifying correlation between variables. The purpose of factor analysis is to reduce the number of inter-correlated variables with overlapping characteristics by using correlation matrices (Rummel, 1970; Stewart, 1981). The items in the survey questionnaire could be interrelated several times and hence reduced and grouped under a few factors.

The component analysis and varimax (orthogonal) rotation is used to reduce the number of original variables to fewer composite factors. All retained factor solutions had the value of more than 1 initial eigenvalues as well as rotated eigenvalues loadings. In addition, variables with more than 50% loadings of the rotated component matrix are accepted, while those with less than 50% loadings are ignored.

Basically, factor analysis is designed to explain why certain variables are correlated. Hence, the overall significance of the correlation matrix is also tested using Bartlett's test and Kaiser-Meyer-Olkin Measure of Sampling Adequacy test (KMO) as factors cannot emerge without sufficient variables, with at least three variables to represent each factor solution. Though both examine the overall significance of the correlation matrix but Bartlett's test only shows the existence of nonzero correlation and not the pattern of the correlation. As for KMO test, it reduces the set of variables collectively to meet the necessary sampling adequacy.

RESULTS AND DISCUSSION

Reliability test: The reliability test is conducted for both students' and employers' perspectives for education and training, as well as career prospects of an innovative degree holder in Malaysia. All responses obtained are deemed reliable since all α scores are more than 0.70. The summary of the results of the reliability test is presented in Table 1.

Demographic characteristics for both students and employers: A total of 183 students took part in the survey. These were full-time students studying at

Table 1: Reliability test (α)

	Learning outcome	Prospects
Students	0.7575	0.9357
Employers	0.7932	0.9123

Table 2: Demographic characteristics of survey respondents (Students)

	Respondents							
Variables/Characteristics	R1	R2	R3	R4	R5	R6	All	(%)
Gender								
Female	15	60	5	9	4	26	119	65.0
Male	6	28	6	4	6	14	64	35.0
Year of study								
First	7	17		-	3	3	30	16.4
Second	8	46		7	2	18	81	44.3
Third	6	24		5	5	19	59	32.2
Race								
Malay	8	74	6	2	3	21	114	62.3
Chinese	12	11	2	8	6	13	52	28.4
Indian	1	2	2	2	1	3	10	5.5
Others	-	1	1	1	-	3	7	3.8
Computer literacy								
Know nothing	-	4	2	-	2	2	10	5.5
Some knowledge	1	10	1	-	-	4	16	8.7
Sufficient knowledge	15	61	4	9	4	14	111	60.7
A lot of knowledge	3	9	1	4	4	14	38	20.8
Know everything	2	3	1	1	1	2	7	3.8
Access to internet								
Yes	21	88	11	13	10	40	183	100.0
Hours spent accessing internet								
Below 5 h	3	3	-	1	-	1	5	2.7
6-10 h	2	10	1	3	1	3	21	11.5
11-15 h	2	6	1	2	2	7	20	10.9
16-20 h	2	10	1	1	2	2	18	9.8
21-25 h	11	4	1	2	2	3	14	7.7
Above 26 h	20	54	7	4	3	23	102	55.7
Online place								
Home	17	62	7	10	10	33	139	76.0
Hostel	5	29	8	3	10	10	55	30.1
Campus/lab	7	21	6	5	1	10	50	27.3
Cyber café/public	1	3	2	-	-	3	9	4.9
CGPA								
Mean	1.8100	2.5750	1.5450	2.0770	2.5000	2.6000	2.3900	
SD	0.6016	0.9479	1.2933	0.9541	0.7071	1.0077	0.9897	
No. of respondents	21	88	11	13	10	40	183	

R1 = Respondents majoring in Bachelor of Knowledge Management, R2 = Respondents majoring in Bachelor of Financial Engineering, R3 = Respondents majoring in Bachelor of Information Technology (Knowledge Engineering), R4 = Respondents majoring in Bachelor of Economics (Knowledge Economy), R5 = Respondents majoring in Bachelor of E-Business, R6 = Respondents majoring in Bachelor of Electronic Commerce, Percentages are in parentheses, *Denotes respondents' multiple selection

Multimedia University (Malaysia) at the time of the survey. These 183 students came from 6 different courses: 21 from Bachelor of Knowledge Management, 88 from Bachelor of Financial Engineering, 11 from Bachelor of Information Technology, 13 from Bachelor of Economics, 10 from Bachelor of E-Business and 40 from Bachelor of Electronic Commerce.

From Table 2, 65% of the total respondents were female while the numbers of female respondents remain higher than male respondents for most courses, except for Bachelor of Information Technology and Bachelor of E-Business. This larger proportion of female respondents in our survey is consistent with the widely reported survey research findings that females are more likely than males to answer the questionnaires (Higher Education Academy, 2004).

For the year of study, most of the respondents were from second and third year of their study with 44.3 and 32.2%, respectively. The rest of our respondents were from their first year with about 16.4%.

As Malaysia is a multi-culture country with three main races of Malay, Chinese and India. It is important for us to know how the different cultures could have impact on different innovative learning techniques. Among all our respondents, 62.3% were Malay, 28.4% were Chinese, 5.5% were India and 3.8% were from other races due to the fact that some foreign students were studying at the university.

The question of computer literacy was included in the survey. It was an important variable that might influence student's innovative learning experiences. Expectedly, a large number of students were equipped with sufficient and a lot of knowledge, accounted for 60.7 and 20.8%, respectively.

Since 100% of our respondents said they access internet, we further survey the number of hours and

location that students prefer to access to internet. This information is important for us to know the interest as well as the learning mode of the students towards online internet. The results of our survey showed that 55.7% of respondents access more than 26 h per week, 22.4% of respondents access between 6 to 15 h and 17.5% access between 16 to 25 h per week, a very small proportion of them (2.7%) only access to internet with less than 5 h per week. Home was the most preferred place for the respondents to access to internet (76%). Hostel and campus/lab were their second and third choices. Only 4.9% of students access internet at public places such as cyber café.

In terms of academic achievement, students from Bachelor of Financial Engineering, Bachelor of E-Business, Bachelor of E-Commerce have higher CGPA results, ranging from 2.67 to 3.5 whereas students from Bachelor of Knowledge Management, Bachelor of Information Technology and Bachelor of Economics (Hons) (Knowledge Economics) had their CGPA from 2.00 to 3.32. The above performance of respondents in the courses will help us to evaluate the successfulness of the use of innovative teaching and assessment at the university.

To investigate on the perception toward the innovative educational programs conducted at Multimedia University from the employers' perspective, we distribute questionnaires to 182 employers, of which 61% are males and 39% are females. More than 90% of respondents are in between 21 and 40 years of their age, in which 61.5% are from 21 to 30 years old and 28.6% are above 30 and below 40. Quite a number of respondents fall into two main groups of income, that are between RM 2,001-3,500 and between RM 3,501-5,000, in which 30.2% of respondents have salaries ranging from RM 2001 to RM 3,500 and 28% are earning from RM 3,501 and RM 5,000. There are a smaller number of respondents who have monthly income ranging from RM 5,001 to RM 8,000 and above RM 8000, i.e., 17.6 and 7.1%, respectively. In terms of education level, more than half of respondents hold bachelor degrees, 12.6% of respondents hold master degrees, 1.6% of them hold Ph.D degrees and 4.9% hold professional degrees (Table 3).

The expectation on our innovative program might be different from different level of employers in an organization. Thus, we classify our respondents into 4 main categories: officer/executive, manager, senior manager and assistant manager. From our survey sample, out of 182 respondents, 51.1% of them are holding officer or executive posts, while 24.2% hold manager posts and only a small number of them, 6 and 2.7%, are senior managers and assistant general managers respectively. The other respondents (14.8%) are from different positions in the companies.

Table 3: Demographic characteristics of survey respondents (Employers)

Variables/Characteristics	No. of respondents	(%)
Gender		
Male	111	61.0
Female	71	39.0
Monthly income		
< RM 2000	24	13.2
RM 2,001-3,500	55	30.2
RM 3,501-5,000	51	28.0
RM 5,001-8,000	32	17.6
>RM 8,000	13	7.1
Education level		
Diploma	24	13.2
Degree	123	67.6
Master/Ph.D	23	12.6
Professional	3	1.6
Position in organization		
Officer/executive	93	51.1
Manager	44	24.2
Senior manager	11	6.0
Assistant general manager/vice-president	5	2.7
Others	27	14.8
Sales turnover per year		
Below RM 50 million	60	33.0
RM 51 to 100 million	37	20.3
RM 101 to 150 million	18	9.9
Above RM 151 million	53	29.1
Above RM 200 million	3	1.6
Nature of the business		
Business	40	22.0
Education	2	1.1
Medical	5	2.7
Technology	78	42.9
Agricultural	2	1.1
Manufacturing	13	7.1
Others	40	22.2
Total	182	

Furthermore, the requirements on our graduates expected from employers might be also different between a big firm and a small firm, as well as among different nature of businesses. Thus, we categorize our sample of employers into different groups in terms level of sales turnover achieved per year and the nature of their businesses. In terms of sales turnover, 33% of employers in our sample have less than RM 50 million, 20.3% have between RM 50 million and RM 100 million. There are quite a number of respondents said their companies' sales turnover are more than RM 151 million, while only 9.9% of them have between RM 101 and RM 150 million.

In terms of nature of the business, majority of the respondents are from technology and business sectors, which is accounted about 42.9 and 22%, respectively. There are a few numbers of them from education (1.1%), medical (2.7%), agricultural (1.1%) and manufacturing sectors (7.1%). The other business only accounts for about 22.2%.

Table 4: Respondents' opinions of the importance of teaching and assessment methods in IEP

Items	Mean	Standard deviation
Panel A: Teaching method		
1. Online teaching is an effective method in IEP degree	3.24**	0.772
2. Under online teaching, indicate its importance:		
Online discussion is an effective tool	3.36**	0.824
Online note is an effective tool	3.92**	0.804
3. Classroom/face to face method is an effective teaching mode for IEP degree	4.19**	0.763
4. Under face to face method, indicate its importance:		
Face to face lecture is an effective tool	4.19**	0.713
Face to face tutorial is an effective tool	4.26**	0.739
5. Lab method is an effective teaching mode for IEP degree	3.89**	0.803
6. Distance learning method is an effective teaching mode for IEP degree	3.25**	0.971
7. Multimedia interactive method is an effective teaching mode for IEP degree	3.56**	0.819
8. The mode of teaching in IEP courses should be interactive or technology orientated	3.88**	0.757
Panel B: Assessment method		
1. Final examination assessment is a need for IEP degree	3.85**	0.912
2. Mid-term examination assessment is a need for IEP degree	3.46**	0.929
3. Quiz assessment is a need for IEP degree	3.22**	0.991
4. Project paper/assignment is a need for IEP degree	3.79**	0.850
5. Non-examination oriented assessment is a need for IEP degree	3.46**	1.074
6. The mode of assessment in IEP courses should not be the traditional way	3.56**	0.876
7. The modes of teaching and assessment are vital elements in making the difference between IEP and traditional degree	3.82**	0.829

Respondents evaluated the importance of teaching and assessment methods on a scale of a (least important) to 5 (most important). **denotes significance at $p<0.01$

Respondents' opinions of the importance of teaching and assessment methods in IEP: Table 4 reports the mean and standard deviation of the items that measure the importance of teaching and assessment methods in IEP. From the students' responses, the overall results showed that the traditional face-to-face lecture and tutorial teaching methods are still perceived as the most important teaching methods. The distance learning and online teaching approaches are perceived less effective and important relatively. The respondents also viewed the importance using interactive or technology oriented teaching approaches. In the aspect of assessment, the final exam assessment method is still perceived as the most important among all assessment methods relatively.

Comparisons of programs enrolled and year of study of respondents on the importance of teaching and assessment methods in IEP: Table 5 reports the ANOVA results on the teaching and assessment methods based on the respondents' degree enrolment and year of study. The ANOVA results indicated the mean differences among the program and year of study were statistically significant. The respondents that enrolled in the Bachelor sof E-Business program put less emphasis on the importance of online discussions, teaching and technology oriented teaching methods when compared to other programs such as Bachelor of Financial Engineering.

Students and employers' perception of innovative educational programs: The factor analysis is conducted and variables with more than 50% loadings from the rotated component matrix table are accepted. Those variables with less than 50% loadings are dropped.

The Bartlett's test indicates nonzero correlation existed at the level of significance of less than 1%. As for KMO, the reduced set of variables collectively meets the necessary threshold of sampling adequacy of more than the acceptable MSA value of 0.50. The summary of both Bartlett's test and KMO test is shown in Table 6.

In addition, the component analysis and varimax (orthogonal) rotation revealed three factors for both employers and students' perception on the success implementing of education and training of the innovative degree programs in Malaysia. On the other hand, the employers felt that two factors will have significant impact on the career prospects of an innovative degree holder, while students of an innovative degree program are of the opinion that three factors will affect their career prospects.

The students of the IEP courses find that there are three factors that will affect their education and training in their course of study. Firstly, appropriate modes of teaching and assessments are vital to the success implementation of IEP courses. The IEP students feel that multimedia interactive approaches, distance learning, periodic assessment through quizzes, projects and assignments are essentials. Secondly, interactive and IT oriented teachings as well as non-examination oriented assessment such as online interactive participation and application case study on real life scenario are some of the non-conventional coaching and assessment techniques crucial to IEP courses. However, a structured assessment like mid-term and final examination is still necessary to maintain the quality of the courses.

Similarly, the IEP students learn that there are three factors that will affect their career prospects when they graduate with an IEP degree. Firstly, they feel that utilizing multimedia and ICT tools to solve business problems is as important as having good communication skills, being ethical and financially wise. Knowledge and skill in quantitative techniques to solve business problems, understanding and solving the strategic dimension of business, as well as acquiring and adapting to dynamic environment are some of the traits of a capable and effective IEP professional.

Table 5: Comparisons of programs enrolled and year of study of respondents on the importance of teaching and assessment methods in IEP

	Degree enrolment			Year of study items		
	F-statistics	Significance	Games-Howell	F-statistics	Significance	Games-Howell
Panel A: Teaching method						
1. Online teaching is an effective method in IEP degree	3.010	0.012*	R2 <R5	3.469	0.033*	A2<A3
2. Under online teaching, indicate its importance:						
Online discussion is an effective tool	3.340	0.007*	R2, R3, R4, R6 <R5	1.399	0.250	
Online note is an effective tool	3.860	0.002*	R2, R5 >R6	2.168	0.118	
3. Classroom/face to face method is an effective teaching mode for IEP degree	1.107	0.358		0.803	0.450	
4. Under face to face method, indicate its importance:						
Face to face lecture is an effective tool	2.325	0.045*	R1> R6	0.533	0.588	
Face to face tutorial is an effective tool	1.120	0.352		0.394	0.675	
5. Lab method is an effective teaching mode for IEP degree	3.139	0.010*	R2, R3 and R6> R4	4.297	0.015*	A2<A3
6. Distance learning method is an effective teaching mode for IEP degree	18.427	0.000*	R1, R2 <R5 R1, R2, R3, R4 <R6	0.717	0.490	
7. Multimedia interactive method is an effective teaching mode for IEP degree	7.828	0.000*	R1, R2, R3, R5 >R6 R2, R4 <R5	2.395	0.094	
8. The mode of teaching in IEP courses should be interactive/IT orientated	2.873	0.016*	R2 <R5	1.418	0.245	
Panel B: Assessment method						
1. Final examination assessment is a need for IEP degree	2.201	0.056		0.057	0.944	
2. Mid-term examination assessment is a need for IEP degree	0.918	0.471		1.607	0.204	
3. Quiz assessment is a need for IEP degree	1.000	0.419		5.430	0.005*	A2, A3<A1
4. Project paper/assignment is a need for IEP degree	6.451	0.000*	R1, R2, R3 <R6	2.818	0.063	
5. Non-examination oriented assessment is a need for IEP degree	2.003	0.081		0.977	0.379	
6. The mode of assessment in IEP courses should not be the traditional way	0.669	0.647		3.692	0.027*	A2<A3
7. The modes of teaching and assessment are vital elements in making the difference between IEP and traditional degree	2.175	0.059		0.292	0.747	

R1 = Respondents enrolled in Bachelor of Knowledge Management, R2 = Respondents enrolled in Bachelor of Financial Engineering, R3 = Respondents enrolled in Bachelor of Information Technology (Knowledge Engineering), R4 = Respondents enrolled in Bachelor of Economics (Knowledge Economy), R5 = Respondents enrolled in Bachelor of E-Business, R6 = Respondents enrolled in Bachelor of Electronic Commerce, A1 = Respondents in first year, A2 = Respondents in second year, A3 = Respondents in third year, *Denotes $p<0.05$

Table 6: Bartlett's test of sphericity and KMO test

	Employers		Students	
	Education and training	Prospects	Education and training	Prospects
Bartlett's test (χ^2)	509.674**	1215.867**	283.524**	912.960**
KMO MSA value	0.741	0.903	0.715	0.892

**Denotes significance at the $p<0.01$

Secondly, IEP students feel that they have an advantage over conventional degree holders as they are trained to demonstrate good leadership skills, think critically and to excel as a successful entrepreneur in the near future. Finally, IEP students perceived themselves as a better team-leader due to their ability to manage and conduct themselves proficiently, to acquire and apply fundamental principles of business as well as to develop into knowledgeable and competent managers. The summary of the IEP students' perception of innovative degree programs in Malaysia as shown in Table 7.

On the other hand, with regards to education and training, the employers find that the first factor that will affect the success of IEP courses is its ability of institutions of higher learning to train competent and knowledgeable graduates. Besides, the up-to-date industrial and technical exposures are some of the reasons why employers suggest more institutions of higher education to develop and provide more IEP courses. Malaysia's goal in developing a knowledge-based economy will need skillful IEP graduates to fill in the labor market, which in return, guarantees a successful career path for these graduates.

Secondly, provision of techno-savvy, current and challenging subjects in IEP programs are some of the items to consider to successfully conducting IEP courses. The IEP courses have to be unique and interesting to capture the students' attention and potentials.

Nevertheless, the employers are of the opinion that the prospects of IEP degree holders are aplenty. Unlike the IEP students, the employers find only two factors that will affect the career prospects of IEP graduates. The

Table 7: Results of the IEP students' perception of innovative educational programs in Malaysia

Students		
Education and training	Career prospects	Factors
1. Distance learning is an effective teaching mode	1. Utilize multimedia and ICT tools to solve business problems	1
2. Multimedia interactive method is an effective teaching mode	2. Good communication skills	
3. Quiz assessment is necessary	3. Ethical	
4. Project paper/assignment is necessary	4. Knowledgeable and skillful in quantitative techniques to solve business problems	
5. Appropriate modes of teaching and assessment are vital	5. Could understand and solve the strategic dimension of business	
	6. Could acquire and adapt to dynamic environment	
	7. Capable and effective financial professionals	
6. The mode of teaching in IEP courses should be interactive/IT orientated	8. Has an advantage over conventional degree	2
7. Non-examination oriented assessment is a need for IEP program	9. Demonstrates leadership skills	
8. The mode of assessment in IEP courses should not be the traditional way	10. Develop a successful entrepreneur	
	11. Think critically	
9. Final exam assessment is a need for IEP program	12. A better team-leader	3
10. Mid-term exam assessment is a need for IEP program	13. Manage and conduct oneself proficiently	
	14. Ability to acquire and apply fundamental principles of business	
	15. Knowledgeable and competent managers	

Table 8: Results of the employers' perception of innovative educational programs in Malaysia

Employers		
Education and training	Prospects	Factors
1. Competent and knowledgeable	1. Has an advantage over conventional degree	1
2. Up-to-date industrial exposure	2. Demonstrates leadership skills	
3. Technical exposure	3. Develop a successful entrepreneur	
4. More IEP courses	4. Thinks critically	
5. Highly in demand in a knowledge based economy	5. A better team-leader	
6. Guarantees success	6. Manage and conduct oneself proficiently	
	7. Good communication skills	
	8. Ethical	
7. Techno-savvy subjects	9. Ability to acquire and apply fundamental principles of business	2
8. Challenging subjects	10. Knowledgeable and competent managers	
	11. Utilize multimedia and ICT tools to solve business problems	
	12. Knowledgeable and skillful in quantitative techniques to solve business problems	
	13. Could understand and solve the strategic dimension of business	
	14. Could acquire and adapt to dynamic environment	
	15. Capable and effective financial professionals	
9. Interesting courses	-	3
10. Unique courses		

employers feel that IEP degree holders have an added advantage over conventional degree holders for the reason that IEP graduates could manage and conduct themselves proficiently, has good communication skills and are ethical. However, the career prospects of IEP graduates would also depend on their leadership skills and critical thinking. In years to come, IEP degree holders must develop the capability turn into a successful entrepreneur on their own. The summary of the employers' perception of innovative degree programs in Malaysia is shown in Table 8.

CONCLUSION

Innovative educational programs are in-class education which practices innovative way of delivering knowledge to students. Likar (2007) also argued that teachers are still playing vital role in determining the success of education. Equipping with technological skill and better training of critical thinking as well as leadership ability, the career prospect of IEP students are believed aplenty and this is consistent with the employers' perception. From the result, it also shows that face-to-face teaching mode remains as a vital teaching tool. The employers also have a strong belief that the ability of the higher education to prepare competent and knowledgeable IEP graduates will determine the success of these innovative educational programs.

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