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Learning experience on career planning for community colleges in Malaysia

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ABSTRACT

This study explored a learning experience in technical and vocational curriculum based on a career planning program. The aspect of career has always been ignored in the community college curriculum as it was considered less important in the education of students. Many studies showed that exposure to career since the early days of schooling are very effective in shaping the career maturity of students. This study has been conducted based on Backward Design curriculum model which used learning outcomes (graduation) as a tool to create a learning experience in the curriculum. This qualitative study was conducted on 15 respondents graduated from community college and are successful in their careers with a high income. Data was collected using Delphi techniques interview and each session had been transcribed. Thematic analysis has been conducted in 1st round Delphi techniques interview and Fuzzy Delphi Method (FDM) analysis has been used in second round of the Delphi Techniques. Findings indicate that there are three items learning experiences for pre-self-employment information (interests, self-efficacy, and intrinsic motivation) and four items of learning experiences for pre-employment career that influence the career planning. The item has been ranking base on priority for each items value of threshold (d) in FDM. Finally, in the conclusions and recommendations sectors the data identified by the research are described in detail and analyzed so that to ensure that the chain relationship of market research > curriculum design > vocational education and training will be effective and successful.

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1. INTRODUCTION

Despite COVID-19 pandemic, Malaysia will continue to fight towards a high-income goal by 2030. This ambition has forced individuals and organizations to take rapid and advance roles in the advancement and development of careers [1], [2]. The rapid pace of technology and knowledge-based economy (K-economy) in this era of globalization requires quality human capital and ability to master the development of their careers [2]. Education is the foundation for the development of quality human capital while the curriculum serves to determine the direction of national education [3]–[5]. A curriculum that meets the needs of student's career development stages and help them to achieve what they dreamed in their future career is

crucial [6]. However, the development of technical and vocational curriculum such as community colleges often focused on core subjects such as engineering, hospitality, service, and trade industries, but not in social aspects such as communication, leadership, values, and soft skills, which are important for human capital competent and productive in their careers [7]. Malaysian community colleges aspire to be premier Technical and Vocational Education and Training (TVET) institutions, in line with the government's ambition to mainstream TVET to achieve a high-income economy [8]. While recent studies show that many employers request versatility workers in terms of hard skills, soft skills, and career skills [8], [9].

Curriculum is a learning experience organization or planned learning experience that suits to the physical and psychological development of children and adolescents [10]. Learning experience in the curriculum which is based on career development are very effective in shaping the career maturity of students in the future [11]–[14]. A researcher defined the term learning experience as: "The term 'learning experience' is not the same as the content with which a course deals nor the activities performed by the teacher. The term 'learning experience' refers to the interaction between the learner and the external conditions in the environment to which he/she can react. Learning takes place through the active behavior of the student" [14].

Previous research [14] stressed that the problem with the teacher in creating learning experience is how to select learning experience that encourage student in any classroom activities. There are five general principles in selecting learning experiences: i) Students have the opportunity to practice the desired behavior; ii) Learning experience can provide students' satisfaction to develop and maintain their interest in learning; iii) Suit in students' need and ability-wise; iv) Learning experiences that has a multiple ways and wide experience are more effective; and v) Several learning outcome should accomplish in learning outcomes and students should able to integrate the knowledge in several related subjects and fulfill more than one objective. Clearly, learning experience based on human development is very important factor in the construction of the curriculum, because each person is unique and requires a different approach in learning. Thus, knowledge about human development, especially the development of individual career is an important aspect in selecting the learning experience in curriculum [7].

Curriculum Model of Backward Design was built by Wiggins and McThige and known as backward design [15]. This model emphasizes on human development as compared to forward design curriculum that focus on the specific content of the curriculum. Curriculum takes content (from external standards and local goals) and shapes it into a plan for how to conduct effective teaching and learning. It is thus more than a list of topics and lists of key facts and skills (the "input"). It is a map of how to achieve the "outputs" of desired student performance, in which appropriate learning activities and assessments are suggested to make it more likely that students achieve the desired results [15]. It is suitable for use in a student-based learning and is closely related to the curriculum of students, society, and knowledge in Figure 1.

Figure 1. Backward design model

According to Richards [16], curriculum development for backward design begins with an assessment of the methodology of learning outcomes and learning experiences for students. Richards found a Backward Design is very suitable for use in the new millennium as it strives to meet the needs of students of various shades of their character. It was described as the most effective curricular design because this model advocating the reverse compared to other teachers begin with textbooks and time-honored activities. They derive the curriculum from the evidence of learning and used to mention about this 50 years ago, "the purpose of a statement of objective is to indicate the kinds of change in the student to be brought about so that instructional activities can be planned and developed in a way likely to attain these objectives" [14].

This is also the basis for the selection of high-income community college graduates as Delphi Method's process experts where Wiggins and McThige [15] emphasize the outcome of the graduates of a curriculum to be taken into account in the improvement of a curriculum. Even several researchers [17], [18] emphasized that experts are people who have the background of individual experiences and practical practice in the real world. They need their own expertise on the issues being studied.

Career skill such as career choice, career compromise, career adaptability and employability are very important to produce marketable graduated and productive in their careers, and it should be given priority in the development of the curriculum to provide individuals with basic career skill from a very early exposure [19]. However, many experts in curriculum either academic or vocational training does not make it a priority in assuming social skills can be learned informally, either through family care or work experience after their studies [7]. Some even consider the emphasis on career skills will be distracting to the learning of students in technical and vocational major like engineering, hospitality or services [12]. Wehmeyer *et al.* [11] had insisted for those who experienced the world (employer or human resources manager), loyal, flexible and punctual employee who are highly sought after. This is supported by study on the availability of labor skills among graduates of higher education institutions in Malaysia that showed non-technical skills such as career skill is required by the university graduates to compete in the job market [9]. However, it is still a shortage of university graduates in Malaysia and cause them to have problems in getting their dream jobs.

Even, the community college in Malaysia still do not have a program or a formal curriculum in career development to help students plan their future careers like a community college in the United States [20]. It has shown that the students with integrated learning career planning in their curriculum was better prepared for careers compared with the students following the normal curriculum. It supported the several studies [20]–[25] which clearly demonstrating the success of community colleges in the United States transform risk students to excel in their careers through systematic career planning as programs, such as Washington State's Integrated Basic Education and Skills Training (I-BEST), The College and Career Transitions Initiative (CCTI) and Career Pathway Certificate for Lane Community College. To resolve the problem learning experience based on career development could be the answer to the shortage of skills among graduates' workability in Malaysia. Hence there is a need to expose students of Malaysian community colleges with a basic career planning in their curriculum to assist their future career.

2. RESEARCH METHOD

This study used a Fuzzy Delphi Method (FDM) of analysis [26] [27]. FDM is a combination of fuzzy set numbering or fuzzy set theory and was applied in the traditional Delphi technique. This technique is not a new technique, introduced in future studies, but the technique innovating in a futuristic study effective measures and proper to obtain a consensus of expert without going through many rounds [28]–[30]. There are two main points in FDM of Triangular Fuzzy Number and defuzzification process. Triangular Fuzzy Number with 3 points (m1, m2, and m3) the minimum value, the most reasonable value and maximum value. Figure 2 shows the three values.

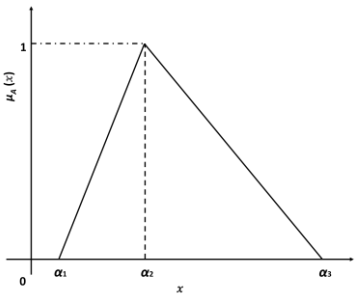

Figure 2. Graph of the triangles mean against the triangles

Defuzzification also be used to determine the position (ranking) for each item or variables and sub-item or sub variables. Based on the opinion of the experts who serve as the study's respondents, this ranking method will assist in producing data as needed. Amax is the abbreviation for defuzzification. The ranking is calculated using (1).

$$Amax = 1/3 * (a1 + a2 + a3) \quad (1)$$

There are two methods that can be applied in this procedure to rank and score the items in each variable. Both fuzzy evaluation and the average of fuzzy numbers (average response) were used by the researcher. Table 1 presents the step to make Fuzzy Delphi Method.

Table 1. Steps to make FDM

Steps	Explanation
1	- Determine the respondent in study - Total of respondents in study: i) 10-15 respondents [31]; ii) 10-50 respondents [32]
2	Determine construct scale, based on triangular fuzzy number
3	All data scheduled to obtain the average value (m1, m2, m3)
4	- Determining the distance between two fuzzy numbers to determine the threshold value (d) - Condition: if d ≤0.2, means all the experts reached a consensus Otherwise, a second round is done
5	- Determine a group consensus - The percentage of the group agreement must exceed 75%, if not the second round should take place - Look back to the table of linguistic scale
6	Determining Fuzzy Evaluation aggregate by adding all fuzzy numbers
7	Defuzzification process

This study used a purposive sampling and suggest samplings should involves individual judgment to select a sample that is based on the knowledge of researchers and specialized research purposes [33]. Researchers can use their knowledge of a problem or make a decision. Next, a list of 15 selected respondents in this study are shown in Table 2.

Table 2. Demographics of the graduates of community college with high income

Background	Classification (n-15)	Frequency (f)	Percentage (%)
Gender	Male	9	60
	Female	6	40
Income	MYR5000–MYR7999	3	20
	MYR8000–MYR10000	6	40
	MYR10000–above	6	40

A total of 15 participants in the study of successful community college graduates and higher income has been identified. Participants were chosen from a list of successful alumni issued by the Division of Industrial Relations, Alumni Tracer, and Department of Community Colleges [34]. The level of income as the basis for selecting participants in the study, based on 2019 Household Income Survey (HIS) by the Department of Statistics Mean household income in urban grew by 3.9% per year from RM7,671 to RM8,635. Meanwhile in rural, mean household income was RM5,004 in 2019, grew by 0.8% higher than the national level of 4.6% [35]. Hence, the researcher chose RM5,000 and above to measure the high income.

The process of collecting data in this study was conducted using Delphi Technique. Among the processes involved is an in-depth interview in round one. Thematic analysis was conducted in the first round and from the result, the questionnaire was designed to be used in the second round in Delphi Technique. In the second round the questionnaires was analyzed by using Fuzzy Delphi Method. The 5-point scale is used to determine a construct in learning experience for the community college curriculum from the consensus among respondents. To facilitate the respondents answered the questionnaire, researchers have put the scale of 1 to 5 to replace the Fuzzy as shown in Table 3.

Table 3. The 5-point construct scale

Construct scale	Point
Strongly disagree	(0.00, 0.10, 0.20)
Disagree	(0.10, 0.20, 0.40)
Moderately agree	(0.20, 0.40, 0.60)
Agree	(0.40, 0.60, 0.80)
Strongly agree	(0.60, 0.80, 1.00)

2.1. Research analysis

Analysis of data using FDM, through step 3 to 7 to answer research questions that have been expressed. To see the degree of agreement among the respondents, the findings of all the items have been analyzed by determining the distance between two fuzzy numbers to determine the threshold (d) as in (2):

$$d(\acute{m},\dot{n})=\sqrt{1/3[(m1-n1)^2+(m_2-n_2)^2+(m_3-n_3)^2]} \quad (2)$$

It is supported by several researchers [32], [36] which stated that to analyze the data, the distance between two fuzzy numbers is calculated by measuring the deviation of the average value between experts. Whereas the criteria used to assess the expert group consensus is based on the degree of agreement exceeds 75%. In this study, the terms of one have been complied with because the threshold for most sub construct is ≤0.2. In fact, the second condition has also been observed for all of the consensus group of experts is more than 75%. Results count number threshold value ≤0.2, indicating that the study had exceeded the threshold of 75% with 95.1% was recorded from the seven sub constructs. This shows the degree of agreement among the experts have reached a consensus. Therefore, the third round of Delphi Technique is not required because the data acquisition has complied with both those conditions.

The analysis in Table 3 shows the construct of learning experiences in the community college curriculum. In this construct, there are seven sub constructs from the 2 main construct was discussed. The analysis revealed that all seven sub constructs were agreed as items to be used as a learning experience whether for information of self or career where the threshold (d) all of which are under 0.2 (d≤0.2) and the consensus is exceeded 75%. The order of priority (ranking) is as shown in Table 4.

Table 4. Construct and sub construct of learning experience

No.	Construct	Sub construct	Consensus	Value (d)	Ranking
1	Self-career	Interest	100%	0.147	1
		Self-ability	93%	0.163	2
		Career motivation	93%	0.171	3
2	Career	Career prospect	100%	0.149	2
		Career path	100%	0.136	1
		Career type	93%	0.157	3
		Job description	87%	0.190	4

3. RESULTS AND DISCUSSION

The findings showed that three sub construct of self and four sub constructs of career have been produced from the analysis of the theme for the first round of the Delphi technique as shown in Table 3. The order of preference was shown from the analysis of FDM in which all respondents have agreed prioritization of all sub these constructs. All constructs and the sub construct are very important to master the stages of career development of the TVET students to enable them to achieve career maturity.

3.1. Explore the pre-employment information of self or learning experience

3.1.1. Career interest

Respondents agreed that career interest should be included in the learning experience in order for students to better understand their own particular career interests. All of the respondents agree that career interests should have been known since the beginning. Respondent 9 who are doing a business in traditional cake insists, he will only select employees who have a passion though not rely on skilled worker only. This is because such skills cannot be learned but interest should be sown and developed from the beginning. Respondent 6 and Respondent 5 also expressed interest not only enable them to survive in the career field but will make an individual more creative and productive. In fact, most career theory have put their interests as a basic in their theory of career development [37]–[40]. Even have states, based on the theory of career interest is closely linked to student career choices in the future [41], [42]. Career progression can be guided when individuals have enough information about their career interests.

3.1.2. Self-ability (100%)

Self-ability is the capacity to recognize one's own talents and flaws to plan one's own career [43]. Respondent 1, 2, and 10 insisted it be an inspiration to them in their career planning process. Self-awareness is closely related to self-concept as a major source of Supers' Development Career Theory. It is said to affect career choice and career satisfaction for the worker [44]. According to Super [39], self-concept is built through an employee's physical and mental growth, observations of work, identifying the adult career and general experiences they gain. All of the participants in this study believed that self-awareness is necessary if people want to plan their future careers. Respondent 2 and 10 insisted, they breathe through any challenge to know why they were able to achieve their ambitions. Therefore, this factor should be polished by the management of community colleges to ensure their students acquire self-awareness to make initial plans for their future career. When they were able to determine their own ability, they will be more confident to plan their future career.

3.1.3. Career motivation

A total of 13 (86%) of respondents agree that career motivation should be inculcated in the soul of community college students. For Respondent 13, most community college students do not have high self-confidence and their enthusiasm is very low in failure during their school days. They are in dire need of a boost as they prepare to push for their future career. This were supported by Respondent 14 and 15 who said most of the students just thought to be subordinate only because he felt they did not deserve to be self-employed. Their consideration only to graduate from community college without knowing their career planning. This perception needs to be changed and they need to be convinced that there is room and opportunity to succeed by making community college as a platform to success. Thus, career motivation needs to be in their learning experience so that it is able to mobilize the enthusiasm of community college students to succeed. It is an internal power that generates, directing and controlling interests and human behavior at work [45]. It refers to a situation that raises a person's desire to work and achieve success in his chosen career. It is an internal factor for person and crucial to encourage the behavior of their careers [41]. This study was supported for risky students in secondary schools and found that career motivation will drives them to continue studying to guarantee their future careers [46]. Similarly, previous study showed the important role of career motivation to develop career awareness in USA community college's students and make them stronger to face the challenges in achieving their dreams [47].

3.2. Explore the pre-employment information of career for learning experience

3.2.1. Career prospect

Prospect is a chance that happened while somebody in their efforts to meet their needs and also to make a profit. Previous researchers [48] described the career prospects that can give good returns, security, less risk and meet the career itself is very important in the selection of individual careers. In fact, a total of 14 respondents agreed with this opinion and many of them see it as an important factor for choosing a career field. Even Gottfredson [47] also stated a compromise would happen if people see the career field of study has no prospects in future. This is supported by studies by Rasul *et al.* [48] about compromise aspect which forced community college graduates to change their field of career. They find that, a prospect of a career has a high impact in their career compromise. Thus, guidance and information on career prospects in their field in the formal curriculum of community colleges to avoid them change careers after graduating. It is a waste of time and manpower when many graduates change their line of work compared with what they learned in college communities, and this will also be an indicator that the community college curriculum failed to help its graduates to choose their careers in the fields of studies.

3.2.2. Career path

The development of the individual in all his life through the interaction and integration of roles, setting life and all events in his life were heading towards the selected career [49]. Guided career is a very important aspect for most students, especially those at risk of failure, who have a difficulty to plan the direction of their future careers [44]. There were 11 respondents (73%) have put the career path as things should get in the learning experience in community colleges. Respondent 4 even felt he might be able to succeed more quickly if coached in career planning. This was because he had spent so much time with career planning of trial and error alone until he finds a career that gave him success. This is supported by Respondent 7 and Respondent 10 who said they did not see their direction while in college communities, and only trial and error in their own career planning. This causes them to waste a lot of time experimenting with jobs deemed suitable for their future. It could have been avoided if they had been guided by the formal syllabus community colleges to face future careers.

3.2.3. Career type

In this study, it is an occupation by groups such as the classification of technical workers, entrepreneurs and the like. For Respondent 1 and Respondent 11, types of careers are actually very important to master. Respondent 1 insisted most of community college students especially among Bumiputera just look at the career of salaried workers, especially to work with the government. On the other side, especially in the field of entrepreneurship is very wide and if they do not seize it, it will be snapped up by someone else. While Respondent 11 also confirmed most of the field of study in community colleges is quite common when viewed at a glance and only a few works only exist. In fact, there are many types of job are available and require different personalities exist in it. For example, the automotive sector, most students only see the mechanics as a career in the automotive but actually there are many other jobs that exist such as welders, car painting, vehicle electricians, service advisor, and more. This information should be known to the community college students since the outset to avoid them confined in a narrow stigma about their career field. Holland [41] looked at the career types as a setting such a skilled work (electricians and mechanics),

scientific works (chemists, physics, and biology), work education (teachers and others) and also business management (operations manager and others), while Roe [40] classify the type of career into two main groups, people-oriented, and non-people-oriented.

3.2.4. Job description (60%)

A total of nine respondents (60%) suggests each student should be given a specific information on job description. Even Respondents 2 and 4 urged that community college students be taken to places where they can do real work to obtain work. Respondent 12 became interested in their current employment after getting a taste of the experience and understanding the job description during Industrial Training. While at the beginning of his studies, he chose that field because there were no other choices. Therefore, it is important for colleges to make job descriptions as a part of the learning experience in community colleges curriculum, either in formal or informal approach. Job description are related to the job condition, atmosphere, equipment and scope of a job. Holland [41] pointed out specific information about the job is important because it can provide an opportunity for students to consider the appropriateness of their personalities with the line of job. Holland [41] described that those personalities who are not aligned with the working environment can cause depressed individuals that lead to dissatisfaction with one job.

3.3. See the priority construct pre-employment information of self for learning experience

The analysis of Fuzzy Delphi Method shows that each construct has a threshold (d) value below 0.2 and have been prepared in accordance with the priority shown in the Table 5. Career interest is a priority, followed by career skills and career motivation. This shows that respondents put the interests of the main things that need to be kept as a learning experience in community colleges and many studies have been conducted previously showed a strong correlation between interest in a career with the employee in a job or career planning [41], [50].

Table 5. Ranking self-info

No.	Sub construct	Value of threshold (d)	Ranking
1	Career interest	0.149	1
2	Career motivation	0.163	2
3	Self-ability	0.171	3

3.4. See the priority construct sub pre-employment of career for learning experience

Fuzzy Delphi Method analysis on all sub constructs has produced the threshold (d) value below 0.2 and the sub construct's priority list is shown in Table 6. The career path is positioned as the top priority, followed by career prospects, job type and job descriptions. Respondents put the prospect of a job as the top priority because they want to guarantee their future career, able to change the fate of themselves and their families in the future. The career prospects are very important in choosing a career and it can be a first factor in an individual change jobs or change the scope of his employment [46], [48]. Thus, the respondents were very important in providing information about job prospects to be part of the learning experience.

Table 6. Ranking career info

No.	Sub construct	Value of threshold (d)	Ranking
1	Career path	0.136	1
2	Career prospect	0.149	2
3	Job type	0.157	3
4	Job description	0.190	4

4. CONCLUSION

Overall, this study has achieved its objective to explore the construct and sub construct of learning experience based on career development of the curriculum in community colleges. Findings from the interviews conducted on 15 successful graduates of community colleges provided seven sub constructs for information about job and personality. Career interest, self-ability and career motivation were grouped in career while career prospect, career path, career type and career description were grouped in personality. All these sub constructs need to be considered in community colleges curriculum improvement to have an impact on the development of careers among community college students. This is because the students' career not only begin after their graduation, but actually started when they begin their studies at the community college. They need to be guided and supported to plan their career journey using elements that have been described

previously. Therefore, researchers hope that all these elements are recognized and used as a basis in the formulation of curriculum development at community college. In Malaysia, recommendations have been made to improve career development interventions in technical and vocational schools.

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