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Mode and Dimension of Facilitation in Student-Centred Learning Approach: A Comparison of Teaching Experience

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Abstract

This study is based on the Heron Facilitation Model, to evaluate the dimension and mode of facilitation of facilitators who are using Student-Centred Learning (SCL) as an approach in delivering theoretical knowledge. A survey study was conducted, involving 177 facilitators from multiple backgrounds. The findings show that the six dimensions of facilitation were rated at a high level and cooperative mode was most often applied in the SCL approach. There is no difference in mode and dimension applied by young and senior facilitators. Thus, experience and field of education discipline do not generally predict an effective facilitation measure for theoretical delivery.

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INTRODUCTION

Educators, teachers, or lecturers in higher educational institutions are individuals who have the most influence on students' learning. According to Schleicher (2012), the development of new skills of students is most dependent on educators. Therefore, significant moves have been made by many institutions towards Student Centred Learning (SCL), to replace previous methods using the Traditional Learning Approach (TLA). The main concern is to provide students with autonomy and to change the role of lecturers from teaching to coaching. SCL approaches such as problem-based learning, case study, practical activities, laboratory work, collaborative learning, computer-assisted learning, and group discussions would encourage a two-way communication between students and the facilitator. Thus, in using SCL across educational disciplines, students' performance could go beyond cognitive development, including psychomotor and affective domain (Ibrahim, 2004).

The SCL approach involves students' influence on the content, activities, materials and levels of learning (Collins & O' Brien, 2003). Although this approach focuses on students as a key player in teaching and learning, a facilitator serves as an important individual in guiding students to reach their learning goals. Therefore, multiple approaches, dimensions, strategies, and modes of facilitation can be applied to take control of learning activities during the SCL process. Subsequently, a different facilitator uses different approaches, which result in the difficulty in measuring the best and most effective approach of SCL facilitation, especially in theoretical knowledge delivery in the higher education context. These circumstances indicate that the standard measure for effective facilitation is still missing, and this area requires a specific research to be conducted.

Facilitation models have been well documented by previous authors from diverse disciplines of knowledge; they discuss the main role of facilitators, proposing theories, approaches, methods, strategies or principles with underlying theoretical framework. For instance, Prendiville (2008) proposes four facilitation styles based on tasks and activities, namely the directive, exploratory, delegating, and participative. These facilitation styles exclude external predictors that would change facilitators' styles. In Cameron (2005), the author introduces three Bi-polar scales, namely energy, orientation and control. The combination of these three bi-polar scales produces eight styles of group facilitation. In Brandes and Ginnis (1996), the authors propose six principles of facilitating SCL that clearly show the function of an educator as a teacher and an information provider. In Yasar (2008), a facilitator should play his or her role as a fellow learner who closely communicates with students. Spratt et al. (2005) suggest a strategy to be an effective facilitator: a facilitator should act as a content expert and serves as an information provider, ensures teaching and learning based on good planning and management, monitors teaching and learning processes, engages in discussions, creates a good atmosphere and comfortable interaction, stays aware of students' problems, gives comments, and helps students in solving problems. In addition, the facilitator should also be able to negotiate and intervene diplomatically to resolve problems faced by students (Sabburg et al., 2006). In education, one of the most cited works is the model by Heron (2006), namely the mode and dimension of facilitation model. Although this model was developed for training and therapeutic counselling, it suits the education field, especially in facilitating SCL. This model will be used as a reference to gauge the effectiveness of facilitation by a facilitator.

The model from Heron (2006) uses six dimensions and three levels of mode of facilitation. These dimensions serve different functions and strategies on students' learning. The first dimension is planning, which focuses on helping students to achieve their learning goals. The second dimension is meaning, which focuses on the cognitive aspect of students' awareness of learning. The third dimension is confrontation, which focuses on the more specific aspects of learning, including the 'dos' and 'don'ts' in learning process. The fourth dimension is feeling, which deals with different issues, including psychological and emotional aspects of students' diversity. The fifth dimension focuses on structuring students' learning and the sixth dimension stresses the value of learning. These dimensions are inter-connected and linked to

one another but they must be implemented differently. On the other hand, facilitators have to adopt three modes during the facilitation process, namely hierarchy, autonomy, and cooperation. In the hierarchy mode, a facilitator has to exert much control over students' learning. In the autonomy mode, a facilitator plays the role of monitoring tasks. In the cooperative mode, a facilitator acts as a leader and a group member. The modes of facilitation can be changed from time to time according to SCL situations.

Although there are many theories, approaches, methods, strategies or principles proposed by previous researchers, the implementation of any types of models/theories mentioned relies on experience and maturity. For instance, in some cases, young facilitators face difficulties in some aspects of teaching like planning, implementation and lesson assessment (Ertmer & Simons, 2000). This is because young facilitators lack the experience related to the structure of facilitation process. In addition, some facilitators might feel uncomfortable in changing roles from teacher to facilitator as they are accustomed to the traditional teaching methods (Dolman et al., 2002). Thus, it is hypothesised that lack of knowledge and experience in facilitation skills is associated with lack of confidence to facilitate students especially in the SCL approach. Although training is sufficient, the implementation in the classroom is closely associated with individual skills and personal approach in facilitating students in SCL. There are no general fool-proof benchmarks and guidelines for an effective facilitation for all facilitators. Therefore, this study is based on the Heron Facilitation Model to measure the dimensions and modes of multiple-level facilitation among facilitators who use SCL as an approach in delivering theoretical knowledge to students.

Student Centred Learning Context

Student Centred Learning (SCL) is an approach of learning. Students play their role during teaching and learning sessions in the classroom by actively participating in each learning activity, while the lecturer acts as a facilitator. According to Michaelson and Black (1994), SCL is an approach where students take control of content, activities, materials, and pace of learning. Lately, SCL has been defined with a wider context and a comprehensive definition includes active learning, choice of learning, and shift of power in the teacher-students relationship (O'Neill, Moore & McMullin, 2005). In a typical classroom setting, a facilitator allocates a specific period of time for students to explore learning issues and solve problems as a part of learning process (Salleh et al., 2009).

Previous studies highlighted several methods of implementing the SCL approach in the classroom setting, for small groups or large classes. This includes collaborative learning, problem-based learning, peer instruction, team-based learning, and project-based learning (Michaelson & Black, 1994; Michaelson, Knight & Fink, 2004; O'Neill, Moore & McMullin, 2005). The most important aspects to be considered for SCL approach implementation are suitability of activities and the size of classes. In order to match SCL activities and the size of classes, several previous authors had proposed methods such as think-pair-share, quick-thinks, round table, minute papers, immediate feedback, bookend lectures, and student project presentation (Johnston & Cooper, 1997; Stead, 2005; Smith et al., 2005).

In the Malaysian context, the SCL approach is limited to several common methods or learning activities. The local students have little exposure to SCL since the primary school days; hence, SCL might not work as expected without the prominent function of a facilitator. Students' project presentation has been one of the methods most frequently used by facilitators. In this method, group discussions occur in teams of 4 to 5 members in an engineering class; and the number could be higher for teams in a non-engineering class. Some engineering classes use problem-based learning (Salleh et al., 2009), project-based learning, site visit, and field study as a method of SCL. Nevertheless, non-engineering classes move ahead to adopt other methods, including debate, quizzes, public speaking, and forum. Moreover, due to the recent technology advancement, blended learning methods using flipped-classroom approach have been widely discussed in the higher education context in Malaysia (Jamaludin & Osman, 2014). This subsequently has created a new challenge for

facilitators, despite the multiple methods and strategies using SCL to maintain effective facilitation in the 21st century learning circle.

METHODS

This study deploys a descriptive quantitative survey design using questionnaire. According to Dantzker and Hunter (2012), a survey design can be used to make descriptive assertions, especially for a large population. The two main elements of facilitation of Heron's model are taken as a basis for measuring facilitation according to the dimension and mode applied during SCL. Therefore, the major aim of this research is to investigate facilitator 'skills' in facilitating SCL when delivering theoretical knowledge for non-engineering subjects within the higher education context

Population and Sample

A total of 248 samples out of 1220 lecturers who teach undergraduate students in UTHM were each given a set of questionnaire. In this case, two stages of simple random sampling were deployed. In the first stage, an online questionnaire was developed and sent to all the lecturers using email blast. However, the response rate was very low with only 25 returned questionnaires. In the second stage, questionnaires were distributed by hand by visiting the lecturers' rooms/offices in all faculties. As a result, a total of 177 completed questionnaires were collected from the 300 rooms/offices visited. This figure is considered appropriate for research as the response rate is 71.4%, which is above the acceptable rate of 65% (Nulty, 2008).

Instrument

The instrument, a questionnaire, was developed based on Heron's model of facilitation. The questionnaire comprises three parts, namely Part A, Part B and Part C. Part A covers the demographic information of respondents such as teaching experience, field of educational discipline, and gender; Part B relates to the dimension of facilitation, consisting of 35 items for 6 main sub-constructs. In Part C, a total of 16 items are used to measure the mode of facilitation of SCL in delivering theoretical knowledge.

In order to test the reliability of items, a pilot study was conducted before the actual study was implemented. A total of 30 lecturers/facilitators at the Faculty of Technical and Vocational Education were asked to complete the questionnaire. Data analysis indicated that the Cronbach alpha was 0.94 and thus, appropriate for research purpose (Perera et al., 2008). Additionally, in order to increase validity and reliability, discrimination analysis was performed; as a result, a total of 10 items were removed with the discrimination index below 0.2 (Boopathiraj & Chellamani, 2013).

Data Analysis

Data were analysed using descriptive and inferential statistics. Mean and standard deviation were used to explain the dimension and mode applied by the facilitators. One way Analysis of Variance (ANOVA) was used to compare facilitators' perceived performance in the dimension and mode of facilitation according to teaching experience and field of discipline.

RESULT AND DISCUSSION

The samples were dominated by female facilitators, which comprise 53% (93) females and 47% (84) males. A total of 39% (69) facilitators have more than 10 years' experience, 36% (64) with 5 to 10 years, and 25% (44) below 5 years. Within these groups, 54% (92) are from engineering background including mechanical, civil, and electrical engineering, while the remaining 48% (85) are non-engineering such as information technology, science, business, and technology.

Dimension of Facilitation

The data are obtained from Part B, using 35 items based on self-perception. Data analyses were performed using means and standard deviations (SD) in order to determine whether the six dimensions of Heron's model were applied during the facilitation of SCL approach in theoretical knowledge delivery. The results indicate that the overall mean is rated at a high level of 4.16 (SD=0.35). The highest mean is for the planning dimension with 4.34 (SD=0.45); an example of the

item rated higher sounds like "I organised the topic content accordingly". The lowest mean goes to confronting dimension at 3.78 (SD=0.63); an example of the item with the lowest rate sounds like "I encouraged students to change leader for different learning activity". The rest of the mean scores and standard deviations are indicated in Table 1.

Table 1. Mean score for dimension of facilitation.

Dimension	Mean	Std. Deviation
planning	4.3380	.45381
meaning	4.2326	.47112
confronting	3.7815	.63613
feeling	4.3356	.46433
structuring	4.2677	.42405
valuing	4.0141	.47652

Mode of Facilitation

The data are obtained from Part C, using 16 items which are also based on Heron's model of facilitation. This part is to determine whether the three modes of facilitation were applied by lecturers during the facilitation of SCL approach in delivering theoretical knowledge. Results of data analyses indicate that the cooperative mode was rated the highest with a mean score of 4.14 (SD=0.49). The item in the cooperative mode "I let students with freedom for accepting or rejecting the given opinion" was rated with a high mean score of 4.21 (SD=0.63). The mean scores for the other modes are indicated in Table 2.

Table 2. Mean score for mode of facilitation.

Mode of facilitation	Mean	Std. Deviation
hierarchy	4.1254	.43729
autonomy	4.0085	.53308
cooperative	4.1356	.48912

Dimension and Mode versus Teaching Experience

The dimensions and modes were compared between the three levels of teaching experience; this is to ascertain which group has the better facilitated SCL group based on Heron's (2006) model. The results show that lecturers who serve between 5 to 10 years have a slightly higher mean score (Mean = 4.18; SD=0.40) of all. Also, the mode of facilitation has a slightly higher mean score for those who serve more than 10 years with the value of 4.10 (SD=0.41). However, further analysis using ANOVA indicates that the dimensions and modes of facilitation do not have a significant difference between these three groups of facilitators. This clearly indicates that teaching experience does not provide any advantage to the facilitation of SCL. The details of the results are in Tables 3 and 4.

Table 3. Mean score of facilitation and Teaching Experience.

Teaching experience (years)	Facilitation of SCL			
	Dimension		Mode	
	M	SD	M	SD
Below 5	4.10	0.33	4.07	0.39
5 to 10	4.18	0.40	4.08	0.45
More than 10	4.17	0.32	4.10	0.41

Table 4. ANOVA of level of experiences.

		Sum of Squares	df	Mean Square	F	Sig.
dimension	Between Groups	.220	2	.110	.875	.419
	Within Groups	21.908	174	.126		
	Total	22.129	176			
mode	Between Groups	.034	2	.017	.095	.909
	Within Groups	30.706	174	.176		
	Total	30.739	176			

Dimension and Mode versus Field of Educational Disciplines

Engineering and non-engineering facilitators were also compared in terms of dimensions and modes of facilitation of SCL in delivering theoretical knowledge. Both the major educational disciplines are slightly different in mean scores for the dimensions and modes of facilitation. In this case, the facilitators of non-engineering students have a slightly higher mean score of 4.21 (SD=0.36) compared with their engineering counterparts at 4.11 (SD=0.34) for the dimension of facilitation, while the engineering facilitators have a slightly higher mean score for the mode of facilitation at 4.09 (SD=0.42) compared with non-engineering at 4.08 (SD=0.42). The data were then further analysed; the results indicate that both the engineering and non-engineering facilitators do not differ in the dimension and mode according to Heron's model of facilitation. The results are shown in Tables 5 and 6.

Table 5. Mean score of facilitation and field of discipline.

Field of discipline	Facilitation of SCL			
	Dimension		Mode	
	M	SD	M	SD
Engineering	4.11	0.34	4.09	0.42
Non-engineering	4.21	0.36	4.08	0.42

Table 6. ANOVA of field of disciplines.

		Sum of Squares	df	Mean Square	F	Sig.
dimension	Between Groups	.412	1	.412	3.322	.070
	Within Groups	21.716	175	.124		
	Total	22.129	176			
mode	Between Groups	.000	1	.000	.001	.971
	Within Groups	30.739	175	.176		
	Total	30.739	176			

Based on Heron's model of facilitation, six dimensions of facilitation and three modes of facilitation were used to determine lecturers' capabilities in facilitating students in SCL approaches. The six dimensions are planning, meaning, confronting, feeling, structuring, and valuing, while the three modes are hierarchy, autonomy and cooperation. In the SCL environment, lecturers act as facilitators to guide students' learning journey towards achieving the intended learning outcome. This study investigated the dimensions of facilitation of SCL in delivering theoretical knowledge in the higher education context. Sessions of facilitation focused on delivering theoretical knowledge; in contrast, in a typical traditional setting, teaching and learning is by and large teacher centred.

According to a previous study, Spratt et al. (2005) suggest that planning and management is the most critical dimension for a facilitator to be effective in the job. Thus, a facilitator should always refer to and explain to students regarding learning objectives, topics to be studied, and provide an appropriate reference point. Without appropriate planning as well as teaching and learning, learning goals are far to be achieved (Unal & Unal, 2012). The study findings indicate that lecturers who acted as a facilitator performed better at guiding SCL activities on all dimensions. Within this, planning and feeling were the two dimensions properly implemented in facilitating SCL group, especially for theoretical knowledge delivery. This is because facilitators perceived that they had made careful planning to help students to achieve their learning goals. In addition, most of the facilitators are aware that careful planning is crucial in order to ensure effective learning during SCL, and learning directions are guided toward achieving the

expected learning goals. Moreover, it was found that facilitators had a weakness in the confronting dimension. Unlike the previous findings, the structuring dimension was the major weakness of the facilitators during facilitation of SCL. For instance, in Turan et al. (2009), the authors found that lecturers needed to improve structuring dimension since it was found to be the weakest part of facilitation. Similarly in Mokgele (2006), complaints came from lecturers regarding their lack of experience to structure SCL due to the absence of guidelines.

In terms of mode of facilitation, facilitators preferred the cooperative mode, but hierarchy and autonomy modes were also put in place when necessary. This finding provides a clear picture of facilitators in understanding the concept of using a facilitation mode; they need to switch between modes to find a right one to create a suitable atmosphere of SCL. These findings are in line with Galajda (2012), the author suggests that a facilitator must utilise all the three modes of facilitation based on the situation during learning process underpinned by SCL, since each mode has its advantages to students' learning process within a group setting.

In this study, a comparison was made between three groups of teaching experience and dimensions/modes of facilitation. The finding shows that these three groups are not significantly different, indicating facilitators with working experience below 5 years, of 5 to 10 years, and of more than 10 years performed at similar level during SCL implementation. The study does not provide evidence to prove those who have more than 10 years' experience have better performance in the dimensions and modes of facilitating SCL than those who are freshmen did not have skills in facilitating SCL. This circumstance is justified by the structured training provided by the institution to the young facilitators. This finding is consistent with the study by Tsang (2014), whereby lecturers' experience does not produce different performances in terms of the mode of facilitation. However, in the studies of different authors, young lecturers might have lacked training, and they practised different modes of facilitation; senior lecturers were more likely to give more autonomy to students and adopt a democratic approach compared with young lecturers (Unal & Unal, 2012).

This study also compared the dimensions and modes of facilitation of SCL between engineering and non-engineering facilitators. The results indicate that there is no significant difference between these two major groups of facilitators. Although the nature of fields and subjects to be taught are very different, the focus of this study on theoretical knowledge delivery has clearly justified this finding.

CONCLUSION

This study evaluated the modes and the dimensions of facilitation amongst lecturers who were using SCL approach in theoretical knowledge delivery based on Heron's model of facilitation. This study also compared both modes and dimensions according to teaching experience and fields of education disciplines within the higher education context. The findings indicate that most of the facilitators embraced all the six dimensions of facilitation with cooperative mode as the most often applied mode in the SCL approach. Although young facilitators lacked experience in handling SCL approach, their performance was similar to that of their senior counterparts in all the six dimensions and modes of facilitation. Additionally, there is no difference in terms of dimensions and modes across the engineering and non-engineering facilitators. Therefore, in this study, Heron's model of facilitation is a useful instrument for measuring facilitation skills. In terms of professionalism as a facilitator in the SCL approach, experience and field of education discipline generally do not predict an effective facilitation measure for theoretical knowledge delivery. For future investigations, an experimental research is useful to prove the effectiveness as well as develop a guide for effective facilitation using Heron's model of facilitation.

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