

# Student Centered Learning At USM: What Lecturer And Students Think Of This New Approach?

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## Abstract

Student-centered learning (SCL) is currently attracting a great deal of research attention internationally, driven by the growing concerns of educators of ideal teaching and learning methods. This study aims at investigating the lecturers and students' view of practicing SCL in the teaching process. Data was gathered through survey from 58 lecturers and 128 students of Universiti Sains Malaysia (USM). Results shows that lecturer and student perception about lecturer role were the highest mean (= 4.05; 3.81) by doing their part effectively, used all SCL teaching methods such as lecture, lecture discussion, cooperative learning and others, except for on-line discussion. The student is more motivated and responsible in their learning, as peer learning and peer teaching are part of the teaching practice at USM. Student involvement in curriculum content, teaching method, evaluation method and able to give feedback on the quality of the education process had create a positive learning environment with access to facilities, interaction in the class without any problem to cover the content syllabus by having SCL guideline. Assessments given are based on the ability of the student that had led students to play their role in SCL effectively. However, the lecturers had not enough experience in implementing the SCL and need more training or workshop in SCL. These results have important implications for successful practicing of SCL in Malaysian universities, particularly USM for greater understanding on what we want student to learn and what they actually learn. The details of these implications are elaborated in this paper.

**Keywords:** student-centered learning, lecturer and student view, Universiti Sains Malaysia

## 1. Introduction

### 1.1 SCL In The Classroom

Student-Centered Learning (SCL) use in the classroom is very widespread. Most of the lecturers have changed their methods of teaching and learning rather than just give lecture to activities in the classroom. According to Jones (2012), in a student-centered classroom, students need to act pro-actively in the learning process and not respond passively to lectures; instead, they need to communicate, appreciate, and learn with their peers to get all the necessary information needed. There are various forms of activities that can be used by the lecturer in class, such as discussion, presentations and group work. USM is not exempt from implementing SCL as ideal teaching methods. Thus, the Centre for Academic Excellence & Student Advisory and Development (CDAE) USM had done several workshops for staff development for the implementation of SCL teaching and learning methods. However, to what extent has it been implemented in teaching and learning at USM? Therefore, the aim of this study is to investigate the lecturers' and students' view of practicing SCL in the teaching process.

SCL define as active rather than passive learning, emphasis on deep learning and understanding, increase responsibility, accountability and autonomy in the learner, that lead to interdependence and mutual respect between the learner and teacher (Melissa, Shuki, Mohd Ali, Muhamad Saiful Bahri & Hairul Nizam, 2012). Instead of giving more autonomy for student in learning, lecturers need to play their role of guiding the student as self learners (Kus, Filiz, & Altun, 2014). The role of lecturer in the classroom, and SCL practicing in the teaching process, has lead CDAE USM to publish "the Training Module Series: Student Centered Learning (SCL) Approaches for Innovative Teaching which consist of module 1 to 6 that will provide the basis for a training programme for academic staffs to enhance their pedagogical knowledge and skills" (Rozinah, 2012, p.1). Since the module was published, a series of workshops have been done by CDAE and have helped attendees improve their teaching and learning skills and positively impact the learning environment (Centre for Academic Excellence & Student Advisory and Development, 2014, p.2).

While there has been a fair amount of intense heat surrounding the concept, SCL must still be researched to gauge student and lecturer perceptions of the teaching process, as well as actual efficacy. This paper is a first attempt at motivating the further use and research of SCL within the USM main campus. In the stages of implementation, it is important to note that student and lecturer perception is crucial. To that end, this paper gauges students' and lecturers' views toward SCL implementation in the context of the USM main campus, and that could be useful to the education literature at higher Malaysian education, especially USM. The rest of the paper continues accordingly: Section 2 describes the potential benefits and pitfalls of SCL; Section 3 discusses the methodology used in this study; Section 4 presents data on how students and lecturers have responded to SCL; Section 5 presents findings; and Section 6 offers conclusion.

## **2. Literature Review**

### *2.1 What Is SCL?*

According to Attard, Di Iorio, Geven, & Santa (2011), SCL is comprised of many potential benefits to students and lecturers including: students can be part of an academic community, increase their motivation to learn, lead student independent and responsibility in learning, and consider their needs in learning. Hence for lecturers, SCL also provides a more interesting role; solutions to tackling massification and diversity; positive impact on working conditions; continuous self-improvement; increased learner motivation; and engagement and professional development for academia (Attard, Di Iorio, Geven, & Santa, 2011). Indeed, SCL can be considered problem-based, problem-oriented, and project-based learning, which can produce competitive graduates who can perform in complex situations (Mojgan, Ghavifekr, Saedah & Ahmad Zabidi, 2013).

### *2.2 Why SCL?*

Schifter, (2013), Kuo, Walker, Schroder, & Belland, (2014) and Long, Logan, & Waugh, (2014) were among the researchers who discussed the benefits that could occur when implementing the SCL teaching method in flipped classrooms, online learning, and games in learning. According to Long, Logan, & Waugh, (2014), SCL plays an important role in a flipped classroom for in-class active learning activities. Without the use of SCL philosophy, a flipped classroom would not exist, because the theories provide the basis for in-class activities that require human interaction between student needs and the lecturer's role of solving real-world problems (Bishop & Verleger, 2013; Melissa, et al, 2012).

With fully online setting delivery, students are more satisfied with student-content interaction, which suggests that lecturer should play their role in the discussion board by replying student questions as soon as possible to increase student-lecturer interaction for problem solving (Kuo, Walker, Schroder, & Belland, 2014). Moreover, based on Schifter (2013), who reviewed games in learning, one of the factors that arose with games in an educational setting was the shift from teacher-centered to student-centered learning is through active learning interaction/experiences/activities, group work, multiple learning styles by using intelligent tutors, and complex problem solving that give benefit towards the development of student twenty first century skills. (Zainal, Abdullah, & Prabuwono, 2012). Meaningful learning experiences/activities occur during the interaction time between student and lecturer, and that is most important. For these reasons, student and lecturer perspectives stand at the core of the discussion in implementing SCL as a teaching method.

### *2.3 The Benefit of SCL*

The benefits of SCL are well documented within the education literature, and thus will only be discussed briefly. D'Souza (2013) and Hallinger (2013) show that including carefully constructed SCL in the classroom can appeal to a wide range of students and perhaps increase student engagement between peers as part of an academic community. Another study on SCL has found that students who were taught with the SCL teaching method need to be responsible and independent in their own learning process (Enfield & State, 2013; Mcgee & Reis, 2012). Van Kan, Ponte, & Verloop (2013) arrived at a similar result, though the authors note that the efficacy of SCL focusing on student self-interest in class may depend upon the teacher's ability to implement this teaching strategy. Despite many reasons to incorporate SCL, a study on flipped classrooms by McLaughlin et al (2014) shows, student-centered learning exercises was designed for every in-class time period to assess their knowledge, promote critical thinking, and stimulate discussion.

There are common reasons such as limited time for preparation and planning in-class activities, class

control, larger class sizes, and space for activities that SCL teaching techniques are not used in many higher education classrooms (Bihong & Yu, 2014; Nurul, Mohamad, Salam, & Bakar, 2014; Stanley & Marsden, 2012). In fact, a study by Mintah (2014) found that some negative impacts of large class problems had limit student creativity; evaluation system becomes less valid; both teachers and students weaknesses and strengthes are not revealed; and aims and goals of the school and education could not be achieved. The predominant reason why lectures are preferred to traditional lectures in class rather than using SCL tool such as an e-learning platform, were preparation, and time of management, and development of the material (Kee, Omar, & Mohamed, 2012), with 88% of lecturer mentioning time constraints as the main reason (Nurul, Mohamad, Salam, & Bakar, 2014).

Implementation of SCL at USM, as it was used in this study, remedies the problem of using the teaching method in classes especially large class because it effectively adds extra class time per week that can be devoted to active learning (Bihong & Yu, 2014). Concerning the use of SCL teaching methods, Saavedra & Opfer (2012) note that, "As David Perkins points out, people do not learn to play baseball by themselves... [O]nly Superman could do it, and it wouldn't be much fun" (2010, p. 191). "They should learn to play baseball from and with their peers and coach." (p.11). The authors also discuss 9 lessons for 21st century learning such as the following:

1. Make it relevant.
2. Teach through the disciplines.
3. Develop thinking skills.
4. Encourage learning transfer.
5. Teach students how to learn.
6. Address misunderstandings directly.
7. Treat teamwork like an outcome.
8. Exploit technology to support learning.
9. Foster creativity.

With full disclosure, SCL does require a fair amount of preparatory work on the front end, which could be as much of an obstruction. As the study by Nurul, Mohamad, Salam, & Bakar, (2014) and Loeb (2014) shows, instructors choose to primarily lecture because of the amount of preparation time available.

A potential benefit of SCL is that students are able to increase motivation and be independent to conform to their needs. Student motivation and their needs in the learning process has been widely studied in the education literature, as well as the literature regarding student engagement and interaction in classes (Hughes, Im, & Wehrly, 2014; Reeve et al., 2013; Smit, Brabander, & Martens, 2013). Smit et al., (2013) find that students are motivated when in SCL environments because students can choose the task based on their needs and the lecturer will play their role depending on what students ask and need (Stefanou, Stolk, Prince, Chen, & Lord, 2013). However, results show that the SCL environment is motivating, but it is difficult for student to obtain high grades. Also, Mclaughlin et al. (2014) suggested that active learning exercises in teaching strategies to foster student motivation can facilitate student excellence and develop learning skill, such as group discussions, projects, peer assessments, and online quizzes. These teaching methods are significant in fostering student self-motivation for learning in taking any courses.

The notion of active learning activities involves helping students at the moment of confusion, with the presence of lecturer, while students are working on practice problems or group worksheets during class time (Li, Mai & Tse-Kian, 2013). Another benefit of using the SCL teaching method that had been noted by (Stanley & Marsden, 2012) is the use of PBL as in class activities to develop student skill by learning experience. While a student may have poor prior experience on the subject matter, during class time, students are able to catch up on activities by having lectures facilitate and encourage them with their prior experience to solve the problem (Stone, 2012).

Because this study is geared more toward students' view on the use of SCL teaching method, and not the effect of the activities, actual benefits to student learning are measured by any other method and are not estimated here. Therefore, from an institutional perspective, it is natural to ask how SCL teaching method can help in terms of learning outcome. Since students have been used to teacher centered learning from their secondary and primary school, students see learning as a process of gaining information and knowledge, listening to the lecturers and taking note on needed information (Kahl, 2013). Indeed, these will

be a partial explanation for the recent use of SCL teaching method in implementing active learning on courses offered at USM. SCL, as it is advocated here, though, does not necessarily allow for using ICT across a greater amount of classes as online or hybrid classes offer. Instead, what SCL offers is a closer relationship between lecturer and student during class time -- a result normally only achieved with student engagement that motivates other students to learn (Abdullah, Bakar, & Mahbob, 2012 ; Mclaughlin et al., 2014; Roach, 2013).

The benefits from the SCL teaching method are not without potential drawbacks, which may include lecturer lack experience and training in using ICT with SCL teaching method, limited infrastructure, and greater student negative attitudes than would occur in a normal classroom (Danner & Pessu, 2013). There is no specific teaching method that a lecturer can use to make student learn on their own. Lecturers need to choose the right teaching method to meet students' needs guide and facilitate students to play their role in SCL environment (Bledsoe & Baskin, 2014; Yannuzzi & Martin, 2014). For instance, instructional tools are used to promote active learning strategies using the SCL teaching method (Baepler, Walker, & Driessen, 2014; Oigara & Keengwe, 2011).

### **3. Methodology**

In this study, SCL teaching method had to be implement by the lecturer at USM for all courses. To evaluate lecturers' and students' view on SCL level at USM, a study was conducted by CDAE in 2013. The questionnaire was adapted from Attard, Di Iorio, Geven, and Santa's (2010) Student-Centred Learning Advisory Committee Report (Fewer et al., 2011; Astusi, 2002 as cited in Kelly, 2006). A five-point Likert-type scale was used with answers as follows: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree for all items except for teaching method. To evaluate teaching method, a four-point Likert-type scale with 1 = never, 2 = sometimes, 3 = often, and 4 = frequently was used. The 66-item questionnaire was distributed to 33 female and 25 male lecturers. On the other hand the 59-item questionnaire was distributed among 76 female and 26 male students on the main campus of USM. The validity and reliability of the questionnaire were assessed using Cronbach's alpha. The value of this measure was 0.935 for lecturers and 0.946 for students, which was higher than the value (0.7) that Nunnally claims is acceptable (as cited in Ogunkola & Archer-Bradshaw, 2013). The mean and standard deviation (SD) of lecturers' and students' scores about level of SCL in the learning process at USM were divided into nine categories such as teaching method, learning outcome, goal and objectives, instructional strategies, assessment, teacher's and student's role, learning environment and obstacles (except for student) on practical level on SCL and was analyse by using SPSS version 20.0.

### **4. Results**

#### *4.1 Demographic Data*

In order to gauge students' and lecturers' view toward SCL, survey was distributed at 58 USM main campus lecturers as respondents in the study, 25 were male and 33 were female lecturers and out of the 102 respondents, 26 were male and 76 were female students. Thirteen respondents were associate professors, 13 were lecturers, 3 were professors, and 29 were senior lecturers. In terms of job experience, 33 respondents had 1–10 years, 19 had 11–20 years, 4 had 21–30 years, and 5 had 31–40 years of experience. Forty-four respondents were first year students, 30 were second year, 17 were third year, 9 were fourth year, and 2 were fifth year or above.

## 4.2 Lecturers' and Students' Views

### 4.2.1 Teaching Methods

Table 1 : Teaching Method

Item Statement	Mean	SD	Mean	SD
	Lecturer		Student	
B1. Lecture	3.55	1.71	4.45	0.75
B2. Lecture-Discussion (a combination of lecture and teacher questioning of students)	3.93	0.81	3.73	0.91
B3. Case Studies	2.95	1.19	3.44	0.93
B4. Cooperative Learning (student groups working together to solve a problem or complete a task)	3.70	1.05	3.73	0.96
B5. Class Discussion	3.59	1.01	3.52	0.97
B6. Online Discussion	2.32	1.24	2.54	1.12
B7. Discovery Learning (an inquiry-based learning method in which learners use prior knowledge and experience to discover new information that they use to construct learning)	2.72	1.14	3.17	1.09
B8. Learning Centers (students work independently or with small groups (pairs or triads) to complete a task)	3.49	1.07	3.45	0.99
B9. Role-Play (solving problems through action)	2.40	1.27	2.82	1.07
B10. Inquiry Learning (involves teacher giving the student a problem where inquiry must be utilized to solve the problem)	2.72	1.30	3.28	0.98
B11. Simulations (put the student in a "real" situation without taking the risks)	2.53	1.26	2.94	1.03
<b>B12. Scaffolding</b> (involves the teacher modeling the skill and thinking for the student. As the student increases understanding, the teacher withdraws the assistance allowing the student to take on more responsibility for the learning)	2.33	1.09	3.12	0.94
<b>B13. Know - What to Know - Learned</b> (a strategy that is typically used to provide structure to the learning process to allow students to recall <b>what they know</b> about a topic, <b>what they want to know</b> about the topic, and <b>what is to be learned</b> )	2.80	1.12	3.53	0.98

Table 1 lists the SCL teaching methods used by lecturers at USM, and the scores are indicative the level of lecturers and students view on the implementation in their learning process. A mean value more 3.01 indicated that the lecturers and students were agreed that they were using the following types of teaching method in class. The item with the highest mean of ( $\bar{X} = 3.93$ ,  $SD = 0.81$ ) was item 5: Lecturer discussion. In this context, students should have the ability to clarify and reinforce content through questioning and interaction that give the batters score of the live lecture group discussion (Ramlogan, Raman, & Sweet, 2014) and high influence on the learning outcome (Du & Wu, 2013). Therefore lecturers should provoke the students with questions, which allow students interaction in class and state their views and opinion that will gain their self-confidence (Van Kan, Ponte, & Verloop, 2013). Meanwhile item 1: Lecture, was the highest mean score of ( $\bar{X} = 4.45$ ,  $SD = 0.75$ ) on student view about teaching method used in class. This indicates that most of the students are not involved in the classroom where lecture did not make the lecture interactive to lead interaction among student (Kunin, Julliard, & Rodriguez, 2014). It is shows that the class is too teacher teacher-centered with one way communication while giving lecture (Press, 2014). However, there is a group work with class discussion use in class, which agreed by both respondents. The item with the lowest mean score of ( $\bar{X} = 2.32$ ,  $SD = 1.24$ ) by lecturer and students ( $\bar{X} = 2.32$ ,  $SD = 1.24$ ) was item 6; online discussion, that not been used by majority of USM lecturer. This scoring system was also used for the other parts of the questionnaire.

#### 4.2.2 Learning outcomes

Table 2: Learning Outcomes

Item Statement	Mean	SD	Mean	SD
	Lecturer		Student	
C1. Students are more motivated to learn through SCL.	3.62	0.79	3.60	0.66
C2. Students remember the information better through SCL.	3.89	0.75	3.57	0.68
C3. Students can link information together better through SCL.	3.89	0.78	3.63	0.66
C4. Students form the ideas with more confidence with the SCL approach.	3.76	0.78	3.52	0.69
C5. Students gain more self-confidence through SCL.	3.76	0.87	3.46	0.82
C6. In SCL, the students can express their opinions.	3.95	0.75	3.58	0.78
C7. SCL approaches lead to improvements in students' performance.	3.64	0.90	3.64	0.71

The mean scores for the learning outcomes indicate that both respondents agreed that all seven learning outcomes are being achieved (Table 2). Overall, the results show that students are more motivated, remember more, can link information together better, and can form ideas with more self-confidence to express their opinion about the idea when SCL is used (Daff, 2013; Reeve, 2013). Lecturers highly agreed that are freely express their opinion with the teaching method used (Lawson & Lawson, 2013), while student highly agreed that SCL approaches used in class lead to their performance improvement (Wu, Hsu, Lee, Wang, & Sun, 2014).

#### 4.2.3 Goals

Table 3: Goals

Item Statement	Mean	SD	Mean	SD
	Lecturer		Student	
D1. The development of transversal skills by students is one of the objectives of the learning process in my teaching practice.	4.00	0.60	3.58	0.71
D2. The students have a lot of responsibility in the learning process in my teaching practice.	4.11	0.78	3.75	0.72
D3. Peer learning and peer teaching are parts of the learning process in my teaching practice.	3.91	0.78	3.65	0.79
D4. The emphasis of my teaching practice is on using and communicating knowledge effectively.	4.19	0.61	3.73	0.73

Table 3 shows the goals that should be met when using SCL. These high scores show that lecturers and students are achieving their goals in developing students transversal skills by giving students responsibilities, using peer learning and peer teaching to communicate knowledge effectively (Daff, 2013; Press, 2014) between lecturer and students as parts of teaching practice at USM. According to Smith (2014), peer teaching and peer learning occurs naturally as students solve problems and navigate the environment with a set goal and strategies choose that will help to achieve the goals (Stefanou et al., 2013).

#### 4.2.4 Instructional Strategies

Table 4: Instructional Strategies

Item Statement	Mean	SD	Mean	SD
	Lecturer		Student	
E1. The goals of the learning process are agreed upon between me and my students.	3.61	0.96	3.63	0.82
E2. I consult with students on curriculum content.	2.76	1.03	3.19	0.88
E3. I consult with students on the teaching methods used.	3.16	1.03	3.47	0.98
E4. I consult with students on the evaluation methods used.	3.10	1.04	3.44	0.86
E5. There are transparent procedures in place for students to be able to give feedback on the quality of the educational process.	3.76	0.92	3.40	0.86
E6. Students are consulted using periodic programme quality reviews.	3.41	1.08	3.32	0.85

The results shown in Table 4 indicate that before SCL instructional strategies are applied in class, students

are consulted using periodic program quality reviews and are involved in setting goals of the learning process and in choosing the teaching and evaluation methods used. However, lecturers disagree with student involvement in designing curriculum content with the lowest mean. Thus lecturer as expert will design the structure of a curriculum and its strategies and students will follow the design (Ku, Shih, & Hung, 2014) and give feedback on the quality of the learning process.

#### 4.2.5 Assessment of Students

Table 5: Assessment

Item Statement	Mean	SD	Mean	SD
	Lecturer		Student	
F1. Assessment is an integral part of learning in my teaching practice.	4.14	0.63	3.88	0.82
F2. I assess students based on their ability to apply knowledge.	4.24	0.63	3.68	0.83
F3. I use projects in the assessment of students.	3.76	1.08	3.71	0.78
F4. I use simulation of tasks in the assessment of students.	3.43	0.99	3.56	0.82
F5. I use the real life situations in the assessment of students.	3.64	0.95	3.57	0.98
F6. I use self-assessment as a method for student assessment.	3.19	1.19	3.51	0.88
F7. I use peer-assessment as a method for student assessment.	3.21	1.10	3.47	0.90

As shown in Table 5, both respondents agreed the entire 7 items on assessment given to students in the SCL environment. According to Peiris & Gallupe, (2012) assessment is part of learning process in which students are able to assess their own learning progress and adjust their learning activities This include student ability to apply the knowledge by giving projects, simulation, real life situation, self-assessment and peer-assessment as a method for student assessment. On the other hand, opinions regarding exams and grading fairness remain the same. Academic assessment is an integral part of the learning and teaching process, and it is being performed effectively at USM.

#### 4.2.6 The Role of Lecturers

Table 6: Role of Lecturers

Item Statement	Mean	SD	Mean	SD
	Lecturer		Student	
G1. I provide multiple means of accessing information.	4.03	0.74	3.67	0.82
G2. I act as a facilitator.	4.09	0.63	3.81	0.83
G3. I provide the opportunity for group work.	4.17	0.68	3.92	0.78
G4. I actively listen and respect to student' points of view.	4.28	0.53	3.77	0.87
G5. I stimulate cooperation among students.	4.04	0.80	3.90	0.81
G6. I challenge and motivate students.	4.24	0.60	3.85	0.91
G7. I am open and empathetic toward students.	4.18	0.57	3.76	0.92
G8. I use real-life problems to structure the subject matter.	3.91	0.84	3.75	0.97
G9. I use case study to structure the subject matter.	3.50	1.10	3.75	0.87
G10. I help students to refine their understanding by using critical thinking skills.	4.05	0.69	3.92	0.85

Table 6 shows the mean scores for the teacher roles in the SCL environment. Lecturers and students were agreed that they are active listeners, respect students' points of view, challenge and motivate students, are open and empathetic towards students, provide opportunities for group work, and act as a facilitator to stimulate cooperation among students. According to Ahmad Saiful Azlin (2010), as facilitators lecturers should prepare a model answer and highlight critical points that will help students refine their understanding by using critical thinking skills; facilitators also should provide multiple means of accessing information in class to solve real-life and case study problems.

#### 4.2.7 The Role of Students

Table 7: Role of Students

Item Statement	Mean	SD		SD
	Lecturer		Student	
H1. My students are active knowledge seekers.	3.52	0.88	3.75	0.75
H2. My students participate in class discussions.	3.74	0.95	3.68	0.66
H3. My students ask questions in class.	3.60	1.01	3.28	0.80
H4. My students work in collaboration with other classmates.	4.09	0.61	3.87	0.78
H5. My students participate in project groups to solve problem.	4.05	0.71	4.01	0.75
H6. My students construct knowledge and meaning by interacting with me and by gathering data from different sources.	3.74	0.84	3.68	0.77

In this study, students' roles in SCL learning environment showed that lecturers and students are agreed with all the statements given in Table 7. Students are active knowledge seekers from different sources and construct the knowledge by interacting with lecturer, participate in project group and class discussion; work in collaboration and ask question in class. This is in agreement with a previous study that reported that students construct knowledge by their own experience which support students role to learn new concepts (Yudariah, Mohd. Fauzi & Aisha, 2014).

#### 4.2.8 Learning Environment

Table 8: Learning Environment

Item Statement	Mean	SD	Mean	SD
	Lecturer		Student	
I1. Students have access to appropriate research and study facilities in campus.	3.79	0.89	3.83	0.86
I2. Students have access to appropriate research and study facilities outside of campus.	3.21	0.90	3.40	0.90
I3. Information technology is used within the learning process.	4.16	0.62	4.03	0.75
I4. There is genuine interaction between me and my students.	3.88	0.73	3.76	0.85
I5. There is genuine interaction among my students.	3.84	0.68	3.88	0.77
I6. My class culture is cooperative, collaborative, and supportive.	3.95	0.72	3.78	0.86

Table 8 shows that there were 6 items scored between 3.21 and 4.16. These items are aspects of the SCL educational environment at USM that lecturers believe they are providing and students are having a positive SCL learning environment. This corresponded to student and student perceptions that encouraged them to participate in using information technology in class by having access to appropriate research and study facilities inside and outside campus (Rozinah & Mohammad, 2013; Sarfo & Elen, 2014). Thus, this environment leads to engagement between students and lecturers with cooperative, collaborative and supportive learning environment (Carini, Kuh, & Klein, 2006).

#### 4.2.9 Obstacles

Table 9: Obstacles

Item Statement	Mean	SD
J1. I can't cover the content in my syllabus using SCL approaches.	2.72	1.15
J2. I can't use SCL approaches when teaching large classes.	3.19	1.16
J3. I lack experience using SCL.	2.98	1.19
J4. Students have negative attitudes toward SCL.	2.64	1.03
J5. It is difficult to evaluate students using the SCL approach.	2.64	1.03
J6. There is lack of infrastructure for SCL in my school.	3.21	1.02
J7. There are no guidelines for the SCL approach in my school.	3.03	1.18

The data in table 9 show that lecturers face a number of obstacles in implementing SCL. In particular, they feel that there is a lack of infrastructure and facilities for implementing SCL (Rozinah & Mohammad, 2013), it is difficult to use the SCL approach when teaching large classes, and there are no guidelines in place for implementing SCL at USM. Therefore CDAE is providing training for USM staff in SCL so that they could fully used PBL approach in their teaching and learning process that need commitment from



lecturer and support from institution of higher learning.

## 5. Findings

Overall, the data show that lecturers are doing well at implementing SCL. This result is consistent with data presented by Chen and Chang (2014), which showed that this environment encourages students to interact with peers in learning more actively. The high mean value for the teacher's role in implementing SCL indicates that lecturers believe they are acting as facilitators and that they listen and respect their students' points of view, are open and emphatic towards students, and challenge and motivate students in their learning process. Stanley and Marsden (2012) state that SCL teaching method is effective in teacher's role. Lecturers also agreed that they provide multiple resources for students to access information, use real life problems and case studies relevant to the subject matter, stimulate cooperation with group work, and help students refine their understanding by using critical thinking skills.

Meanwhile students highly agree with SCL approach used by the lecturer that had conducted their roles effectively and as a result students feel more comfortable dealing with the problem or task given (Stanley & Marsden, 2012). However, lecturer perceptions about their teaching methods and obstacles to implementing SCL were moderately neutral. Barret (2013) reported that bringing real life problems into the learning environment allow students to explore and implement ways to problem solving is an issue in the implementation of active learning strategies. Other effective teaching methods that have been used are lectures, lecture-discussion, case studies, cooperative learning, class discussion, discovery learning, peer learning, and inquiry learning. On the other hand not all lecturer are using online discussion, role-play, and scaffolding, in which students take more responsibility for their learning. In terms of obstacles to implementing SCL, the lecturers found it difficult to use the SCL approach when teaching large classes and they felt that they did not have enough experience with utilizing SCL.

Results also show that students are more motivated, their self-confidence increased, they can form idea and link information, express their opinion and improve their performance. This is due to the goals and objectives of the lecturers to include in their teaching practice transversal skills, high responsibility, peer learning, peer teaching and effective knowledge communication, in which students feel that lecturers involve them in designing their instructional strategy. Students have a positive perception on the assessment given by lecturers that is based on their ability to use knowledge, such as projects, simulation, self and peer assessment. This has resulted in the students' role as active knowledge seeker, constructor of knowledge and meaning by engaging in class with the lecturer and peers that have made the class culture cooperative, collaborative and supportive (Stefanou, et. al, 2012).

## 6. Conclusions

Implementing a active learning strategy using a SCL teaching method has made students become more motivated to learn, link information together, and freely express their opinions with greater self-confidence. A supportive lecturer who acts as a facilitator, listens to students' ideas and opinions, and helps them to solve problems and think critically about the subject matter is essential for implementation of this strategy. Ahmad Saiful Azlin (2010) recommended that SCL be applied in the lecture because it will increase the chances that students to pass and outperform pass rate on the subject matter. According to Pownall (2012), this teaching mode is one of the factors that influences student attendance in class and develops their skills. In the PBL environment, lecturers should obtain students' viewpoints using periodic program quality reviews about the curriculum content, teaching method, and evaluation method. In addition, students should be assessed based on their ability to apply the knowledge learned by doing projects, simulating tasks, working in real life situations, and through self and peer assessment (Sadlo, 2014).

Students become more focused and self-directed when they are involved (Golightly & Muniz, 2013; Dissanayaka, Marambe and Liyanage, 2012) and engaged with the lecturer and their peers to solve problems related to the subject matter (Hallinger & Lu, 2013; Rozinah & Siti Zuraidah, 2014). Lecturers do not have a problem using the SCL approach because students are comfortable using information technology in the learning process and have access to appropriate research and study facilities on and off campus (Stanley & Marsden, 2012). According to Sadlo (2014) and Stanley and Marsden (2012), SCL is a practical approach to developing professional skills by learning in a real life context. As a learning strategy, SCL allows students to identify a problem, formulate learning issues, collaborate with others, create social

interaction, encourage research, be motivated to express a different opinion, stimulate ideas, and offer an alternative perspective during discussion (Golightly & Muniz, 2013). Overall, SCL in the USM learning environment is corporative, collaborative, and supportive.

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