Reflection on Contradictory Learning Methods and Identity Formation in a New Academic Life Setting

Muhamed Yusuf Shahul Hamid¹, Aishah Rosli^{2*}

School of Chemical and Energy Engineering, Faculty of Engineering, Universiti Teknologi Malaysia, 81310 Johor Bahru, Johor, Malaysia ¹m.yusuf@utm.my, *²aishahrosli@utm.my Article history Received 1 November 2021 Received in revised form 6 December 2021 Accepted 7 December 2021 Published online 28 December 2021

Abstract

Lecturers new to the academic life setting normally face similar types of challenges. These challenges were intensified for new lecturers starting their careers in the academic setting during the COVID-19 pandemic, when classes were conducted online. Student-centered learning has been the focus in engineering education recently, but many of the current lecturers have never experienced this method of learning as students, resulting in unfamiliarity and inexperience in conducting classes using this method of teaching. Our experiences as two new lecturers starting our academic careers during the pandemic using both the student-centered learning method and teacher-centered learning method in different classes are reported through collaborative autoethnographic methods. Both of our reflections revealed that stark differences can be seen as an effect of the teaching method, concluding that the student-centered learning method is superior to the traditional teacher-centered learning method. However, applying the former method also has some challenges. To overcome these challenges faced by new lecturers, some action plans have been listed for future improvement, which could be very meaningful and useful to other new lecturers as well as educators new to applying the student-centered learning method.

Keywords: Student-centered learning, active learning, new lecturer, teaching method.

Introduction

Lecturers higher learning in institutions, regardless of field of expertise, have at some point been exposed to teaching before beginning their career, either through training or at the very least through personal learning experience as a student. Those with a doctorate are typically familiar with research in the course of acquiring a doctoral degree, but may not be exposed to teaching. Regardless, the transition from being a student or from working in the industry to becoming a lecturer is still daunting and challenging to most. Depending on the requirements that the institution has placed on the lecturers, many struggle with lack of knowledge and experience, especially when placed on the other side of the classroom or lecture hall.

In a very short time frame, many new lecturers are expected to acquire and master to some degree different skill sets, including teaching, supervising, research, consultancy, and time management (Felder et al., 2011). Even for institutions that have devoted attention to developing these new lecturers, challenges are still imminent, and an adjustment period naturally should be expected. New lecturers come from different backgrounds, equipped with diverse knowledge and experiences. In this work, our experiences as two new lecturers with different teaching backgrounds as firsttime lecturers in the same university are collected and compared. The similarities between us are that we were both very new to the teaching environment, have only been exposed to Teacher-Centered Learning (TCL) method and both started working as a lecturer during the COVID-19 pandemic.

Traditionally, lectures in university are conducted in a passive manner, or TCL (Kaymakamoglu, 2018). In this manner, the focus of teaching revolves around oneway transfer of knowledge. However, better ways of teaching were proposed by a few theorists centering the learning process around students (Sahonero-Alvarez & Calderon, 2018). This method known as Student-Centered Learning (SCL) utilizes the learning by doing concepts where the lecturer acts as facilitator as opposed to instructor (Bhat et al., 2020). Nowadays, more and more exposure on a variety of teaching methods and implementation procedures were given to new lecturers in order to conduct a more effective classroom.

However, being products of TCL method from the start of our education up to our tertiary education level, as was the norm in Malaysia until not too long ago (Zabit, 2010), we were not accustomed to SCL method. This posed one of the biggest challenges to us as new lecturers, especially in classes that required us to use this method for teaching. On the other hand, as lecturers completely new to educating, we were able to clearly observe the differences between conducting classes using TCL and SCL methods, in terms of planning, delivery, and results. Therefore, the differences between these two methods, as well as other challenges we faced as new lecturers, are documented in this work through collaborative method. autoethnographic The collaborative autoethnographic method is a qualitative one, which would allow us to delve into our perspectives and reflect on our experiences in the cultural and societal context (Chang et al., 2016).

Being a lecturer in the current world with fastpaced advancements in technology and with information at our fingertips, the world is becoming smaller, and lecturers are constantly facing new challenges in delivering knowledge to students. Johnson (2008) discussed the pedagogical challenges caused by the language barrier with international students. Murugiah (2020) focused on the 21st century skills gap created by the Industry 4.0, concerned by the inadequacy of 21st century skills competencies of graduates. Yet another study by Naidu (2020) hits closer to home; she suggested that one of the main struggles faced by lecturers due to Covid-19 pandemic is the online mode of teaching. The challenges of implementing SCL method has also been explored in literature, such as the work done by Pedersen & Liu (2003), who explored the beliefs of teachers concerning the issues in SCL environment, and Wulf (2019), focusing on the willingness and motivation of students in SCL culture. However, to our knowledge, the challenges encountered by newly-hired lecturers during the Covid-19 pandemic with no prior exposure to SCL method has never been explored in depth.

This study is recorded in this paper to help other lecturers, especially new lecturers from a variety backgrounds, to assimilate into a new academic life setting, in particular when there are different teaching methods applied in classes. Through this paper, lecturers should also be encouraged to venture into more sophisticated teaching strategies, even if they may not be familiar with these strategies. There is a whole different world of teaching strategies that can be implemented in the classroom. Additionally, the challenges that both lecturers observed in this study could provide a meaningful insight into the problems typically encountered by new lecturers applying SCL, which would be significant to the educational administrators to committee, from lecturers. Differences between individual teaching and team supported teaching can also be obtained from this paper.

Methodology

As we started working in the same department in the same university within a few months of each others' starting date, the two of us felt a sense of camaraderie as we went through very similar experiences and challenges. Neither of us had been exposed to SCL method as students, and yet both of us had been thrusted into classes that used SCL method of delivery. Both of us also began our new academic lives amidst the COVID-19 pandemic, encountering another challenge that neither of us were familiar with; online learning. As of now, both of us have never had the privilege of teaching students in a physical class, and we share a sense of loss and confusion at having to deal with many unfamiliar situations at once. Stemming from these similarities, we decided to use collaborative autoethnographic method to study and reflect upon the challenges that we faced, especially focusing on the contrast between the TCL and SCL methods. Autoethnography is a type of qualitative study where the author explores anecdotal and personal experience through self-reflection and writing, and then relates this autobiographical account to broader cultural, political, and societal meanings and understandings. Consecutively, the study of selfreflection, conferring to Ellis and Rawicki (2013) is a research, writing, story, and method that connect the autobiographical and personal to the cultural, social, and political.

By self-studying our similar experiences as new lecturers implementing different methods of teaching, we could collaboratively increase the depth of our study and moderate singular bias so that the experiences and challenges described are not so onesided (Rodriguez-Simmons & Hira, 2021). Data collection spanning our lecturing experience from our respective starting dates to the end of our second semester was done through daily monitoring of tasks as well as weekly reflections detailing our experiences, observations and subsequent thoughts.

The scope of this study is confined within the reflection of our experiences during our first two semesters as new lecturers. We are sure that we experienced many hardships that all new lecturers face, but the additional challenges of starting as lecturers through online learning on top of suddenly implementing an unfamiliar teaching method may not be applicable to all new lecturers in the past. Yet, given the progress in technology, moving towards blended and online approaches (Martínez et. al, 2019), as well as the promotion of SCL method in engineering education (Hernández-de-Menéndez et al., 2019), we expect that many new lecturers in the future will encounter similar challenges.

The representation of this self-reflection is positioned as continuing professional development research (CPD). Beyond any initial training, CPD refers to the practise of recording and documenting the skills, information, and experience that you obtain both formally and informally while you work. It is a record of what you have done, what you have learned, and what you have put into practise. Kennedy (2005) structured CPD into nine categories namely training; award-bearing; deficit; cascade; standards-based; coaching/mentoring; community of practice; action research; and transformative. This study is closely related to the coaching/mentoring model, however with considerations geared towards new academia in this endemic area. Simultaneously, theories including social cognitive career theory and self-determination theory were also considered in this study.

Positionality

The first lecturer sharing his experience is Dr. Finn (pseudonym). Finn joined Universiti Teknologi

Malaysia at a time when the global pandemic had forced many universities worldwide to take upon emergency remote teaching methods to replace faceto-face classes (Chiroma et. al, 2021). Interestingly, joining the academic program during the pandemic time constructed a unique and different experience as classes were handled remotely compared to face-toface teaching. Most of the tips and advice given by senior lecturers who typically perform face-to-face teaching became irrelevant or obsolete. Prior to becoming a lecturer, Finn worked as a process engineer at an oil and gas consulting company where the nature of work seems to be on a different spectrum. Finn has always envisioned being a lecturer in a reputable university. Thus, all his actions were geared towards equipping himself with relatable experiences to better guide the students. This action could be explained by the recently developed social cognitive career theory where environmental and behavioural factors have an indirect influence on human cognitive parameters (Liu et. al, 2020). The only formal teaching experiences Finn had was through a part-time tutoring job and informally via mentor mentee program during his undergraduate studies.

The other new lecturer whose experience was documented is Dr. Aria (pseudonym). Similar to Finn, Aria has no formal teaching experience, and additionally, she has no industrial experience. However, unlike Finn, Aria has guided students as a lab instructor and supervised final year students in doing their final year projects while she was working as a postdoctoral fellow in a previous university. Other than that, her experiences are close to Finn's where she has worked as tutors or through peer teaching beforehand. As a lab instructor, Aria had followed the conventional laboratory method as implemented by her department. In this case, students conducted experiments following the laboratory manual, analysed the data, interpreted the results and then prepared the report (Kapilan et al., 2021). Even as a tutor, Aria used the TCL method, where the educator takes an active role in presenting and explaining the learning material to students (Jalani et al., 2015).

Observations on new experiences as lecturers started towards the end of year 2020 for both lecturers in the Chemical Engineering department of the same university. While the university is encouraging nontraditional teaching methods, it is not made compulsory. Thus, implementation varies, with some lecturers embracing the SCL method while others cling to the TCL method. Aria entered in the middle of the semester and was able to experience teaching as part of a two-lecturer team in a SCL class. Her first semester is compared to her second semester as a lecturer, during which she taught a class on her own using mostly TCL methods, resulting in an experience contradictory to her first semester. On the other hand, Finn entered at the end of the same semester, and thus was not assigned any classes. He was later assigned to two classes in his second semester as a lecturer, one taught using the TCL method, while the other was

taught using SCL method, causing him to undergo contradictory experiences. In short, both lecturers were able to easily observe the stark comparison between TCL and SCL approaches to teaching. It is worth noting that neither lecturers had been exposed to the SCL method of teaching before, and that these new academic life experiences occurred during the COVID-19 pandemic, which posed additional challenges to teaching.

Results

Aria's Experiences and Reflection on the First Semester with Team Teaching using SCL

On the first day I began my new academic life in the middle of the semester, I had only a very brief meeting with the lecturer I would be partnered with for the semester and had to join the class immediately after the meeting. The Introduction to Engineering (ITE) class offered to first year first semester Chemical Engineering students in the university is mostly conducted using the SCL method. Upon entering my first class, I was confused watching the students teach each other during the class. From my perspective, the other lecturer barely did anything beyond facilitating the session and offering some additional and conclusive comments after the students had finished presenting. I would later learn that this particular class session engaged the students in presenting their peer teaching notes, a method that requires students to delve into the learning material, seek additional resources and then relay their findings to their peers. The students have actually prepared and learned the particular topic before the class, and what I saw was the students teaching their fellow classmates what they had learned. This method has been shown to enhance metacognitive skills as well as lifelong learning (Stigmar, 2016).

Given the large number of Chemical Engineering students in the department, the students are divided into five sections, where each section is taught by two lecturers. However, unlike other subjects in the department, the lecturers in all five sections of ITE work as a team to plan and carry out the planned lessons in parallel. This allows us to conduct a complex problem using Cooperative Problem-Based Learning (CPBL), where students solve problems with different levels of difficulty using various resources deemed appropriate (Rodríguez González & Fernández Batanero, 2016). In the case of ITE, an extensive and broad problem based on a current sustainability issue is given to the students. This complex problem is broken down into three stages, some of which students solve using Cooperative Learning (CL). Students are assigned to groups at the beginning of the semester, using diversity as the factor in assigning students to each group, as recommended by Block & Guerne (2021). The stages, while broken down, are still complicated enough that students need to work together in order to complete the tasks at every stage, hence fulfilling the definition of CL (Antov et al., 2017).

While the sustainability problem, as well as many other elements in the ITE subject are coordinated together between the team of lecturers, each section does have some leeway in carrying out some parts of the classes. Most notably is the Basic Engineering Calculations portion of the subject, which I was put in charge of. Being completely unfamiliar with SCL, I delivered these lectures using the TCL method. I did challenge the students by asking them questions and inviting them to share solutions to activities in class, which engaged them in Active Learning (AL) as mentioned by Hernández-de-Menéndez et al. (2019). Even though the AL activities were not as imaginative or advanced due to my lack of knowledge or experience on the method, the students, who were already used to actively participating in class through SCL in the first five weeks of the semester before I joined the university, responded positively to the activities. The students were noticeably very proactive and engaged in the lessons, responding and discussing the topic in the class chat without prompting, which is something that I rarely saw in a student, even during my own time as a student when classes were conducted face-to-face, not online.

The ITE subject is integrated with another subject which I was also in charge of, called Industrial Seminar and Profession (ISP). The latter subject invites stakeholders to deliver seminars to the students as well as bring them to site visits, so that students are given the opportunity to hear from people in the industry themselves. These courses are integrated based on constructive alignment, so that the course and program outcomes can both be achieved, while the ISP subject acts as one of the resources from which students can draw from for their CPBL activities in ITE, as described by Zakaria et al. (2020). One of the assessments for the ISP subject is reflection journals, in which students need to reflect on the activities, processes and assignments from the two subjects. These reflection journals gave me a lot of insight into their progresses and struggles, especially regarding SCL, which many found to be time-consuming. However, they also shared numerous parts of the classes that they had enjoyed, and overall the students found the subjects to be useful despite the workload. Additionally, from these reflection journals, I could perform my own reflection on the things that the students have taken away from the classes and most importantly, how I can improve as a lecturer.

Aria's Experiences and Reflection on the Second Semester with Individual Teaching using TCL

Whilst still struggling to adapt to the new academic environment and preparing for the new subject that I would have to teach in my second semester, the new semester arrived abruptly, and the two-week semester break left me with barely any time to put together a good teaching plan for my second semester. At this point, I had joined an AL workshop, which gave me a clearer understanding of the concept. However, due to my own time management and inexperience in drawing up an SCL teaching plan, I did not manage to plan for the Transport Processes (TP) subject that I would teach in the second semester. It was then that I realised how important it was to properly plan a class that uses the SCL method. Even without utilizing the more advanced CL and CPBL methods, incorporating only AL in the class is not as simple as throwing random activities during the classes. According to Hernández-de-Menéndez et al. (2019), the activities need to be designed with the intended benefits in mind, so that the learning outcomes are well defined. The deployment of these activities also needs to be planned for the course of days, or hours. Not knowing that employing the SCL method would require this much planning at the time, I attempted to do some AL activities in the TP classes, but was not able to sustain it for long and eventually reverted back to the TCL method, which does not require as much planning, and is easy and familiar to me.

The few AL activities that I conducted during the first few classes were very simple ones, which mostly used a user-friendly online tool. These activities received moderately active participation from the students, in large part due to the fact that students could remain anonymous in their answers. Indeed, several studies show that many students are afraid of being wrong before their peers and instructors (Cooper et al., 2018; Lucke et al., 2017; Stehling et al., 2016). However, other than during the activities, most students remained passive during classes and rarely sought me out outside of class for deeper understanding and clarification until the end of the semester to plead for higher marks. This alluded to the low level of understanding and motivation that the students had, as many did not perform well in the class, and their inactivity in seeking out knowledge in the subject, both during and after classes. Due to the greatly diminished participation and feedback from the students, I did not feel the satisfaction that I experienced when conducting classes using the SCL method in the previous semester.

An important aspect worth noting for this TP subject is that while the students were also divided into different sections with different lecturers, just like in the ITE class of my first semester, the TP lecturers rarely conversed with each other regarding the subject. There was never a discussion between the lecturers. While there was a common project for all the students for the subject, managing the execution of the project was left to each individual lecturer. Some lecturers broke the project down to simpler, more manageable tasks, while others gave the students the whole project at once. Moreover, various information regarding the subject is sometimes given quite late during the semester by the subject coordinator, which did not give the new lecturers a chance to plan the subject properly. In hindsight, the common project, which is a cornerstone project, would have been perfect to be

conducted using the CPBL method. However, I was only informed about the project in the middle of the semester. Implementing CPBL requires following a structured series of steps which would guide the teams of students to form functional learning teams, as described by Yusof et al. (2016). However, the development of functional learning teams takes time. Thus the process should have been started at the beginning of the semester. By the time I was informed of the common cornerstone project, the semester was halfway over, therefore, I was not able to conduct the project using the CPBL method. All these are a clear contrast to the ITE subject implementation in my first semester, where constant discussions occurred throughout the semester, and meticulous planning of SCL method implementation by all the lecturers allowed for a detailed teaching plan to be developed and carried out without putting the burden of planning onto a single lecturer. Clearly, the SCL method offers many advantages over the TCL method, but would require a deeper commitment and understanding to implement.

Finn's Experiences and Reflection on Individual Teaching using TCL

My journey into academic life began toward the end of a semester. I was not assigned to handle any classes on my own, but was tasked to help out in a laboratory subject. The lab sessions were handled in a remote learning environment, which was a totally new experience for me. My expectation of a remote laboratory is based on contemporary computer technology to simulate a real working environment as discussed by Stefanovic et. al (2011). Interestingly, in this lab session, the students controlled the experiments remotely whilst viewing the changes in the system live through an online meeting platform. During the short period of time, I observed frequent hiccups in communication and lag time between the lecturer's instruction and execution by the students. This experience then became my first impression on remote teaching. I expected that the students were having difficulties in comprehending the subject matter efficiently as they could not interact with the system directly. Thus, I planned to handle my future class one step at a time to ensure that students are able to follow the subject closely. I understood that I should not cut corners as the probability of misinformation is high (Carillo, 2019).

Within two months of entering academic life, I was entrusted with handling two classes on my own. One of the classes was Numerical Method and Optimization (NMO). A week before classes started, all lecturers who taught NMO were called to a meeting to discuss the course information and assessments of the subject. I was stunned for a moment as the discussion was centered toward the general direction of the subject and division of tasks for assessments. Lecturers were given freedom to carry on the classes as they see fit, as long as all the course learning outcomes are fulfilled. There was a minimum scaffold provided as a guide for new lecturers to handle the subject. As a new academician, I was hoping for a guideline that could cover the classroom time management, pedagogy methods, complexity of question and assessments. Lackner et. al (2014) summarized a few items to be addressed in preparing guidelines for massive open online courses such as main issues in planning, course structure, learner's expectation, media resources utilization and others. Availability of the guideline could be very useful for a new lecturer to plan their classes effectively. However, I am grateful that most of the lecturers were willing to answer my uncertainties and shared some lecture notes.

In-class experience of handling NMO class was monotonous throughout the class session. I implemented step-by-step teaching as planned based on previous observations. By the end of each class, I asked whether the students understood and if they were able to follow through the lesson. Few feedback from students indicated understanding of the subject matter. However, the majority of the students did not respond to the feedback. Similar situation could be noticed during the class session. When students were asked to give an opinion, only a handful would respond. And on occasion, some were not responding even when their names were called.

It finally dawned on me that I have conducted the class mainly using the TCL method after joining the AL workshop. The students were able to grasp the knowledge that was given, however, the attention span of the students was hindered via the meticulous stepby-step approach. Previous research also suggests instructors can encourage class motivation by manipulating their interest (Harnita, 2018). Later toward the end of semester, I attended a workshop on problem based learning and was exposed to many more teaching techniques that were available in order to ensure active participation from the students. Although I felt overwhelmed by all the complex activities that require a lot of preparation, I was also excited to conduct an engaging classroom session. Towards the end of semester I had successfully implemented group work that required students to mentor their peers, and the responsiveness of the class seemed to be improving.

Finn's Experiences and Reflection on Individual Teaching using SCL

Another subject that I was tasked to teach during the semester was Process Control and Instrumentations (PCI). This subject is a core chemical engineering subject with four credit hours that was offered to third year students. Indeed, the subject was detested by the students as many of the students struggled to cope with the materials. Common criticism includes that the CPBL teaching method is complex and confusing along with high workload. As a new lecturer, I was overwhelmed by the weight of the task at hand. In seeking consolation about the matter, I consulted a few senior lecturers, some who have experienced teaching the subject along with some senior students. The feedback that I received shattered my confidence. I doubted myself to be able to handle a CPBL classroom. However, among the feedback, some students sang praises for the improvement brought by CPBL as they were experiencing deeper engagement and understanding. Thus, it became clear that the lecturer plays an important role to facilitate engaging discussions and promote deeper understanding.

I was astonished by the team of lecturers that taught this subject. Early meetings were conducted a few weeks before class session began. I was briefly introduced to the CPBL techniques and its implementation in the PCI subject. Utilizing the CPBL encourages students techniques to work interdependently in a small team to overcome hurdles. This later became the foundation of the continuous learning community (Yusof et. al., 2011). Interestingly, the CPBL model, generally in engineering and especially in PCI has been continuously developed since late 1990 until recently (Woods, 2000; Yusof et. al., 2011; Hisham et. al., 2018). In order to encourage active students participation, early and detailed planning of the activities are needed. Even during the first meeting, a draft of activities were presented which covers the topics and planning up to mid semester break. The draft was improved upon discussion and finalized before sharing between the lecturers. It was a big relief for me to have some guidelines to rely upon when handling class. This method should be applied to different subjects as well, as a guideline and not compulsory to follow point by point. It would be very helpful in order to ensure all sections are being taught at the same level.

The first two weeks of handling CPBL class turned out to be a rocky situation. Although the teaching plan was laid out, the preparation work was still overwhelming for a new lecturer. In order to conduct a CPBL course effectively, the lecturer needs to be fully familiar with the subject matter (Sendag & Odabashi, 2009). Direction of students' learning could easily diverge and the students' doubts were open ended. Feedback from students indicated that they were confused about the direction of the class. To overcome this problem, I requested to join other lecturers' classes to increase my awareness of the student learning direction. The initiatives were continued throughout the semester, and thankfully I was able to facilitate the class towards self sustaining learners with proper boundaries. Contrary to the other subject I taught during the semester, the CPBL method seemed to be complex but guided. NMO classes offered more freedom in designing the class with easier to understand material, however, at the back of my mind, I always doubted the level and quality of teaching provided. I found it difficult to gauge the extent and depth of teaching needed to be done in each class.

Students' engagement in the SCL class was also at different levels as compared to in the TCL class. Students started in a similar situation, where limited

resources were recorded in the beginning. However, throughout the course, more students were volunteering to contribute their ideas as they had experienced multiple peer teaching and presentation activities. Overall, the level of engagement and responses from students made all the efforts poured into preparation worth it.

Discussion

Considering the experiences and reflections of both Aria and Finn, it is clear that both of us regarded the SCL and TCL methods to be vastly different methods of teaching. Both typically require different levels of involvement by the lecturers, and allow for varying levels of problem and task complexity presented to the students. Table 1 summarizes the differences between SCL and TCL methods from our viewpoint as new lecturers, as well as from the students' viewpoint, in our opinion. The extensive planning required to implement the SCL method is better done as a team to lighten the burden but may be difficult if the lecturers involved do not share the same line of thinking. As the lecturers also work as a team to design an SCL teaching plan, a similar phenomenon called "storming" (Mocko and Linnerud, 2016) that can be seen in a team of students could possibly happen within a team of lecturers as well. We were also unfamiliar with the SCL method, and the lack of knowledge and experience in this method were highlighted when neither of us could sustainably implement the SCL method when teaching individually without a team to support them. Clearly, more training and personal practice are needed so that new lecturers can properly plan and confidently execute the SCL method.

Perspective	Student-	Teacher-
	Centered	Centered
	Learning	Learning
Lecturers	Guided in a	Open ended
	team of	depending on
	lecturers	individual lecturer

Table 1. Differences between SCL and TCL

	Centered	Centered
	Learning	Learning
Lecturers	Guided in a	Open ended
	team of	depending on
	lecturers	individual lecturer
	Unfamiliar	Familiar approach
	approach	
	Complex	Easier problems to
	problems to	prepare
	prepare	
Students	Deeper	Surface
	understanding	understanding
	Authentic	Non-authentic
	problems	problems
	High level of	Low level of
	engagement	engagement

Even without taking the unfamiliar SCL method into account, as new lecturers, both of us had other challenges to face. The first is one that most, if not all, new lecturers would encounter; recalling and remastering subjects that they have learnt many years ago. As lecturers in engineering have obtained their doctorate, several years would have passed since learning the subjects that they need to teach as lecturers themselves. While this is not impossible to achieve, it can be a challenge for new lecturers to recall and prepare resources for teaching purposes in the classroom almost immediately after beginning their academic career. Other than that, not all lecturers are accustomed to or comfortable with giving lectures. Therefore, controlling the voice, maintaining eye contact with students, and using the appropriate body language can make some lecturers self-conscious. These new lecturers may also feel anxious of being corrected by students. Some new lecturers may need more time to adjust to this than others.

In this case, we had begun our new academic lives during the COVID-19 pandemic, which posed challenges that even veteran lecturers struggle with. As noted by Ali (2020), information communication and technology (ICT) tools are vital to properly conduct online learning, the learning mode that has become essential during the pandemic. They also concluded that lecturers need to be able to use these tools effectively in class, and herein lies the crux of the problem. Many lecturers are unfamiliar with the ICT tools necessary for presentation and conducting classroom activities, resulting in classes disrupted by technological issues and lecturers resorting to TCL to avoid the complexity of using ICT tools. A study by Ahshan (2021) stated that the SCL method is effective in increasing student engagement, but also acknowledges that student engagement decreases in an online learning environment. After all, good practices include interaction among students, interaction between lecturers and students, as well as active learning, so that students can attain positive academic and personal development (Qiu, 2019). The effect of the absence, or a less effective version of this due to the inability to interact physically is exacerbated by students' varied personalities, especially those who are shy, reserved, and unresponsive. The institution, if made aware of these issues, can take preventive or corrective measures to alleviate the problems, especially for new lecturers.

After reflecting upon their experiences during their first two semesters as new lecturers, we were able to reflect on our shortcomings and the consequences of our styles of teaching. With these reflections, we were able to devise better plans as we continue our journeys as lecturers. As discussed before in the Reflection Section, early preparation is key to conducting classes using the SCL method. The use of this method is desirable, as it has been observed by both lecturers to promote student engagement and deep learning, as stated by Ali (2019) and Oiu (2019). To ensure effective SCL method planning can be done following constructive alignment, knowledge and training on SCL method are also necessary for the new lecturers, which can be attained through workshops and literature review. Moreover, practical knowledge by personally implementing the SCL method and seeking guidance from lecturers with more experience in the SCL method is key to carrying out the SCL method effectively and continuously. In addition to boosting knowledge and experience on the SCL method, knowledge, skills and experience in using ICT tools are also necessary for online classes. This reflection is closely related to self-determination theory. We can become self-determined when we master the subject matter, making connections with the students and being in control of our own behaviour (Gagné and Deci, 2005). If we are able to overcome the hurdles, we believe that we would observe a notable improvement in students' engagement and performance, as well as personal satisfaction and development of the lecturers.

Conclusion

Although both of us are new lecturers who are academically qualified, we experienced many challenges that are typical for many new lecturers embarking on their new academic careers. As students, we have only been exposed to the TCL method of learning, and had our first encounter with the SCL method after starting as new lecturers. The experience was jarring, and neither of us could implement the SCL method on our own due to lack of knowledge, support and experience. The regression back to the TCL method showed a difference in students' engagement and satisfaction in teaching as a result, concluding that the SCL method could augment students' engagement and performance, and consequently bring more satisfaction to the lecturers. Other than the gratification for the lecturers, most importantly, students can greatly benefit from the implementation of the SCL method, due to higher level of engagement, deeper understanding of the material and exposure to authentic problems, to name a few. Our reflections on experiences with different methods of teaching, as well as challenges that new lecturers usually face, including the added challenges of online classes, led us to devise some action plans to improve our styles of teaching in the future.

References

- Ali, W. (2020). Online and remote learning in higher education institutes: A necessity in light of COVID-19 pandemic. Higher education studies, 10(3), 16-25.
- Ali, S. S. (2019). Problem Based Learning: A Student-Centered Approach. English language teaching, 12(5), 73-78.
- Antov, P., Pancheva, T. V., & Santas, P. (2017). Cooperative learning approach in engineering education. Science, Engineering & Education, 2(1), 106-111.
- Bhat, S., Raju, R., Bhat, S., & D'Souza, R. (2020). Redefining quality in engineering education through the flipped classroom model. Procedia Computer Science, 172, 906-914.
- Block, B. M., & Guerne, M. G. (2021, April). Gender and Diversity aspects in Engineering Education and their impact on the design of engineering curricula. In 2021 IEEE Global Engineering Education Conference (EDUCON) (pp. 738-744). IEEE.
- Carillo, E. C. (2019). Navigating this perfect storm: teaching critical reading in the face of the common core state standards, fake news, and google. Pedagogy: Critical

ASEAN Journal of Engineering Education, 5(2)

Approaches to Teaching Literature, Language, Composition, and Culture, 19(1), 135-159.

- Chang, H., Ngunjiri, F., & Hernandez, K. A. C. (2016). Collaborative autoethnography (Vol. 8). Routledge.
- Chiroma, J. A., Meda, L., & Waghid, Z. (2021). Examining Emergency Remote Teaching Using the Community of Inquiry Framework: Lecturer Experiences in a Kenyan University. International Journal of Information and Communication Technology Education (IJICTE), 17(4), 1-16.
- Cooper, K. M., Downing, V. R., & Brownell, S. E. (2018). The influence of active learning practices on student anxiety in large-enrollment college science classrooms. International Journal of STEM Education, 5(1), 1-18.
- Ellis, C. & Rawicki, J. (2013). Collaborative Witnessing of Survival during the Holocaust: An Exemplar of Relational Autoethnography. Qualitative Inquiry, 19(5), 366-380.
- Felder, R. M., Brent, R., & Prince, M. J. (2011). Engineering instructional development: Programs, best practices, and recommendations. Journal of Engineering Education, 100(1), 89-122.
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation. Journal of Organizational behavior, 26(4), 331-362.
- Harnita, P. C. (2018). Communication Education: Experiment Class with Old and New Teaching Style. Advances in Social Science, Education and Humanities Research, 165, 250-253.
- Hernández-de-Menéndez, M., Guevara, A. V., Martínez, J. C. T., Alcántara, D. H., & Morales-Menendez, R. (2019). Active learning in engineering education. A review of fundamentals, best practices and experiences. International Journal on Interactive Design and Manufacturing (IJIDeM), 13(3), 909-922.
- Hisham, M. H. M., Saud, M. S., & Kamin, Y. (2018). E-Learning as cooperative problem based learning (CPBL) support elements in Engineering education. Advanced Science Letters, 24(6), 4026-4029.
- Jalani, N. H., & Sern, L. C. (2015). Efficiency comparisons between example-problem-based learning and teachercentered learning in the teaching of Circuit Theory. Procedia-Social and Behavioral Sciences, 204, 153-163.
- Johnson, E. M. (2008). An investigation into pedagogical challenges facing international tertiary-level students in New Zealand. Higher Education Research & Development, 27(3), 231-243.
- Kapilan, N., Vidhya, P., & Gao, X. Z. (2021). Virtual laboratory: A boon to the mechanical engineering education during covid-19 pandemic. Higher Education for the Future, 8(1), 31-46.
- Kaymakamoglu, S. E. (2018). Teachers' Beliefs, Perceived Practice and Actual Classroom Practice in Relation to Traditional (Teacher-Centered) and Constructivist (Learner-Centered) Teaching (Note 1). Journal of Education and Learning, 7(1), 29-37.
- Kennedy, A. (2005). Models of continuing professional development: A framework for analysis. Journal of inservice education, 31(2), 235-250.
- Lackner, E., Kopp, M., & Ebner, M. (2014, April). How to MOOC?– A pedagogical guideline for practitioners. In Proceedings of the 10th International Scientific Conference" eLearning and Software for Education", Bucharest.
- Liu, X., Peng, M. Y. P., Anser, M. K., Chong, W. L., & Lin, B. (2020). Key teacher attitudes for sustainable development of student employability by social cognitive career theory: The mediating roles of self-efficacy and problem-based learning. Frontiers in psychology, 11, 1945.
- Lucke, T., Dunn, P. K., & Christie, M. (2017). Activating learning in engineering education using ICT and the concept of 'Flipping the classroom'. European Journal of Engineering Education, 42(1), 45-57.

- Martínez, P. J., Aguilar, F. J., & Ortiz, M. (2019). Transitioning from face-to-face to blended and full online learning engineering master's program. IEEE Transactions on Education, 63(1), 2-9.
- Mocko, G. M., & Linnerud, B. J. (2016). Measuring the effects of goal alignment on innovative engineering design projects. The International journal of engineering education, 32(1), 55-63.
- Murugiah, T. K. (2020). Challenges in Transforming Assessments for 21st Century Skills Development: Lecturers' Perspective. Asian Journal of Education and Training, 6(1), 41-46.
- Naidu, P. (2020). Embracing the new norm; challenges faced by lecturers post Covid-19: A focus group study of lecturers in Malaysia. Global Business & Management Research, 12(4).
- Pedersen, S., & Liu, M. (2003). Teachers' beliefs about issues in the implementation of a student-centered learning environment. Educational Technology Research and Development, 51(2), 57.
- Qiu, R. G. (2019). A systemic approach to leveraging student engagement in collaborative learning to improve online engineering education. International Journal of Technology Enhanced Learning, 11(1), 1-19.
- Rodríguez González, C. A., & Fernández Batanero, J. M. (2016). A review of Problem-Based Learning applied to Engineering. EduRe Journal: International Journal on Advancesin Education Research, 3 (1), 14-31.
- Rodriguez-Simmonds, H. E., & Hira, A. (2021, July). A Collaborative Autoethnographic Dialog Exploring the Soul of Engineering Education. In 2021 ASEE Virtual Annual Conference Content Access.
- Sahonero-Alvarez, G., & Calderon, H. (2018, November). Implementation Issues of Student-Centered Learning based Engineering Education in Developing Countries Universities. In 2018 World Engineering Education Forum-Global Engineering Deans Council (WEEF-GEDC) (pp. 1-6). IEEE.
- Stefanovic, M., Cvijetkovic, V., Matijevic, M., & Simic, V. (2011). A LabVIEW-based remote laboratory experiments for control engineering education. Computer Applications in Engineering Education, 19(3), 538-549.
- Stehling, V., Bach, U., Richert, A., & Jeschke, S. (2016). Teaching professional knowledge to XL-classes with the help of digital technologies. In Engineering Education 4.0 (pp. 77-90). Springer, Cham.
- Stigmar, M. (2016). Peer-to-peer teaching in higher education: A critical literature review. Mentoring & Tutoring: partnership in learning, 24(2), 124-136.
- Woods, D. R., & Learning, P. B. (2000). Helping your students gain the most from PBL. Problem-based learning: Educational innovation across disciplines. Singapore: Temasek Centre for Problem-based Learning.
- Wulf, C. (2019). "From Teaching to Learning": Characteristics and Challenges of a Student-Centered Learning Culture. In Inquiry-based learning–Undergraduate research (pp. 47-55). Springer, Cham.
- Yusof, K. M., Helmi, S., Jamaludin, M. Z., & Harun, N. F. (2011). Cooperative problem-based learning (CPBL): A practical PBL model for a typical course. International Journal of Emerging Technologies in Learning (iJET), 6(3), 12-20.
- Yusof, K. M., Sadikin, A. N., Phang, F. A., & Aziz, A. A. (2016). Instilling professional skills and sustainable development through Problem-Based Learning (PBL) among first year engineering students. International Journal of Engineering Education, 32(1), 333-347.
- Zabit, M. N. M. (2010). Problem-based learning on students critical thinking skills in teaching business education in Malaysia: A literature review. American Journal of Business Education (AJBE), 3(6), 19-32.

ASEAN Journal of Engineering Education, 5(2)

Zakaria, Z. Y., Man, S. H. C., Yusof, K. M., Sadikin, A. N., Ab Aziz, M. A., Hassim, M. H., ... & Hasbullah, H. (2020). Design of First

Year Integrated Courses based on Constructive Alignment. Asean Journal of Engineering Education, 4(2).