

## Exploring Social Cognitive Learning in The Online Learning Environment

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### Abstract

Social cognitive learning is where an individual gain knowledge through observation and imitating of others' behaviours in different environment and setting. This method of learning also can be implemented through online learning. Consequently, online learning has shown significant growth recently, as the education combined with internet for providing people with the opportunity to gain new skills. The online learning has become more centric in people live since the COVID-19 outbreak. The pandemic has forced schools, universities, and companies to remote working, and this booms the usage of online learning. Thus, this study aims to explore the social cognitive learning in the online learning environment. This study was conducted by distributing a set of questionnaires to 163 students from higher institutions in Malaysia. The respondents were of age 18 to 32 years from social sciences, and science and technology disciplines and their level of study were from diploma to master's degree. The questionnaires consist of 30 items divided into four sections, namely, learner-centred, community-centred, assessment-centred and knowledge-centred. The findings reported that all factors such as behavioural, cognitive and environment are significant and influence the learning environment. From this result, by integrating the principles of social cognitive learning in the online learning environment, the engagement between students and educators are believed to have positive feedback.

**Keywords:** Online Learning, Social Cognitive Learning, Behavioural Factors, Environment Factors, Cognitive Factors

**Introduction***Background of Study*

Research on social cognitive learning has received more attention in online learning environment since pandemic of Covid-19 for all over the world of education including Malaysia. Bandura social cognitive learning can be described as learning through experience where observation and imitating of other behaviours are important actions. An example would be the students imitating the teacher. Hence, leads many educators applying social cognitive learning principles in the design, development and implementation of online learning system (Hill et al., 2009). This setting of online learning deals with learning engagement which gave significant positive impact on behavioural, environmental and cognitive factors of the students as studied by (Yang et al., 2021).

The sudden phenomenon of changing environment of learning has affected the entire education system. All courses and teaching plans must be converted into online learning mode in a very short time, and they have to struggle with online course material, and lack of equipment to work on online courses left a deep psychological impact on students (Apriyanti, 2020). For those who were unable to adopt the new learning environment will face with the mental health problem (Terada, 2020).

On the other hand, during endemics everyone has accepted online learning. Previous studies have explored the learning effect of e-learning in a stable environment, for instance Al-Rahmi et al (2019) received positive outcome of behavioural intention of students in using the e-learning system by technology acceptance model (TAM), Abuhassna et al (2020) discussed the effect of factors in transactional distance theory and Bloom's taxonomy theory on learning satisfaction and academic achievements when they are involved in online learning platforms. Next, Jayachithra (2020) provides students with e-learning environment in a guided manner.

On top of that, Covid-19 outbreak has booms the usage of online learning for schools, colleges and universities through software applications such as Microsoft Teams, Zoom, Webex, and Google Meet. Students were forced to devote time and energy to familiarize themselves with the use of online teaching platforms, thus increases students' intention to switch to online learning (Lin, et al., 2021). Therefore, interested statistics about significant growth in online and distance education has been recorded (Said, 2021). There are many useful formats for online learning such as, LMS (Learning Management System), Web base learning, e-learning, and virtual learning (Sallum, 2021).

**Statement of Problem**

The online learning significantly changes the traditional method of learning (Zou et al., 2022). However, the learning behaviour requires the learners in the knowledge centred to be actively participate in the learning environment. Bandura's perspective in behaviour complemented by his four factors which are goals, outcome expectancies, self-efficacy, and socio-structural factors. Another significant aspect of social cognitive learning is the environmental factors driven from the community-centred approach. Therefore, this should be one of the key indicators for the online learning environment. The ability of learners to be able to self-regulate and managing the environment will be crucial for the impacts towards online learning environment (Wahyuni and Azwar, 2022). The existence of the educational

experience within online learning environment is comparable to the cognitive factors explained by (Bandura, 1977). Recent research (Garrison and Cleveland-Innes, 2005; Said, 2021) has revealed that assessments, especially in giving feedbacks are crucial in online learning environment. This is generally seen as a factor strongly related to behavioural and environmental factors.

Although extensive research has been carried out on online learning environment, a few studies focusing on behavioural, cognitive and environmental factors. Questions have been raised about the significant impact on the online learning environment towards the outcome of the learners in adaptability to the working environment (Yusuf and Ahmad, 2020). Online learning has been said limiting the behaviour of the learner because of the constraints in facing with the new environment (Koutroubas and Galanakis, 2022). Thus, tolerance in maintaining the desired learning behaviours is not supported in the online learning environment (Wahyuni and Azwar, 2022). Therefore, Bandura's ideas on learning principles through social cognitive learning should be argued by looking on the internal and external factors in online learning environment.

Hence, this study is done to investigate how social cognitive learning influence the online learning environment. This investigation is done to answer the following questions;

- RQ1-How do behavioural factors influence the learning environment?
- RQ2-How do environmental factors influence the learning environment?
- RQ3-How do cognitive factors influence the learning environment?

Based on the research questions, the objectives of this paper are as follows.

- To investigate the behavioural factors, influence the online learning environment.
- To investigate the environmental factors, influence the online learning environment.
- To investigate the cognitive factors, influence the online learning environment.

## **Literature Review**

### *Social Learning Theory*

Previous studies discuss that a person learning behaviour are highly influence by the environment. According to Koutroubas and Galanakis (2022), social cognitive learning is where an individual gain knowledge through observation and imitating of others' behaviours in different environment and setting. Social learning theory states that social behaviour is learned by observing and imitating the behaviour of others. Social learning theory was developed by Bandura in 1977. According to Muro and Jeffrey (2008), social learning theory is increasingly cited as an essential component of sustainable natural resource management and the promotion of desirable behaviour change. This concept is based totally on the idea that we learn from our interactions with others in a social context. By looking at the behaviour of others, people broaden similar behaviours. After observing the behaviour of others, they undertake and imitate that behaviour, mainly if their observational experiences are fantastic or contain rewards related to the found behaviour. Bandura recognized that people learn a great deal from watching other people and seeing the rewards and/or punishments that other people receive.

Under the social learning theory, there are four assumptions. First people will learn through remark. Inexperienced persons can gather new conduct and know-how via merely watching a model. Second is reinforcement and punishment have indirect effects on conduct and getting to know. People will set their expectations about the capacity effects of future responses primarily based on how contemporary responses are strengthened or punished. Third is mediational procedures affect our conduct. Cognitive elements that contribute to whether a conduct is received or no longer. Fourth is when people undergone the learning process it is not necessarily will cause change in behaviour. This is simply due to the fact a person learns something does not imply they'll have an exchange in conduct.

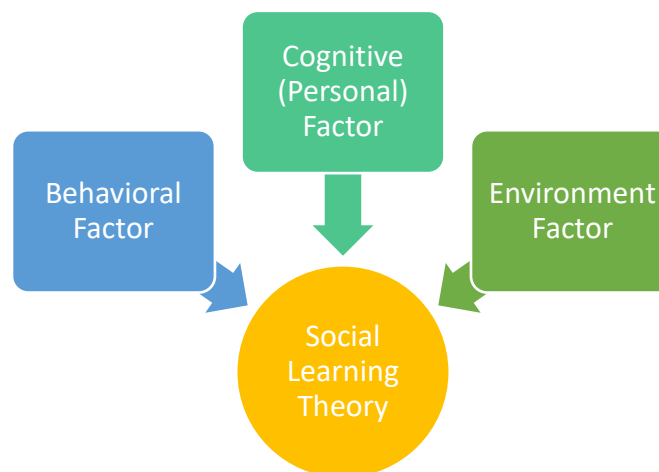


Figure 1: Social Learning Theory by Bandura (1977)

Figure 1 show the main three element of social learning theory suggested by Bandura 1977. The theory later evolved into the social cognitive theory in 1986 which postulates that learning takes place in a social framework with an ever-changing and shared interaction between the person, environment, and behaviour.

### *Challenges in Online learning*

As previously stated, since the pandemic Covid 19 hit worldwide, the term online learning become familiar to both educators and learners. The need to adopt in this situation is very crucial as time is running. Due to that, many challenges faced by educators and learners were discussed among researchers. Prior research by Yusuf and Ahmad (2020) revealed that the level of concentration of learners on online instruction and learning decreased. This is because the approach of online learning used may not involve the students' participation wherein, the educators may not be having an open discussion between the educators and the learners.

Apart from that, a study from Barrot et al (2021) reported that the greatest challenge faced by the learners was their learning environment at home. Some distractions may occur especially when learners have a big family, where it requires understanding from family members to support and give them some space while having online learning. Support is essential to help them concentrate and reduce their stress as well.

Another recent study from Mamolo (2022) showed that learners lack of motivation to study online because they felt that online learning is a one-way learning process, which makes it challenging for learners to consult with the content that they felt needs a more in-depth explanation or understanding. It is hard for them to ask their teachers and friends through a virtual meeting. Consequently, it could affect their assessment achievement.

#### Past Studies

##### *Past Studies of Learning environment*

Students' achievement in their study is highly dependent to good learning environment such as the psychological, social, cultural and physical setting has given some impacts on student performance and motivation. Many studies have been done to investigate the learning environment factors. The study by Mork et al (2020) is done to investigate on associations between learning environment factors and study approaches by hierarchical linear regression analyses. 187 occupational therapy students in Norway have been contributed to this study. Aside from socio demographic information, the students completed the Course Experience Questionnaire and the Approaches and Study Skills Inventory for Students. Outcome of the study are significantly higher on generic skills, and it were associated with the deep and strategic approach scales. By improving aspects of the learning environment, there may be a potential for influencing students' approaches to studying. Based on this study, emphasizing how generic skills developed in the study program may become useful in practising a profession, ensuring clarity of goals and standards, and maintaining an appropriate workload on students appear to be important.

Recent study by Fischer and Yang (2022) on the learning environment in online flipped classroom and its out-of-class component found that students' engagement and learning can be heighten because of environmental factors. The study involved 54 students from private universities over the 14-week course. They found that less focus has been given to the flipped classroom outside-of-class component, notably the negative effects that could result from poor student accountability when viewing the pre-assigned video lectures and students showing up to class unprepared. They also found that the learning environment can be enhanced by creating a more synchronous or collaborative learning environment, which influenced students' oral/aural EFL learning.

Another recent study by Rusticus et al (2022) justified the indicators of the learning environment that supported and impeded student learning. The data was analysed by using a directed content analysis and organized. The study discovered leaning environment indicators that enabled student learning.

##### *Past Studies of Online Learning*

Thus far, several studies have been conducted to look into online learning. The outbreak of Coronavirus disease (COVID-19) pandemic in Indonesia has led majority of the educators to embrace online flipped learning scheme (Reflianto et al., 2021). They had investigated two online platform, namely Microsoft Team and WhatsApp, to find out the effect of online flipped learning as well as the students' reading comprehension skills engagement. Pre-test and post-test of factorial 2 x 3 non-equivalent control group design was employed by using two-way ANOVA test. The participants of this study were 117 students who undertook Economics English course. It turned out that students engaged better and reading

comprehension skills were improved when using Microsoft Team if compared to WhatsApp. Thus, using appropriate online media services and be competent in using synchronous flipped classroom teaching are essential.

Apart from that, a study from Mamolo (2022) investigated the effect of online learning on students' motivation, self-efficacy, and anxiety in mathematics. The study utilized quasi-experimental research. Specifically, a one-group pre-post-test design was employed. This study involved grade 11 senior-high-school students in Philippines, of school year 2021. The participants are divided into two groups Science, Technology, Engineering, and Mathematics (STEM) and Accountancy, Business, and Management (ABM), each group composed of 31 students. The study participants are students enrolled in the synchronous mode, where the class discussion is via Google Meet. Results show that students' mathematics motivation and self-efficacy have significantly decreased over the 6-week pilot test of synchronous online learning. Students' anxiety remained "High" before and after the implementation, indicating fear and uncertainty of the new normal in instruction. Furthermore, results found that slow and unstable Internet connection, less motivation to do self-study, plenty of activities at home, and chores were some of the main reasons students got difficulties in learning the subject matter and adjusting to the "New Normal." Results imply the improvement of online learning processes, emphasizing government projects for faster Internet connectivity. This research also emphasis on engaging classroom activities for improving learners' motivation and self-efficacy and decreasing anxiety.

### *Conceptual Framework*

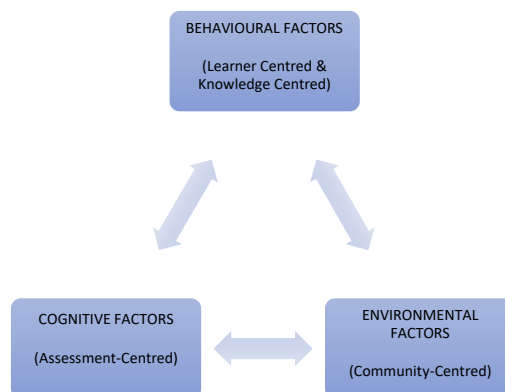


Figure 2- Conceptual Framework of the Study – Social Cognitive Learning in the Online Environment

Figure 2 presents the conceptual framework of the study. This study is adapted from Bandura's (1977) social cognitive theory and the environmental factors by Hassan et al. (2020).

#### *Behavioural Factors (include learner-centred and knowledge-centred)*

Behaviour is depicted as being shaped and controlled either by environmental influences or by internal dispositions. Behavioural factors refer to knowledge and skill to perform a given behaviours (Weibell, 2011). In Bandura's social cognitive theory, a video modelling was used



to improve specific behaviours. Students observe the video and forms a cognitive construct, which shape future behaviours. So, by observing the event, a student will choose to engage in specific behaviours that he or she acquired.

According to Bandura's social cognitive theory, behaviour is held to be determined by four factors: goals, outcome expectancies, self-efficacy, and sociostructural factors. Goals are plans to act and can be conceived of as intentions to perform the behaviour. Outcome expectancies are beliefs regarding the consequences (positive and negative) of performing the behaviour. Self-efficacy refers to a student or teacher's confidence to participate in certain actions that will help them achieve distinct goals. Sociostructural factors are factors assumed to facilitate or inhibit the performance of a behaviour and affect behaviour via changing goals.

#### *Environmental Factors*

Environmental factors refer to the factors that can affect a person's behaviours, which include the social environment such as friends, family and colleagues, and physical environment such as temperature, weather, or size of room (Devi et al., 2017). Based on the model introduced by Bransford et al. in 2004, it has four different dimensions of learning environments to ensure the holistic learning environment is provided to the students. One of the learning environments is community-centred environment and it places a major focus on the development of good norms for learning from one another through cooperation among members of the learning community (Hassan et al., 2020). In this environment, in order to boost students' learning, the teachers set up a positive social environment, where both parties are allowed to make mistakes during the teaching and learning process. Therefore, the process enables students' express conflicting opinions, teachers stress the value of settling the situation amicably. In addition, cooperative learning techniques can build a learning community within the school environment that includes both the classroom and the school community. Meanwhile, after-school programmes may foster the learning community outside of the school environment, which includes links between classroom learning experiences and out-of-school learning experiences.

#### *Cognitive Factors*

Bandura argues that environmental factor was not the only factor to influence learning and behaviour. A Cognitive factor play important roles in explains how internal and external factors influence an individual's mental processes to supplement learning. If a person cognitive process does not work smoothly, it will cause a difficulty in a learning process as it will take sometimes for a person to understand the subject matters. Nabawi (2012) claim that internal factor such as the inner self and mental state play important roles in the learning process. As explain by Bandura (1977) reinforcement does not always come from outside sources. The individual mental state and motivation play an important role in determining whether a behaviour is learned or not. Early study by Piaget (1971) explains that beside the environment and learning process also influence by the changes that take place in the internal cognitive structure. This emphasis on internal thoughts and cognitions helps connect learning theories to cognitive developmental theories (Bandura, 1977).

One type of the learning environments is assessment centered. Assessment-centered focus on assessment and feedback to help learners improve their skills or achieve a specific goal. Assessment-centered learning environments usually have a clear structure with a goal to guide the learners on their progress. Assessment centered learning environment is highly related to the cognitive structure of the learner (Froyd and Simpson, 2008). Colomer et al. (2018) suggest that assessment-centered activities fundamentally help students recognize the factors of their attitudes towards their sustainability learning education. Students will develop complex reasoning skills which test their cognitive level when they are more efficiently occupied with the material they are studying (Crouch and Mazur, 2001).

### **Methodology**

This quantitative study is done to investigate social cognitive learning in the online learning environment. 163 participants were randomly chosen from a public and private university in Malaysia. The instrument used is a survey adapted from Hassan et al. (2020). Aside from the demographic profile in Section A., there are 4 other sections. Section B has 7 items on learner-centred, section C has 7 items on community-centred, section D has 8 items on assessment-centred and section E has 8 items on knowledge-centred.

Table 1

#### *Distribution of Items in Survey*

SECTION	TYPE OF LEARNING ENVIRONMENT	NO OF ITEMS
B	Learner-Centred	7
C	Community-Centred	7
D	Assessment-Centred	8
E	Knowledge-Centred	8
	Total	30

Table 2

#### *Reliability Statistics*

Factor	Cronbach Alpha
Learner-Centred	0.855
Community-Centred	0.877
Assessment-Centred	0.925
Knowledge-Centred	0.928

Data is collected via google form and analysed using SPSS version 23 for windows. With reference to Table 2, the SPSS analysis revealed a Cronbach Alpha for learner-centred is 0.855, community-centred is 0.877, assessment-centred is 0.925 and knowledge-centred is 0.928. Therefore, every questionnaire item is said to be valid because the Cronbach Alpha greater than 0.70. Thus, the data in this study can be classified as good and adequate for the research means. Data is presented in terms of percentage for the demographic profile and mean scores to answer the research questions.

### **Findings**

#### *Findings for Demographic Profile*

The demographic profile consisted by gender, age, discipline, institution of learning and level of study comprised of 163 respondents.



Q1 Gender

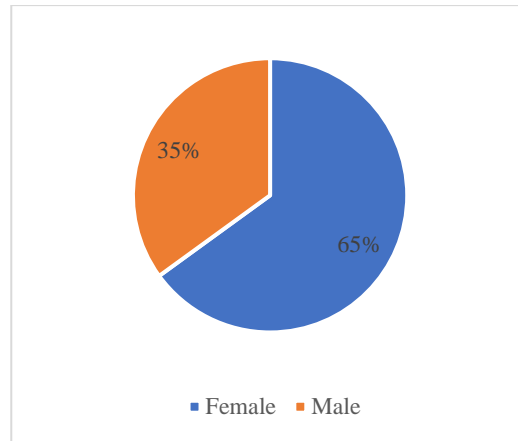


Figure 3-Percentage for Gender

Figure 3 represents the percentage for gender. The 2-options demographic profile for gender consists of male and female, where 35% of respondents are male and 65% are female.

Q2 Age

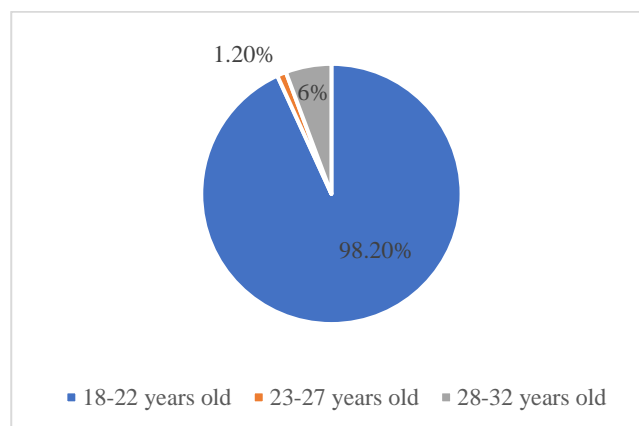


Figure 4-Percentage for Age

Figure 4 represents the percentage for age. There are four group in the options. The age group 1 represent the age from 18 to 22, where consists of the highest percentage for age (98.2%). There are 1.2% of respondents for group 2, age from 23 to 27. Group 3 consists of 0.6% respondents from age 28 to 32. There are none from age group 4, the age range is from 33-year-old and above.

Q3 Discipline

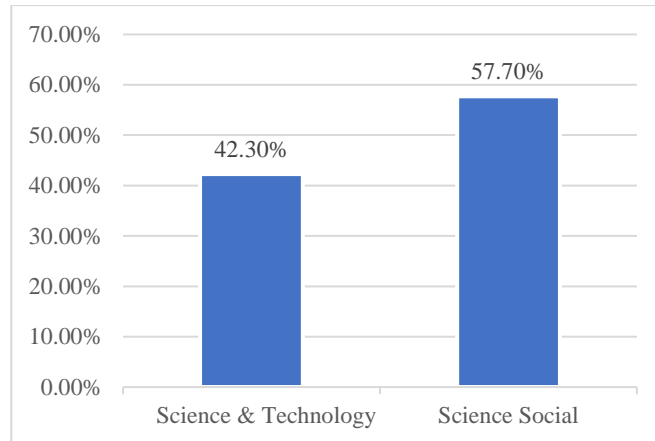


Figure 5-Percentage for Discipline

Figure 5 represents the percentage for discipline in demographic profile of the questionnaire. There are two options in this part. Option 2, social sciences, recorded the highest percentage for discipline (57.3%). On the other hand, option 1, science and technology, recorded the lowest percentage, which is 42.7%.

Q4 Institution

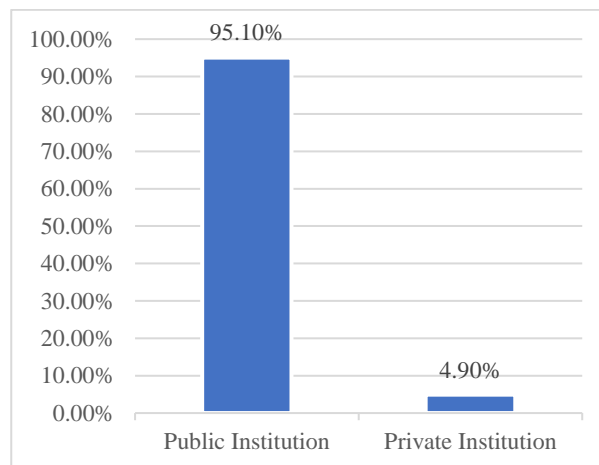


Figure 6-Percentage for Institution

Figure 6 represent the percentage for institution. Option 1, public institution, recorded the highest percentage for institution (95.1%). 4.9% is the percentage for option 2, private institution.

Q5 Level of Study

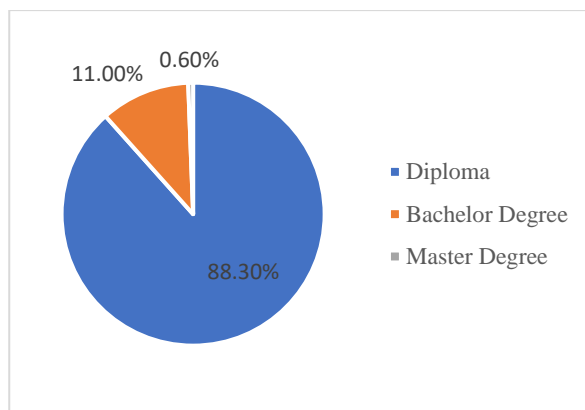


Figure 7-Percentage for Level of Study

The percentage for level of study was recorded in Figure 7. There are four options in this question. Option 1 represents diploma were recorded 88.4% respondents. For option 2 and 3, the bachelor’s degree recorded 11% and master degree recorded 0.6%. However, there are none respondents for option 4, Doctor of Philosophy (Ph.D).

Findings for RQ 1 (Keyword 1) Behaviour-Centred

This section presents data to answer research question 1 -How do behavioural factors influence the learning environment? In the context of this study, behaviour factors refer to (a) learner-centred and (b) knowledge-centred.

(a) Learner-Centred (LC) (7 items)

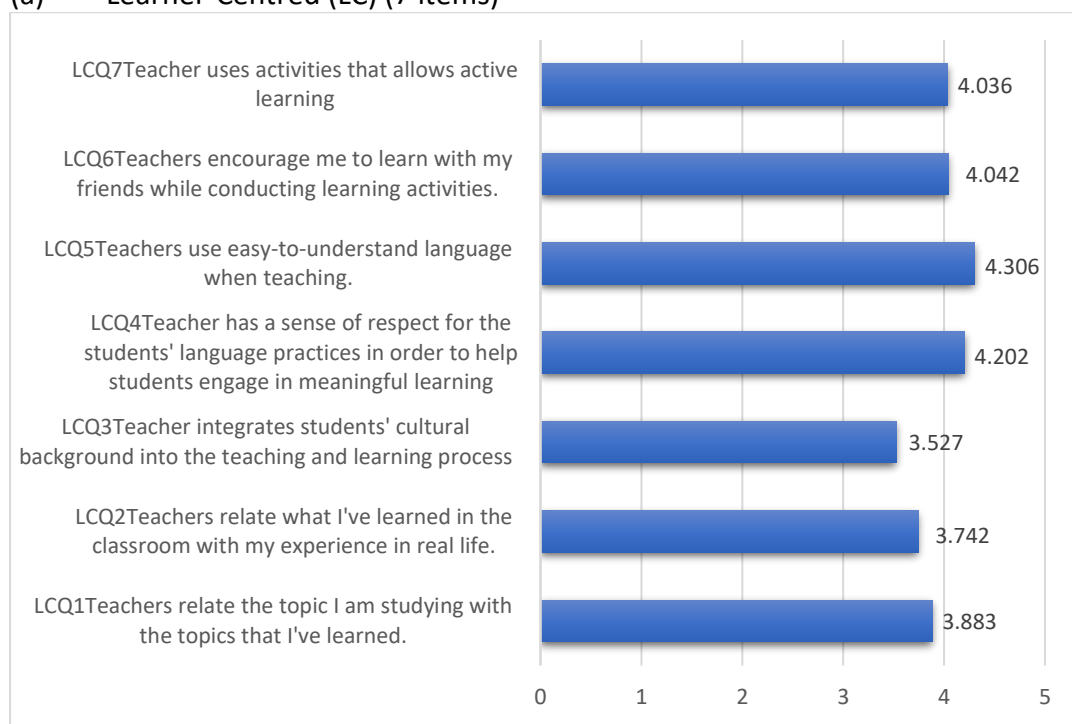


Figure 8- Mean for Learner-centred

The descriptive statistics of seven items learner-centred are listed in Figure 8. According to the findings, the respondents showed various reactions towards the learner-centred. These findings showed majority of the respondents agree with the statement “*Teacher use easy-to-understand language when teaching*” as it recorded the highest mean value of 4.306 followed by “*Teacher has a sense of respect for the students’ language practices in order to help students engage in meaningful learning*” with mean value of 4.202 and “*Teachers encourage me to learn with my friends while conducting learning activities*” with mean value of 4.042. Besides that, respondents also agree with the statements “*Teacher uses activities that allows active learning*”, “*Teachers relate the topic I am studying with the topics that I’ve learned*” and “*Teachers relate what I’ve learned in the classroom with my experience in real life*” with the mean values of 4.036, 3.883 and 3.742 respectively. Meanwhile the lowest mean is 3.527 which is the statement “*Teacher integrates students’ cultural background into the teaching and learning process*”. Next the overall mean of the learner centred is 3.963.

(b) Knowledge-Centred (KC) (8 items)

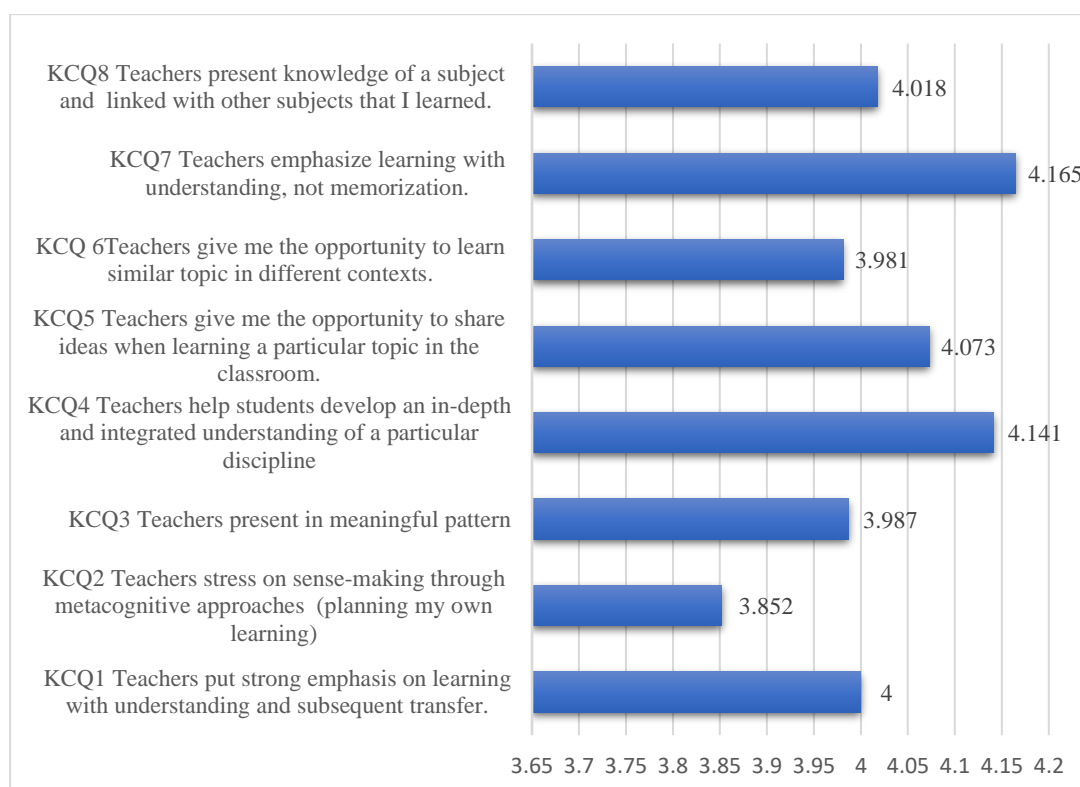


Figure 9- Mean for Knowledge-Centred

Figure 9 presents the mean for knowledge-centred. Most of the respondents agreed with the statement “*Teachers emphasise learning with understanding, not memorization*” as it recorded the highest mean value of 4.165, followed by ‘*Teachers help students develop an in-depth and integrated understanding of a particular discipline*’ with mean value of 4.141 and ‘*Teachers give me the opportunity to share ideas when learning a particular topic in the classroom*’ with mean value of 4.073. Meanwhile, the score obtained for the statement ‘*Teachers present knowledge of a subject and link it with other subjects that I learned*’ and ‘*Teachers put strong emphasis on learning with understanding and subsequent transfer*’ are 4.018 and 4.006, respectively. Next, the mean for ‘*Teachers present in meaningful pattern*’ is

3.987 and 'Teachers give me the opportunity to learn similar topics in different contexts' is 3.981. In this section, the lowest mean value is 3.852 correspond to 'Teacher's stress on sense-making through metacognitive approaches (planning my own learning)'

#### Findings for RQ 2 (Keyword 2)-Environment-Centred

This section presents data to answer research question 2- RQ2-How do environmental factors influence the learning environment? In the context of this study environment factors refer to community-centred.

#### Community-Centred (CC) (7 items)

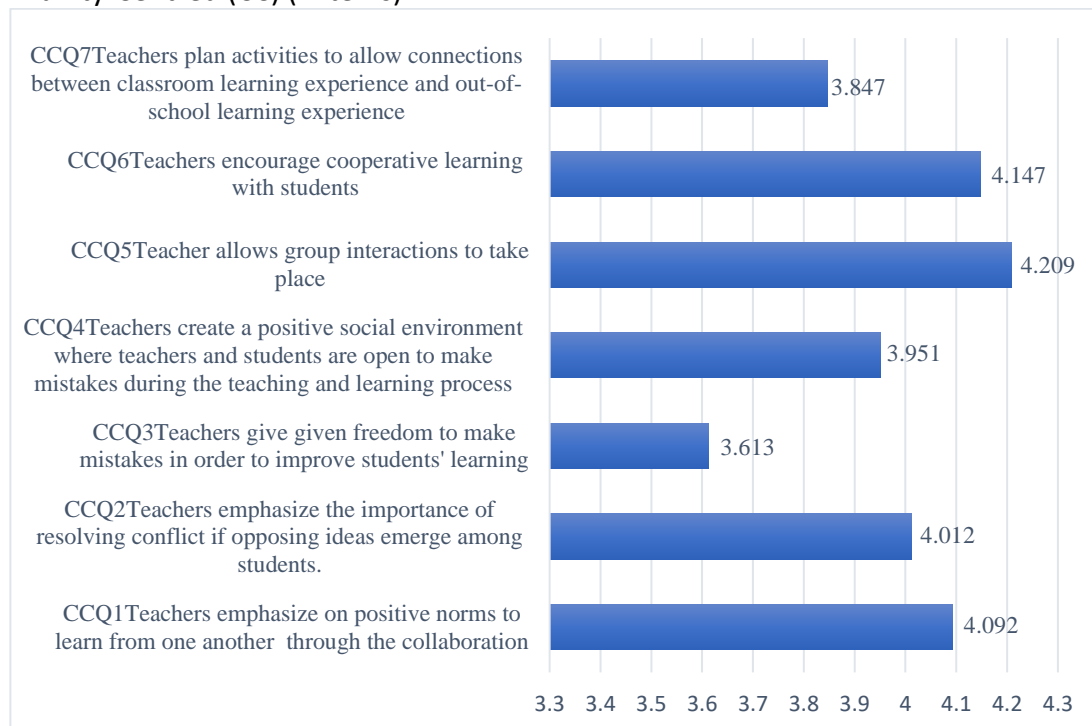


Figure 10-Mean for Community-Centred

The descriptive statistics of seven items community centred are listed in Figure 10. According to the findings, the respondents showed various reactions towards the community centred. Based on the findings the highest mean is 4.209 which is the statement "Teacher allows group interactions to take place" followed by "Teachers encourage cooperative learning with students" with mean value of 4.147 and "Teachers emphasize on positive norms to learn from one another through the collaboration" with mean value of 4.092. Besides that, respondents also agree with the statements "Teachers emphasize the importance of resolving conflict if opposing ideas emerge among students", "Teachers create a positive social environment where teachers and students are open to make mistakes during the teaching and learning process" and "Teachers plan activities to allow connections between classroom learning experience and out-of-school learning experience" with the mean values of 4.012, 3.951 and 3.847 respectively. Meanwhile the lowest mean is 3.613 which is the statement "Teachers give given freedom to make mistakes in order to improve students' learning". Next the overall mean of the learner centred is 3.981.

## Findings for RQ 3 (Keyword 3)-Cognitive-Factors

This section presents data to answer research question 3- RQ3-How do cognitive factors influence the learning environment? In the context of this study, cognitive factors refer to assessment-centred.

## Assessment-Centred (AC) (8 items)

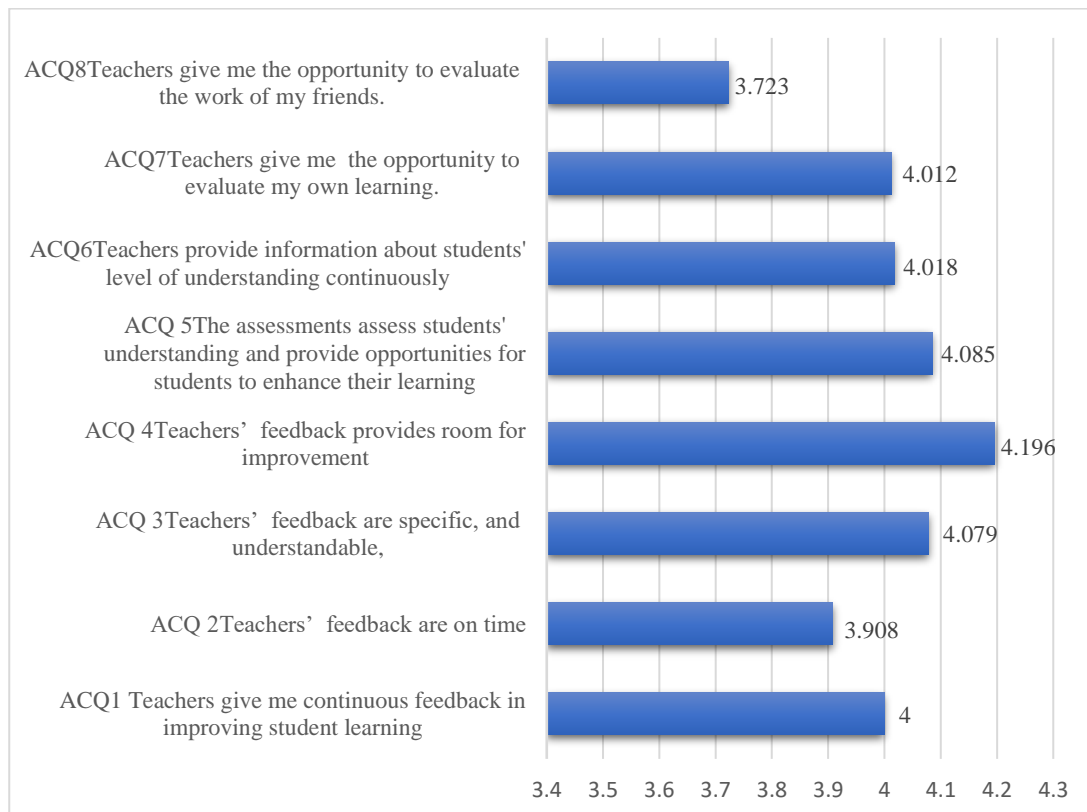


Figure 11- Mean for Assessment-Centred

The descriptive statistics of eight items assessment centred are listed in Figure 11. According to the findings, the respondents showed various reactions towards the assessment centred. Based on the findings the highest mean is 4.196 which is the statement *"Teachers' feedback provides room for improvement"* followed by *"The assessments assess students' understanding and provide opportunities for students to enhance their learning"* and *"Teachers' feedback are specific, and understandable"* with mean value of 4.085 and 4.079 respectively. Besides that, respondents also agree with the statements *"Teachers provide information about students' level of understanding continuously"* with mean value 4.018 and *"Teachers give me the opportunity to evaluate my own learning"* with mean value 4.012. Next, the statements *"Teachers give me continuous feedback in improving student learning"* and *Teachers' feedback are on time* with the mean values of 4.0 and 3.908 respectively. Meanwhile the lowest mean is 3.723 which is the statement *"Teachers' give me the opportunity to evaluate the work of my friends"*. Next the overall mean of the assessment centred is 4.003.



**Conclusion**

## Summary of Findings and Discussion

This study is to explore Bandura's social cognitive learning (SCL) in the online learning environment. Three components of SCL (behavioural factors, environmental factors and cognitive factors) have been studied how they influence the learning environment factors by Hassan, Majid & Hassan (2020). General understanding about learning environment is a physical or virtual space that supports the process of acquiring, developing and applying knowledge. For example, it is designed to be engaged and provides opportunities for learners to engage in meaningful and active interactions with one another. There are four major types of learning environments which are the main topic in this study: learner-centred, knowledge-centred, community-centred, and assessment-centred.

*RQ1-How do behavioural factors influence the learning environment?*

The research question is referring to learner-centred and knowledge-centred. Based on the items of learner-centred, show up to prepare for students' knowledge, attitudes, beliefs, and skills. It encompasses the importance of the educators in using easy-to understand language and having a sense of manner for the students' language practices to help students connect in meaningful learning. The students will feel comfortable for studying when teachers encourage students to learn with their friends while conducting learning activities. Learner-centred environments help students to construct meaning by allowing active learning through activities in order to have a connection of students' prior knowledge, attitudes, beliefs, and skills with current learning so that has the potential to influence students' academic achievement (Said, 2021) like peer-to-peer learning. For teachers to drag out from students' basic understanding to a more formal understanding of what is being learnt, requires teachers to practice learner-centred approaches in their classrooms, such as diagnostic teaching (Walker, 2011). For example, teachers relate the topic that being studied with the topics that have been learned. Moreover, teachers are also expected to relate what is learnt in the classroom to the experience of students in real life, thus it may establish students' self-efficacy (Boca, 2021; Mork et al., 2020). Besides, it also integrating students' cultural background into the teaching and learning process.

Meanwhile, knowledge-centred emphasis learning with understanding, not memorization. In order to encourage learning with understanding, knowledge-centred focus on the information and activities that are believed to assist students creates an in-depth and integrated insight of a particular discipline. Consequently, in knowledge-centred, educators give their students the platform to share thoughts and beliefs when learning a particular topic in the classroom. Besides, it requires teachers to present knowledge of a subject and link it with other subjects that students have learned. This proved to learning with understanding and subsequent transfer. Learning with understanding involves the ability to organize knowledge in a meaningful pattern (Hammond, 2020), while transfer leads the ability learn similar topics in different contexts, in other words apply knowledge in contextualization (Buan, 2019). Another approach is by *sense-making through metacognitive approaches*.

*RQ2-How do environmental factors influence the learning environment?*

The research question refers to community centred. The community-centred emphasis on the formation of group interactions. In this environment, greater responsibility in the lessons when teachers encourage cooperative learning with students (Silva et al., 2021). In the sequel,

community-centred emphasis on the establishment of positive standards to learn from one another through the association. Thus, undertaking conflict if opposing ideas emerge among students is also emphasized. Moreover, teachers adapted a blended social environment where teachers and students are allowed to make mistakes during the teaching and learning process. In the community-centred, including those inside and outside of school setting, need to work together to achieve common learning goals. Therefore, through cooperative learning approach, inside the school setting, which involves classroom and school community. Meanwhile, the learning community outside school setting which involve teachers prepare activities to allow relationships between classroom learning experience and out-of-school learning experience (Silva et al., 2021). In addition to that, teachers provide choices to be allowed to make mistakes in order to improve students' learning.

### *RQ3-How do cognitive factors influence the learning environment?*

The research question refers to assessment-centred.

Assessment-centred highlight the feedback provides room for improvement (Day et al., 2021). As a result, the assessments evaluate students' understanding and provide platforms for students to enhance their learning. In order to be effective, such feedback should be *specific, understandable, on time and continuous in improving students learning*. In assessment-centred, greater emphasis on formative assessments since teachers provide information about students' level of understanding continuously. Apart from that, assessment-centred also stress on developing of self-assessment among students in order to evaluate their own learning and the work of their friends.

### *Pedagogical Implications and Suggestions for Future Research*

Recent techniques of teaching have change from traditional to online learning tremendously since COVID-19 outbreak. Incorporating the elements of learner-centred, knowledge-centred, assessment-centred, and community-centred learning environments can optimize students' learning. Online learning benefits learners by providing them with suitable tools and materials such as technology, software to facilitate the process of learning so they can be successful in their education. It also helps them achieve their goals and provides a space where they can take risks to learn new skills.

The chosen pedagogical methodologies impacted the learning environment can encourage a deep approach to studying. Tuononen et al (2019) describes generic skills, for instance analytical, communication, teamwork, and problem-solving skills, are seen as learning outcomes required for studying. As a result, associations between learning environment perceptions and students' approaches is possible.

This study only focuses on exploring social cognitive learning in the online learning environment generally. It can be extended to narrow the topic to investigate the impact of SCL in learning a subject across disciplines or faculties via online environment. It is believed that there must be different impact between science and technology and social science disciplines when learning English language for instance, in terms of self-efficacy and performance.

### *Suggestions for Future Research*

This study aims to explore social cognitive learning in the online learning with finding in the form of descriptive analysis. In the future the same survey can be used to investigate the relationship between behavioural factors, environmental factors and cognitive factors influence the learning environment by correlation analysis. Moreover, how independent variable (behavioural factors, environment factors and cognitive factors) influence the dependant variable (learning environment) also can be investigated in the future by using Regression analysis that is the analysis in which it investigates how independent variables are linked to a dependent variable.

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