



## **Fostering Self-Directed Learning in Higher Education: The Efficacy of Guided Learning Approach among First-Year University Students in Malaysia**

**Ida Juliana Hutasuhut\*, Mohamad Azhari Abu Bakar, Kartini Abdul Ghani & Dorkas Ping Bilong**

Faculty of Cognitive Sciences & Human Development, Universiti Malaysia Sarawak, 94300 Kota Samarahan, Sarawak.

### **ABSTRACT**

The present study investigates the efficacy of the guided learning approach in promoting self-directedness among first-year, first-semester university students in Malaysia. Based on a sample of 37 participants, this study employs the SECI (Socialization, Externalization, Combination, and Internalization) Model as a theoretical framework to examine the transfer of knowledge between the lecturer and students, as well as among students. Using an SDL (Self-Directed Learning) Questionnaire, the study assesses the students' level of self-directed learning in the early stages of the semester and then again following the implementation of the guided learning approach throughout the remainder of the semester. The results of this study reveal that the guided learning approach has a substantial positive impact on students' self-directedness, with 94.59% of the participants exhibiting an increase in their SDL level by the end of the semester. These findings reinforce the notion that a guided learning approach is crucial in fostering self-directedness among first-year, first-semester university students in Malaysia and, more broadly, highlight the importance of fostering self-directed learning in higher education.

**Keywords:** guided learning, self-directed learning, student-centred learning, SECI model

---

#### ARTICLE INFO

Email address: [hijuliana@unimas.my](mailto:hijuliana@unimas.my) (Ida Juliana Hutasuhut)

\*Corresponding author

<https://doi.org/10.33736/jcshd.5339.2023>

e-ISSN: 2550-1623

Manuscript received: 18 January 2023; Accepted: 23 March 2023; Date of publication: 31 March 2023

---

Copyright: This is an open-access article distributed under the terms of the CC-BY-NC-SA (Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License), which permits unrestricted use, distribution, and reproduction in any medium, for non-commercial purposes, provided the original work of the author(s) is properly cited.

---

## 1 INTRODUCTION

Self-directed learning (SDL) is a process where individuals take the initiative to identify their learning needs, set learning goals, find resources, choose learning strategies, and evaluate their learning outcomes (Knowles, 1975). In contrast to the teacher-centred approach, university students are expected to have the skills necessary for SDL, allowing them to study independently and take responsibility for their learning. However, many studies, including those conducted in Malaysia, have discovered that first-year university students tend to learn in a teacher-centred manner (Du Toit-Brits, 2019; Ismail, 2017; Ming & Alias, 2007; Wong, 2004). The phenomenon continues to persist even when self-directed learning is expected to be utilised in higher education. Based on personal observations of teaching first-year, first-semester students in Malaysia, many students still use a passive learning style, waiting for the lecturer to provide learning content rather than actively seeking knowledge.

In the era of IR4.0, with the Internet of Things (IoT), Artificial Intelligence (AI), and augmented reality, knowledge is accessible "at the fingertip", and access to learning resources is much easier than ever before. However, learning depends on the learners' will and effort and whether they have sufficient learning skills that can equip them to be more self-directed and independent in their learning. With all its limitations, the positive side of the Covid-19 pandemic has conditioned the practice of self-directed learning, where university students had to adapt to become more independent when circumstances do not allow face-to-face learning. During the pandemic, they have had to equip themselves with clear learning goals to empower their self-directed learning attitudes and engage in online learning (Sun et al., 2022).

Implementing various approaches and designs in learning activities allows the students to enhance self-directed learning. A study conducted by Fong, Gonzales, Hill-Troglin Cox, and Shinn (2023) found that there is a positive association between academic help-seeking behaviour (i.e., self-reported, instrumental help-seeking, formal help-seeking) and academic performance which shows the importance of guided learning empowerment that rooted in the positive interactions between the students and the learning facilitator. Collaborative learning activities which involve peer interactions and discussions in small groups also can promote the development of the primary skills of self-directed learning, which are essential for students' survival at the tertiary level. Such interactions allow the students to empower their learning capacity, ask questions, identify relevant resources or tools, and make connections between the courses they study (Warburton & Volet, 2013).

Guglielmino (1977) argued that the growth of self-directed learning is not fixed to one stage, but it is a continuum that requires the engagement of the processes and the ways of teaching and learning delivery. On top of that, the influence of a learner's characteristics (attitudes, values, abilities) is a primary indicator of the successful self-directed learning process. Possession of grit character among university students is associated with academic performance, autonomous learning, self-regulation, and psychological well-being (Ramos Salazar & Meador, 2023). Although self-directed learning aims to develop independent learners, we cannot disregard that students still need assistance (lecturer's role as facilitator) to improve their self-management skills

(primarily first-year students). However, a study by Soliman and Al-Shaikh (2015) reported that students tended to have a strong desire for learning and self-control.

For university students, acquiring, classifying, retaining, utilising, transferring, and creating new knowledge is vital, and that is the cycle they need to go through to deal with life challenges, now and in the future. The capability to create new knowledge is the outcome of the transformation from tacit knowledge and explicit knowledge and vice versa (Nonaka, 1994). Nonaka and Takeuchi (1995) introduced the SECI (Socialization, Externalization, Combination, and Internalization) Model as the conversion engine that generates new knowledge. SECI model can be used to reveal how lecturers' knowledge transfers to students and among students themselves. Based on constructivism as a paradigm in teaching and learning, it is believed that students build their understanding and can create new knowledge through experiencing things and reflecting on that experience. A lecturer's role as a learning facilitator provides scaffolds to improve learning skills over time. To understand the phenomenon better, this study examines the experience of first semester first-year students in a public university in Malaysia in applying the guided learning approach facilitated by their respective lecturers to improve the students' self-directed learning skills.

### **1.1 The objective of the Study**

This study investigates the role of guided learning in improving self-directed learning among first-year university students by using the SECI Model as lenses. Specifically, this study intended:

- (a) To examine the impact of guided learning in improving SDL among students.
- (b) To determine how knowledge is transferred and created from the lecturer to students and between the students by using SECI Model.

## **2 LITERATURE REVIEW**

### **2.1 Self-Directed Learning in Asia**

Knowles defined Self-Directed Learning (SDL) as "a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes" (Knowles, 1975, p.18). Students should be active in their learning, can adapt and learn how to learn in a fast-changing and new environment (Jossberger et al., 2010; Knowles, 1975). However, self-directed learning does not occur in a vacuum, and environmental factors have long been recognised as influential (Ravid, 1987). Learners may perform different levels of self-direction in different learning situations (Candy, 1991; Song & Hill, 2007). Learners will be more self-directed in an area they are familiar with or have similarities to previous experience (Candy, 1991). Setting a supportive learning climate, providing the availability of resources, and establishing fluent communication could

enhance the tendency for self-directed learning to emerge (Kops, 1993, 1997). Creating an environment that could guide students to think about what, why, and how to learn, resolving problems, and taking responsibility for their learning need to be fostered from the beginning of their study (Knowles et al., 2012). For students to achieve self-directed learning, the lecturer, as a learning facilitator, needs to function as a scaffold for them to have learning skills and know how to learn, which will improve their initiative to learn (Du Toit-Brits, 2019). These can be made when the lecturer facilitates students' initiative for SDL, empowering students toward SDL and creating a cooperative learning environment for their students (Du Toit-Brits, 2019). Self-directed learning readiness and student-centred learning should be promoted starting from an early stage of students' journey (Lestari & Widjajakusumah, 2009).

Wong (2004) noted that the teaching style in Asian countries is more teachers centred, where the educator would provide if not all, most of the information to the students. According to Subramaniam (2008), the education system in Malaysia, the culture, and tradition have not encouraged independence and autonomy among students, which is why most students are not self-directed learners. Ming and Alias's (2007) studies revealed that most students from all three public universities in Malaysia (the National University of Malaysia, The Putra University of Malaysia, and The Open University of Malaysia) preferred a teacher-centred approach to learning. Ming and Alias (2007) identify that socio-cultural factors may influence students' autonomy in Malaysia. Meanwhile, Ismail (2017) highlighted that the teacher-centred approach is still preferable in Malaysia, which may be due to the collective culturally based education.

A study by Leatemia et al. (2016) in Indonesia revealed that only half of the students from five medical schools had a high level of self-directed learning readiness in every batch. The study stated that the rest of the students have lower self-directed learning readiness, particularly in the seniors, than the junior. The study suggested that the factors influencing self-directed learning in students were the learning method, problem-based learning, perceptions of the topics, assessments, and learning environment. Leatemia et al. (2016) also claimed that cultural factors, teachers' experiences, and students' backgrounds might play a role in the difficulties of students being self-directed in their learning. Meanwhile, Guglielmino and Guglielmino (2002) from their study identified eight factors to be considered ready to pursue self-directed learning; they are open to learning, self-concept as an effective learner, initiative and independence in learning, acceptance of responsibility, love of learning, creativity, future orientation, and learning skills. However, these factors were too general, so they could not identify specific factors influencing SDL compared to learning. Therefore, this study examines factors that could help improve the rate of students' self-directedness in learning by providing a guided learning method in teaching first-semester first-year students in a public university in Malaysia.

## **2.2 SECI Model**

Learning is creating new knowledge, skills, attitudes, and values. Nonaka and Takeuchi (1995) introduced a model that explained how new knowledge is created, known as SECI Model (Socialization, Externalization, Combination, and Internalization). Nonaka and Takeuchi's (1995) model were built on Polanyi's (1966) work, which classified knowledge into tacit and explicit. Explicit knowledge is knowledge that is in tangible forms: visible, documented, quantifiable, and

measured (Nonaka & Takeuchi, 1995). Tacit knowledge is personal knowledge ingrained inside the individuals that reside within the individuals; intangible and invisible that grows based on cumulative life experiences (Nonaka & Takeuchi, 1995), and it is not easy to make it tangible and shared (Cross et al., 2001).

Nonaka and Takeuchi's (1995) model explains that knowledge is created through interactions among individuals with different types and contents of knowledge. Knowledge is created through the interactions that enable the transfer, conversion, and transformation between tacit and explicit knowledge. According to Nonaka and Takeuchi (1995), the reciprocal interaction between explicit and tacit knowledge is the key to understanding the knowledge-creating process.

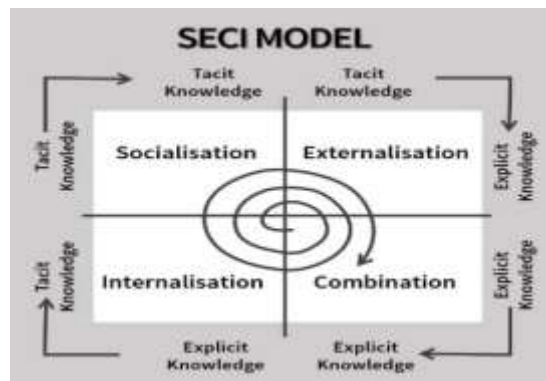
The conversion of tacit and explicit knowledge will create new knowledge in the form of a new meaning, quantity, quality, and shape (Nonaka, 1991; Nonaka, 1994; Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002). The creation of new knowledge happens in a dynamic interaction of the four modes of knowledge conversion in the form of a spiral that gradually expands, and further, the dynamic interaction can activate a new spiral of a new creation of knowledge (Nonaka, 1994; Nonaka & Takeuchi, 1995). This knowledge conversion goes through the spiral of Socialization, Externalization, Combination, and Internalization (Nonaka, 1994; Nonaka & Krogh, 2009; Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002; Easa & Fincham, 2012).

***Socialisation***, this process explains how knowledge is converted from tacit knowledge to tacit knowledge. Socialisation happens when knowledge is passed on through interaction, sharing experiences, teamwork, attachment, or internship, and this happens through daily social interaction (Easa & Fincham, 2012; Hall & Andriani, 2003; Nonaka & Takeuchi, 1995). Socialisation takes place where tacit knowledge such as mental models, beliefs, and the world view can be created and shared through interaction with customers, suppliers, and between entrepreneurs. Since tacit knowledge is difficult to formalise, it can be acquired solely through shared direct interaction or experience. For example, knowledge of how to socialise in the university can be transferred and converted to junior students by learning from their seniors' tacit knowledge. Knowledge transfer will be more efficient through observation and conversation than reading books or manuals. One of the most critical processes in knowledge transfer and conversion is socialisation.

***Externalisation***, this process explains how tacit knowledge is converted into explicit knowledge (Easa & Fincham, 2012; Hall & Andriani, 2003; Nonaka & Takeuchi, 1995). Externalisation concerns making an internal understanding, that is, tacit to more quantifiable or tangible knowledge, for example, manuals, formulas, or documents. Tacit knowledge is cultivated over the years within someone; once it is 'crystallised' and externalised, it can be disseminated quickly through the organisation and become a source of knowledge for other people (Nonaka, Toyama, & Nagata, 2000). Externalisation happened in documentation, physical demonstration, images, recording, formulas, or brainstorming that documented. This knowledge can be shared with others as the basis for new knowledge. Tacit knowledge of a person is made explicit and synthesised through notes taking and dialogues among individuals. For example, an expert develops manuals based on his/her practical experience so that other members can understand systematically and know what happened "if" as written in the manuals. Knowledge created from externalisation is good at disseminating knowledge about best practices, repetitive work, or processes.

**Combination** is about combining, classifying, editing, and/or converting explicit knowledge to other explicit knowledge to create new knowledge (Nonaka & Takeuchi, 1995; Nonaka, Toyama, & Konno, 2000). This new explicit knowledge is then disseminated, either manually or by using ICT as a source of creating new knowledge for others. For example, an annual report is a yearly organisational report to shareholders. This report resulted from combining all departments' reports and synthesising them into new explicit knowledge to provide an overall figure for the company. This annual report is new knowledge that the shareholder can use to make critical decisions. The combination occurs in creating books, journals, databases, reports, categorising and the like.

**Internalisation** is about transforming tangible explicit knowledge, which can be read or seen into tacit knowledge (internalise), which is intangible (Nonaka & Takeuchi, 1995; Nonaka, Toyama, & Konno, 2000; Sabherwal & Becerra-Fernandez, 2003). The internalisation process happens when individuals convert explicit knowledge such as SOP (standard operating procedures) into tacit knowledge through action, practice, and reflection to become new routines, the same as learning by doing (Easa & Fincham, 2012). For example, a new worker can learn to work with the organisation's software by reading the organisational policy and manuals. After reading and practising several times and doing several repetitions, day by day, the explicit knowledge, policy, and manuals will be internalised and become tacit knowledge through continuous practice, reflection, and simulation.



**Figure 1.** Four modes of knowledge conversion (Adapted from Nonaka and Takeuchi, 1995).

Nonaka and Konno (1998) also explain that knowledge is not created in a vacuum; it requires context or 'Ba' ('place'). Information requires a context to have meaning; once it is transferred, combined, converted, and transformed, it becomes knowledge (Cross et al., 2001; Nonaka, Toyama, & Konno, 2000; Nonaka, Toyama, & Nagata, 2000; Nonaka & Toyama, 2002). 'Ba' is the context or place where interaction occurs among and between individuals, teams, organisations, and the environment. It can be physical such as meeting rooms, offices, conference rooms, or email, or through mental such as shared ideas, experiences, mental models, or a combination (Bryceson, 2007). 'Ba' is the context where new knowledge is created from existing knowledge, which happens when new meanings are given through interpretation (Nonaka & Toyama, 2002).

### **3 METHODOLOGY**

The instrument used for this study is the Self-Directed Learning Readiness Scale (SDLRS) by Guglielmino & Guglielmino (1977). This study was carried out during the first semester for first-year students. The contention was to see if there was an increase in SDL level after being introduced to the guided learning approach. So, the SDL level measurement is carried out twice, first in the early part of the semester (pre-intervention) and the second at the final class at the end of the semester (post-intervention). This research was carried out on first-semester students of the first year to see if there was an increase in SDL level after being introduced to the guided learning approach. The pre-intervention SDL level score will be compared to the post-intervention SDL level score to see any improvements in each student's SDL level. Data from the focus group interview has also been analysed using content analysis. These 37 first-year students were included in this study. The detail of how this study was conducted is explained below:

- (a) In the first week of the semester, during the first class, all of the students took the assessment to measure the SDL level (pre-intervention test),
- (b) Starting from the second week until the last week of the semester, in every class, the lecturer embedded the guided learning approach (as explained below),
- (c) At the end of the semester, the students took the assessment to measure their SDL level (post-intervention test).

#### **Step-by-Step Procedure Conducted:**

##### **A. Pre-Test.**

The level of students' self-directed learning is measured using the Self-Directed Learning Readiness Scale (SDLRS) by Guglielmino & Guglielmino (1977).

##### **B. The Practices of Guided Learning in Class will start with**

###### **B1 Introduction to the topic**

- The lecturer briefly explains the topic and learning objectives to the students. After this session, the lecturer asks students' opinions and/or expectations of the topic, either individually or in pairs. The lecturer encourages students to convey any related ideas, and in this session, the lecturer mentioned that all ideas presented would not be judged as right or wrong.
- This session is essential for the lecturer to get information about students' prior knowledge about the topic, and it is also good to encourage students to express their opinions freely. At the end of this session, the lecturer will summarise the ideas from students and link them back to the learning objectives. These will help the students be aware of "what to learn."

## **B2 Learning - Guiding how to learn or to be more self-directed learners**

- During the lecture, the lecturer used various teaching methods, including lecturing, drawing mind mapping, case study discussion, analysing movies/videos/clips, self-searching for information, and problem-solving in group work. The lecturer helps to connect students' previous knowledge with new knowledge through these various methods. If unfamiliar terms or something are attractive in the topic, the lecturer will ask students to search for related information through the internet using their smartphones on the spot.
- At various times lecturer also shows ways to find good learning sources from various resources such as journals, websites, e-books, and YouTube. Lecturers also encourage students to utilise learning resources available in the library, such as the inter-loan library (ILL).

## **B3 Incorporate peer learning in class**

Lecturers encourage students to learn from and teach others to learn new material or produce new knowledge. Learning from a peer or teaching peer has many advantages as learning becomes more fun and easier to understand due to the same language, interest, and learning tools used, and it also retains knowledge longer. After one sub-learning unit finish, the lecturer provides a topic for discussion in a small group (four to five students) for 15 minutes, and then the group uploads the result in eLEAP (an E-learning platform used at the university) or presents it in front of the class so that each student can learn from their peer. These learning activities will allow students to learn how their peers search for information, process it, and express it verbally or nonverbally.

## **B4 Cultivating knowledge sharing**

In class, the lecturer provides time and space for the students to share relevant knowledge by showing what and how he/she got them in front of the class. Appreciation like verbal praise or giving bonus marks is intended to reinforce and cultivate knowledge sharing among students.

## **C. Post-test Measurement**

The level of students' self-directed learning is measured using the Self-Directed Learning Readiness Scale (SDLRS) by Guglielmino & Guglielmino (1977).

## **4 FINDINGS AND DISCUSSION**

This study found that thirty-five out of thirty-seven, or 94.59% of students, increase their SDL level at the end of the semester after they experience a guided learning approach (as shown in



Table 1). The guided learning approach has helped students to improve their self-directedness in learning. This Guided-Learning Technique provides various teaching methods that help students understand the course's objective and improve their learning skills by encouraging self-learning experiences and creating a conducive learning environment where reflective learning increases and peer learning becomes livelier than the previous learning phase. These different teaching practices act as scaffolding in improving self-directedness learning in students.

**Table 1.** SDL score before and after the implementation of guided learning.

| NO | PRE<br>SDL<br>SCORE | POST<br>SDL<br>SCORE | NO | PRE<br>SDL<br>SCORE | POST<br>SDL<br>SCORE | NO | PRE<br>SDL<br>SCORE | POST<br>SDL<br>SCORE |
|----|---------------------|----------------------|----|---------------------|----------------------|----|---------------------|----------------------|
| 1  | 190                 | 203                  | 14 | 226                 | 226                  | 27 | 204                 | 214                  |
| 2  | 202                 | 222                  | 15 | 207                 | 219                  | 28 | 213                 | 224                  |
| 3  | 220                 | 236                  | 16 | 208                 | 216                  | 29 | 208                 | 211                  |
| 4  | 216                 | 232                  | 17 | 196                 | 197                  | 30 | 184                 | 208                  |
| 5  | 208                 | 216                  | 18 | 195                 | 204                  | 31 | 205                 | 212                  |
| 6  | 208                 | 209                  | 19 | 205                 | 211                  | 32 | 162                 | 175                  |
| 7  | 188                 | 203                  | 20 | 201                 | 203                  | 33 | 204                 | 214                  |
| 8  | 208                 | 209                  | 21 | 241                 | 242                  | 34 | 231                 | 219                  |
| 9  | 183                 | 186                  | 22 | 202                 | 216                  | 35 | 228                 | 229                  |
| 10 | 195                 | 195                  | 23 | 198                 | 200                  | 36 | 175                 | 202                  |
| 11 | 227                 | 233                  | 24 | 185                 | 202                  | 37 | 188                 | 215                  |
| 12 | 190                 | 206                  | 25 | 194                 | 209                  |    |                     |                      |
| 13 | 198                 | 208                  | 26 | 213                 | 214                  |    |                     |                      |

The result of this study has shown the positive effect of guided learning on students' self-directed learning levels. The result indicates that students became more initiative and encouraged to try on their learning through guided learning. Based on the constructivism theory, learning should be an active process for the students to learn effectively (Hoover, 1996), as individuals construct knowledge and meaning from their experience (Bereiter, 1994). Therefore, the teacher's primary responsibility is to be a facilitator and guide, create, and maintain a collaborative problem-solving environment for students (Bada & Olusegun, 2015). In the guided learning approach, the lecturer must create a conducive learning environment that encourages students to engage and actively learn. Student experience and participation in this learning environment will improve confidence and self-efficacy in learning, extending to other learning contexts, thus increasing their self-directed learning skills.

In general, this study found that the guided learning approach helps improve the self-directedness of first-year students, opens their horizons to various learning approaches, and improves their confidence in learning due to the examples shown by the lecturer as a role model in front of the class. The guided classroom activities also improve team learning or collaborative learning skills.

By using the SECI model as lenses to analyse this situation, it is found that in the guided learning approach, knowledge conversion is easier to happen. SECI model state that knowledge is created through interactions among individuals with different types and contents of knowledge. New

knowledge is created through the interactions that transfer, convert, and transform explicit and tacit knowledge (Nonaka & Takeuchi, 1995). Through this conversion process, tacit and explicit knowledge will be transformed to create new meaning, quantity, and quality, further creating new knowledge (Nonaka, 1991; Nonaka, 1994; Nonaka & Takeuchi, 1995; Nonaka & Toyama, 2002).

Through the guided learning approach, by using the SECI model as lenses, it is found that socialisation, externalisation, combination, and internalisation are nurtured. Due to the very intensive interaction by watching the role model, socialisation and internalisation happened. Socialisation is a knowledge conversion process where tacit knowledge is transferred/converted to tacit knowledge. It is done when knowledge is passed on through guidance, imitation, and observation. The students can imitate the lecturer they perceive as more knowledgeable, skilful, and experienced.

Further, through guided learning, externalisation and combination are taking place by helping the students ask good questions and deliver their opinion by creating a small group discussion. The lecturer also helps the students convert their tacit knowledge into explicit by guiding them in writing a paper or report. The combination is about combining, classifying, editing, and/or converting explicit knowledge to other explicit knowledge to create new knowledge (Nonaka & Takeuchi, 1995; Nonaka, Toyama, & Konno, 2000). As well as internalisation process occurs when explicit knowledge is converted into tacit knowledge by individuals through action, practice, and reflection for it to become new routines (Easa & Fincham, 2012). Therefore, knowledge conversion, in the form of socialisation, externalisation, combination, and internalisation, seems nurtured. University students must consistently capture new knowledge, transfer and/or convert it to create new knowledge and skills and make it a habit so that the spiral of knowledge conversion will be extended and initiative to enhance knowledge will take place.

Classroom interaction as a learning context can be conceptualised as a dynamic configuration of 'ba'. Supposedly it is a good place for students to transfer, combine, convert, and transform knowledge between lecturer and students and between students. Additionally, this study confirms the importance of lecturers being role models to their students. Lecturers can start by giving examples of behaviour to them, for instance, how to search for good learning resources, how to manage and use them and to be interpreted and create new knowledge. Creating an environment that could guide students to think about what, why, and how to learn, resolving problems, and taking responsibility for their learning need to be fostered from the beginning of their study (Knowles et al., 2012). For students to achieve self-directed learning, the lecturer, as a learning facilitator, needs to function as a scaffold for them to have learning skills and know how to learn, which will improve their initiative to learn (Du Toit-Brits, 2019).

Little (1995) points out that students' self-directed learning is the product of an interactive process, where the teacher gradually broadens the range of students' autonomy by gradually giving them more control of the content and the process of their learning. Therefore, lecturers should know they have a crucial role to play and guide their students to learn more independently. Setting a supportive learning climate, providing the availability of resources, and establishing fluent communication could enhance the tendency for self-directed learning to emerge (Kops, 1993, 1997).

More importantly, students are prone to feel pressure from their surroundings, especially when they are in a new environment (being first-year students), which can lead them to develop psychological problems, such as stress, anxiety, and depression. University students are more likely to experience hardship at this education level which makes them need positive interventions such as gratitude to increase their psychological well-being (Dorkas Ping Bilong et al., 2021) and resilience (Nailah Najwa Zainoodin et al., 2021). Hence, this gives more reason for teachers and lecturers to guide their students, especially first-year students, to learn to study independently starting their first year of university. Developing self-directed learning skills early in students will help them with their academic performance and autonomy, as studies have found that high-achiever students tend to have high scores for all the dimensions of SDLRS (Abraham et al., 2011; Nordin et al., 2016). Therefore, this may suggest that students with a higher level of self-directed learning skills may learn more effectively than students with a lower level of self-directed learning skills.

This study from the Asia context convinces us that we should not assume that once students enter university, they will immediately be self-directed learners and be more independent. They need some role model in their life to learn how to be more self-directed in learning. This study showed that guided learning practice in class positively equips students with learning skills and builds confidence for students to research things they do not know or know little about and do deep learning. Thus, it can be concluded that self-directed learning in students can be increased through guided learning by lecturers.

## **5 CONCLUSION**

This study proves that implementing guided learning for first semester first-year students has helped students develop self-directed learning skills. This study corroborates previous studies that first-year university students at the university level tend to have a teacher-centred approach to learning. This study identified that students still need guidance and role models in their learning.

Using the SECI model as lenses in analysing the impact of the guided learning approach, it is found that the knowledge transfers and converts from lecturer to students and among the students in the form of socialisation, externalisation, combination, and internalisation, improving the self-directedness among the students. Rich interactions, like role models, demonstrators, and facilitators in group activities, are scaffolding in leveraging the students' confidence and initiative in their learning.

It is recommended for university management consider the importance of implementing guided learning as scaffolding for the students to move away gradually, be more self-directed in their learning, and further achieve their learning goals. Therefore, university management needs to equip their lecturer with the skills to provide guided learning to their students. By providing a guided learning program for the students, it will help them (a) to improve their ability to set their learning objectives, (b) gain a better understanding of their strengths and limitations to be able to identify the most appropriate learning method for them, and (c) improve their learning monitoring skills.

## REFERENCES

- Abraham, R. R., Fisher, M., Kamath, A., Izzati, T. A., Nabila, S., & Atikah, N. N. (2011). Exploring first-year undergraduate medical students' self-directed learning readiness to physiology. *Advances in Physiology Education*, 35(4), 393-395. <https://doi.org/10.1152/advan.00011.2011>
- Bada, S. O., & Olusegun, S. (2015). Constructivism learning theory: A paradigm for teaching and learning. *Journal of Research & Method in Education*, 5(6), 66-70. <https://doi.org/10.9790/7388-05616670>
- Bereiter, C. (1994). Constructivism, socioculturalism, and Popper's world 3. *Educational researcher*, 23(7), 21-23. <https://doi.org/10.3102/0013189X023007021>
- Bryceson, K. (2007). The online learning environment—A new model using social constructivism and the concept of 'Ba' as a theoretical framework. *Learning Environments Research*, 10, 189-206. <https://doi.org/10.1007/s10984-007-9028-x>
- Candy, P. C. (1991). *Self-direction for lifelong learning*. San Francisco, California: Jossey-Bass Publishers.
- Cross, R., Parker, A., Prusak, L., & Borgatti, S. P. (2001). Knowing what we know: Supporting knowledge creation and sharing in social networks. *Organisational Dynamic*, 30(2), 100-120.
- Dorkas Ping Bilong., Hutasuhut, I. J., Mohamad Azhari Abu Bakar., & Nurul Wardhani. (2021). Gratitude and its relationship with students' psychological well-being and happiness. *Malaysian Journal of Social Sciences and Humanities*, 6(11), 236-244. <https://doi.org/10.47405/mjssh.v6i11.1176>
- Du Toit-Brits, C. (2019). A focus on self-directed learning: The role that educators' expectations play in the enhancement of students' self-directedness. *South African Journal of Education*, 39(2), 1-11. <https://doi.org/10.15700/saje.v39n2a1645>
- Easa, N. F., & Fincham, R., (2012). The application of the socialisation, externalisation, combination and internalisation model in cross-cultural contexts: Theoretical analysis. *Knowledge and Process Management*, 19(2), 103-109. <https://doi.org/10.1002/kpm.1385>
- Fong, C. J., Gonzales, C., Hill-Troglin Cox, C., & Shinn, H. B. (2023). Academic help-seeking and achievement of postsecondary students: A meta-analytic investigation. *Journal of Educational Psychology*, 115(1), 1-20. <https://doi.org/10.1037/edu0000725>

Guglielmino, L. M. (1977). Development of the self-directed learning readiness scale. Dissertation Abstracts International 38, 6467A. Unpublished Doctoral Dissertation. The University of Georgia.

Guglielmino, P. J., & Guglielmino, L. M. (2002). Learner characteristics affecting success in electronic distance learning. In H. B. Long & Associates (Eds.), *Twenty-first-century advances in self-directed learning* (pp. 257-273). Boynton Beach, FL: Motorola University.

Hall, R., & Andriani, P. (2003). Managing knowledge associated with innovation. *Journal of Business Research*, 56(2), 145-152. [https://doi.org/10.1016/S0148-2963\(01\)00287-9](https://doi.org/10.1016/S0148-2963(01)00287-9)

Hoover, W. A. (1996). The practice implications of constructivism. *SEDL Letter*, 9(3), 1-2.

Ismail, A. B. (2017). We are different: A case study of entrepreneurship education in Malaysia (Doctoral dissertation, Queensland University of Technology). Retrieved from <https://eprints.qut.edu.au/102894/>

Jossberger, H., Brand-Gruwel, S., Boshuizen, H., & Van de Wiel, M. (2010). The challenge of self-directed and self-regulated learning in vocational education: A theoretical analysis and synthesis of requirements. *Journal of Vocational Education & Training*, 62(4), 415-440. <https://doi.org/10.1080/13636820.2010.523479>

Knowles, M. (1975). *Self-directed learning: A guide for learners and teachers*. Chicago, IL: Follett Publishing.

Knowles, M. S., Holton III, E. F., & Swanson, R. A. (2012). *The adult learner: The definitive classic in adult education and human resource development*. Routledge.

Kops, W. J. (1993). Self-planned learning of managers in an organisational context. In H. B. Long & Associates (Eds.), *Emerging perspectives in self-directed learning*. Norman, OK: University of Oklahoma.

Kops, W. J. (1997). Managers as self-directed learners: Comparing findings of studies in private and public sector organisations. In H. Long & Associates (Eds.), *Expanding horizons in self-directed learning* (pp. 71-86). Norman, OK: Oklahoma Research Center, University of Oklahoma.

Leatemia, L. D., Susilo, A. P., & van Berkel, H. (2016). Self-directed learning readiness of Asian students: Students perspective on a hybrid problem-based learning curriculum. *International Journal of Medical Education*, 7, 385-392. <https://doi.org/10.5116%2Fijme.582e.021b>

Lestari, E., & Widjajakusumah, D. (2009). Students' self-directed learning readiness, perception toward student-centered learning and predisposition towards student-centered behavior. *South-East Asian Journal of Medical Education*, 3(1), 52-56. <http://dx.doi.org/10.4038/seajme.v3i1.468>

- Little, D. (1995). Learning as dialogue: The dependence of learner autonomy on teacher autonomy. *System*, 23, 175-182. [https://doi.org/10.1016/0346-251X\(95\)00006-6](https://doi.org/10.1016/0346-251X(95)00006-6)
- Ming, T. S., & Alias, A. (2007). Investigating readiness for autonomy: A comparison of Malaysian ESL undergraduates of three public universities. *Journal of Reflections on English Language Teaching*, 6(1), 1-18.
- Nailah Najwa Zainoodin., Hutasuhut, I. J., Mohamad Azhari Abu Bakar., & Nurul Wardhani. (2021). Gratitude and its relationship to resilience and academic performance among university students. *Journal of Cognitive Sciences and Human Development*, 7(2), 145-158. <https://doi.org/10.33736/jcshd.3808.2021>
- Nonaka, I. (1991). The knowledge-creating company. *Harvard Business Review*, 69(6), 96-104.
- Nonaka, I. (1994). A dynamic theory of organisational knowledge creation. *Organization Science*, 5(1), 14-37. <https://doi.org/10.1287/orsc.5.1.14>
- Nonaka, I., & Konno, N. (1998). The concept of "Ba": Building a foundation for knowledge creation. *California Management Review*, 40(3), 40-54. <https://doi.org/10.2307/41165942>
- Nonaka, I., & Krogh, G. V. (2009). Perspective-Tacit knowledge and knowledge conversion: Controversy and advancement in organisational knowledge creation theory. *Organization Science*, 20(3), 635-652. <https://doi.org/10.1287/orsc.1080.0412>
- Nonaka, I., & Takeuchi, H. (1995). *The knowledge-creating company: How Japanese companies create the dynamics of innovation*. New York: Oxford University Press.
- Nonaka, I., & Toyama, R. (2002). A firm as a dialectical being: Towards a dynamic theory of a firm. *Industrial and Corporate Change*, 11(5), 995-1109. <https://doi.org/10.1093/icc/11.5.995>
- Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, Ba and leadership: A unified model of dynamic knowledge creation. *Long Range Planning*, 33(1), 5-34. [https://doi.org/10.1016/S0024-6301\(99\)00115-6](https://doi.org/10.1016/S0024-6301(99)00115-6)
- Nonaka, I., Toyama, R., & Nagata, A. (2000). A firm as a knowledge-creation entity: A new perspective on the theory of the firm. *Industrial and Corporate Change*, 9(1), 1-20. <https://doi.org/10.1093/icc/9.1.1>
- Nordin, N., Abd Halim, N., & Malik, M. (2016). Assessing readiness for self-directed learning among college students in the provision of higher learning institution. *Environment-Behaviour Proceedings Journal*, 1(3), 91-101. <https://doi.org/10.21834/e-bpj.v1i3.352>

Polanyi, M. (1966). *The Tacit Dimension*. London, UK: Routledge.

Ramos Salazar, L., & Meador, A. (2023). College students' grit, autonomous learning, and well-being: Self-control as a mediator. *Psychology in the Schools*, 60(1), 53-77. <https://doi.org/10.1002/pits.22760>

Ravid, G. (1987). Self-directed learning in industry. In V. J. Marsick (Ed.), *Learning in the Workplace* (pp. 101-118). London: Croom Helm.

Sabherwal, R., & Becerra-Fernandez, I. (2003). An empirical study of the effect of knowledge management processes at individual, group, and organisational levels. *Decision Sciences*, 34(2), 225-260. <https://doi.org/10.1111/1540-5915.02329>

Soliman, M., & Al-Shaikh, G. (2015). Readiness for self-directed learning among first-year Saudi medical students: A descriptive study. *Pakistan Journal of Medical Sciences*, 31(4), 799-802. <https://doi.org/10.12669%2Fpjms.314.7057>

Song, L., & Hill, J. R. (2007). A conceptual model for understanding self-directed learning in online environments. *Journal of Interactive Online Learning*, 6(1), 27-42.

Subramaniam, G. (2008). Confronting Asian concerns in engaging learners to online education. *International Education Studies*, 1(4), 10-18.

Sun, W., Hong, J. C., Dong, Y., Huang, Y., & Fu, Q. (2022). Self-directed Learning Predicts Online Learning Engagement in Higher Education Mediated by Perceived Value of Knowing Learning Goals. *The Asia-Pacific Education Researcher*, 1-10. <https://doi.org/10.1007/s40299-022-00653-6>

Warburton, N. M., & Volet, S. (2013). Enhancing self-directed learning through a content quiz group learning assignment. *Active Learning in Higher Education*, 14(1), 9-22. <https://doi.org/10.1177/1469787412467126>

Wong, J. K. K. (2004). Are the learning styles of Asian international students culturally or contextually based? *International Education Journal*, 4(4), 154-166.