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Implementation of Self-Directed Learning in Enhancing Skills Dedicated to The Community College Teaching Staff

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Abstract Self-directed learning is a type used in the teaching force that requires high knowledge during the teaching and learning process. Self-learning requires educators to constantly improve their skills to prepare before teaching and learning. The purpose of this study is to learn self-study in Community College students. This study utilized a survey method which employed 169 Community College lecturers in Johor using questionnaire form. Overall, the results show a high percentage of strategies for drunkenness and self-directed learning. Therefore, this study found that there are several strategies for self-directed learning implemented by Johor Community College. These strategies have the advantage and potential in enhancing the existing skills of the teaching staff. Next, the highest implementation is carried out in open discussion. Open discussion can generate new ideas in the teaching force. Therefore, this information can assist lecturers in learning self-directed learning for their students.

Keywords – Self Directed Learning, Teacher, Technical and Vocational, Skills

1. Introduction

With rapid technology development in the digital era, self-directed learning (SDL) is a fundamental skill required for tertiary education students and considered to be an essential factor in adult learning, particularly in technical and vocational students. SDL is a mechanism in which learners take responsibility for managing their learning objectives and means in order to fulfil their personal goals or the perceived demands of their own context [1]. In literature, SDL studies have been carried out both from learner's and educator's point of views [2-4]. From the educator's point of view, teacher plays a key role in helping students make a smooth transition from teacher-directed to self-directed learning. The teacher must assess the students' readiness for the SDL strategies, establish SDL implementation approach and learning process [5].

Furthermore, educators have been searching the alternative ways to provide creative, effective and attractive teaching approach to meet the global and digital demands. One of the possible ways is by integrating technology into teaching and learning approaches. Effective teaching method and learning environment is an essential element to communicate and delivery knowledge [1], and at the same time improve skills [2, 3]. Besides, the key roles of the educators in implementing SDL is to provide the students with inspiration, a suitable learning environment, objective achievement strategy and improve of self-efficacy and self-mastery.



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However, the main challenges in SDL process is to provide the supportive SDL environments by practicing good teaching and learning with assistance of various of technology offers in current education system. Educators face various of difficulties in implementing SDL such as (i) delivering relevant and appropriate knowledge and information as a large number of resources available online, (ii) utilise learning technologies to improve learning effectiveness (iii) student technology readiness to encourage independence in learning. Therefore, this study presented the implementation of SDL in enhancing skills focused on the educator's point of view in Kolej Komuniti. This paper is organized as literature review in Section 2, Section 3 is methodology, Section 4 results and discussion.

2. Literature Review

Self-directed learning (SDL) is an instructional strategy where students decide what and how they will learn, with teacher guidance. It can be done individually or with group learning. SDL allows students to improve their self-confidence, autonomy, motivation and lifelong learning skills. The direction of the SDL studies can be found in the context of implementation, technology used, student's performance and T& L strategies that widely discussed from both teachers and learner's roles [5-9], either offline and online platform [10]. By integrating technology in learning and teaching approaches, various of the instructional strategies have been widely discussed such as group discussion, portfolio development, journals and learning logs, role-playing, cognitive organizers, literature response, service learning.

One of the implementation strategies in SDL in group discussion. Group discussions help students learn to articulate their views and respond to the other opinion. By using group discussion, several skills can be developed such as time management, presentation skills (i.e. communication, listening, summarizing, creativity) and social engagement [11]. Since the exchange of ideas takes place through speech in a group discussion, one of the prerequisites of group discussion performance is the ability to talk clearly and convincingly. Effective communication skills include active listening, clarity of thinking and speech, clear language and non-verbal cues can be achieved during this session.

There is a needs for technology in the delivery of education to ensure that it is more effective and in keeping with current trends. The use of technology is an important requirement for effective teaching and learning delivery interesting including the use of vocal, music, interactive computer software and sound effects, for example mobile technology [12]. In this way, the mobile technologies contribute to a teaching/learning process more motivating and personalized. The students' motivation increases when this technology is used, leading to greater participation, and, consequently, better and faster acquisition of concepts/skills [13]. Besides, multimedia and video presentation such as YouTube is one of the common SDL strategies found in the literature [14]. For example, Lee [15] stated that YouTube offer various of learning and social affordance in online SDL. Besides, YouTube provide easier platform to start learn new things. Ljubojevic [16] stated that integrating video clip in lecture presentation can increase student's perception on structuring information and motivation for learning [17].

Furthermore, the journal is a publication containing suggestion and recommendation of ideas through periodically published scientific articles. For journalists, they are required to verify their source of information through links and excerpts. Personal opinions without the backing of facts are unacceptable. Journal can be source of the T&L materials, while summarizing and reviewing journal can be one of the effective knowledge discover approach for students and educator. This matter which scientific articles discuss and outline explanations and other opposing views. Writers do not just focus on emphasizing their opinions as credible truths, agreeing with different opinions and then explaining why they come to different conclusions. Table 1 presented the instructional strategy that commonly found in the literature for SDL process. Various of the teaching and learning tools that have been proposed aimed to support learning content, allow students to apply concepts and provide an opportunity for evaluation. These strategies and tools provide specific knowledge in all topics, offering in-depth, fact-based information

Table 1 Summary of the technology use in SDL

Year	Researcher	Instructional strategy					
		Module	Youtube	E-portfolio	Mobile technology	Web-Based	Online Class
2020	Beckers [8]			✓			
2019	Lee [15]		✓				
2019	Aldallal [18]		✓				
2019	Lange [19]		✓				
2018	Hartman [20]	✓					
2020	Agrawal [21]	✓					
2019	Curran [9]				✓		
2016	Akgunduz and Akinoglu [22]					✓	
2018	Caruso [23]					✓	
2017	Loizzo, et al. [24]						✓
2020	Zhu, et al. [25]						✓

3. Methodology

Figure 1 shows an overview of the proposed methodology to determine the strategy and implementation level of self-directed learning among lecturers/staff in community college. As shown in Figure 1, there are three main tasks involved; Task I is gather survey information (e.g. population and location); Task II is deploying a survey to gather and analyse implementation strategy of self-directed learning; and Task III is performing data analysis using descriptive. As can be seen in Figure 1, Task I started with determine the targeted population of respondent, $NR = \{1, 2, 3, \dots, NR\}$ and location of community college, $NK = \{1, 2, 3, \dots, NK\}$. Next, random sampling method is conducted to select targeted respondent, $NR = \{R1, R2, R3, \dots, Rn\}$ and research location (i.e. community college), $NK = \{K1, K2, K3, \dots, Kn\}$. Upon completing the sampling and location selection, Task II started with deploying the questionnaire survey to the selected respondent, $RK = \{RK1, RK2, RK3, \dots, RKn\}$. The selected respondents were given a set of the questionnaire, $D = \{D1, D2, D3, \dots, Dn\}$. The questionnaire consists of two main sections, (i) demography profile (e.g. age, gender, grade, educational background, service' period) and (ii) 48- items of self-directed learning implementation's assessment. Respondents are required to state implementation level of self-directed learning based on the scale given, scales from 1 (least agreed) to 5 (more agreed) and can be complete approximately within 10 – 15 minutes. Lastly, descriptive analysis is conducted to determine implementation level of self-directed learning in Task III. The analysis process is conducted based on the four main research questions as follows:

- i. What is strategy of self-directed learning implementation?
- ii. What is the implementation level of self-directed learning among the Johor's community college?
- iii. What is the implementation approach used in self-directed learning?
- iv. What is the relationship between implementation level of self-directed learning strategies with implementation's approach used?

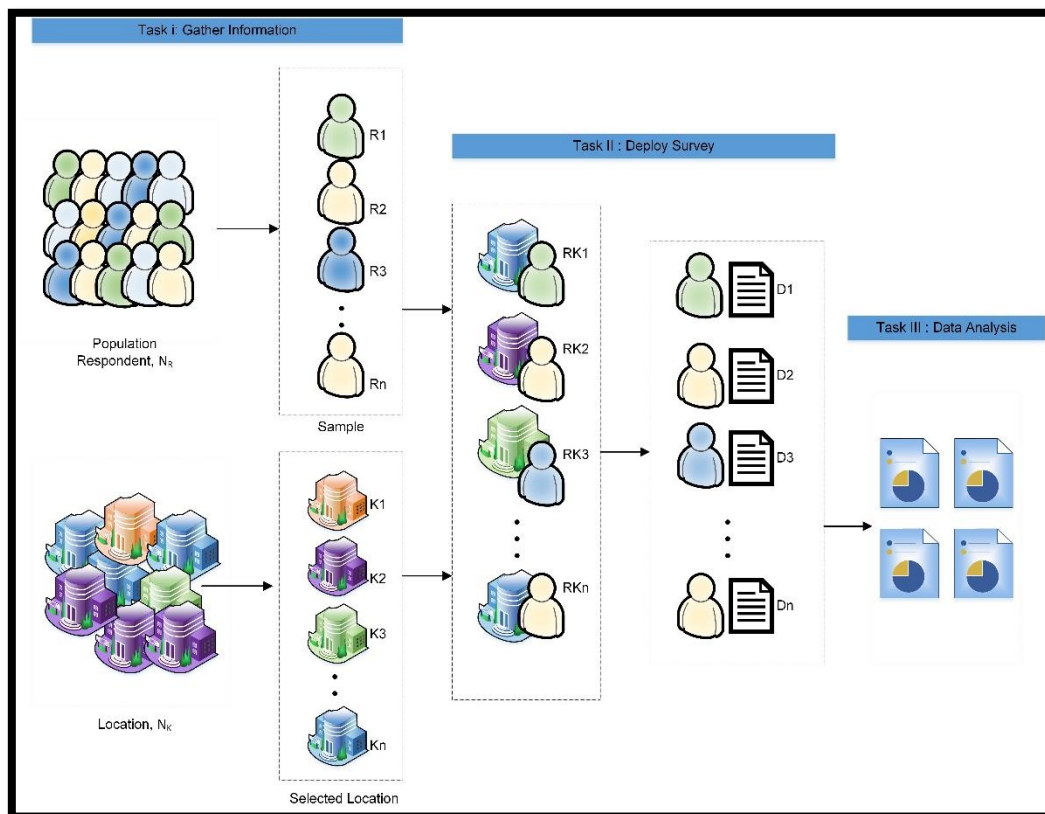


Figure 1 Methodology Overview

4. Results and Discussion

This section presented the demography profile and the finding reveals from this study. From the Task I, the number of total respondents, NR = 144 comprised of female, n = 102 and male, n = 42 and total number of community college, NK = 12 were selected. The selected community college is represented for community colleges that located in each district of Johor. The respondents were randomly selected which include Segamat (NR = 15, 22.5%), Ledang (NR = 9, 40%), Penawar (NR = 24, 17.5%), Gelang Patah, (NR = 6, 20%), Pasir Gudang (NR = 29, 20.1%), Kluang (NR = 11, 7.6%), Batu Pahat (NR = 9, 6.3%), Muar (NR = 10, 6.9%), Bandar Tenggara (NR = 3, 2.1%), Tanjung Piai (NR = 4, 2.8%), Pagoh (NR = 4, 2.8%), and Kota Tinggi (NR = 11, 7.6%). The selected of each community college in each district is matter that can determine the overall view of the self-directed learning implementation in all over Johor. Besides, the selected respondents 'age were ranging from 25-35 years old (n = 64, 44%), 35-30 years old (n=75, 52%) and 40 years old and above, (n= 5, 4%). Furthermore, most of the respondents were at least enrolled Bachelor degree (n = 97, 67.4%), followed by master degree (n = 41, 28.5%), Diploma certificate (n = 5, 3.4%) and a doctoral degree holder (0.7%). Corresponding to that, a total of n = 79 (54.9%) have 6-10 years of service, 11-20 years of service (19.4%), 1-5 years (n = 35, 24.3%) and only 1.4% (n = 2) that have more than 20 years of service.

4.1. Strategy of Self-Directed Learning Implementation

The responsibility of a teacher towards students is not limited to increasing the academic skills. It applies to the training of the students ready for workplace and meet the industrial demand. Table 2 presented strategy of SDL implementation among the respondents. Most of the respondents were agreed that they have select and prepare all the resources needed before teaching and learning (T&L) session started as higher mean was obtained (mean = 4.62, SD = 0.488). The finding is matter, lesson plan helps educator to provide students with an adequate level of long-term progress towards the goals outlined in their scope and sequence and, where necessary, their individual education plan [26].

It is supported by [27] that stated that lesson plan is an necessary product in the educational process and have identified key features of the planning process. However, most of the respondents were least agreed on item "I choose the journal sharing approach as my teaching method" as this item obtained lower mean, (mean = 3.8, SD = 3.81). In overall, this construct on determine the strategy level of SDL implementation is high (mean = 4.36). This is indicated most of the respondents were mainly implementation the SDL elements during the T&L session.

Table 2 Strategies of Self-Directed Learning

No	Item	SD	%	\bar{x}	Rank
A1	Appropriate medium used in teaching and learning process (T&L)	0.748	87.6	4.38	7
A2	T&L's tool is prepared before the session	0.552	91.2	4.56	3
A3	Resources selection is prepared before the T& L session	0.488	92.4	4.62	1
A4	Facilities such as machines are inspected before use	0.658	89.8	4.49	6
A5	Facilities such as safety equipment are inspected before use	0.651	92.0	4.60	2
A6	Facility (i.e learning venue) have been assessed earlier	0.624	90.8	4.54	4
A7	I understand the meaning of creative in T& L	0.769	82.0	4.10	12
A8	I used open session concept in T & L	0.591	90.6	4.53	5
A9	I asked my students to develop innovation product	0.873	82.4	4.12	11
A10	I choose a lecturing approach as my teaching method	0.705	85.8	4.29	9
A11	I choose the video watching approach as my teaching method.	0.666	87.4	4.37	8
A12	I choose the journal sharing approach as my teaching method.	0.903	76.2	3.81	13
A13	I choose the product development project as my teaching method.	0.832	84.4	4.22	10
Overall Mean				4.36	high

4.2. Implementation of Self-Directed Learning

Implementing the self-directed teaching and learning system in technical education system, the focus was on managing the building of new learner knowledge that manifests itself through self-education of the learner who can use new knowledge to understand ongoing socio-cultural phenomena and master self-learning. Table 3 presented the implementation level of the SDL among the lecturer in the selected Kolej Komuniti. Most of the respondents were agreed that open discussion could help to get a new idea as higher mean was obtained (mean = 4.66, SD = 0.494). This finding is matter due, and open discussion is mainly focused on learning compared to teaching. Various of the benefit of discussion has been revealed in the literature such as encourages active participation by students, promotes critical thinking [28], enhances reflective thinking, and it also helps to improve self-expression [29]. However, most of the respondents were least agreed on the item "I choose the journal sharing approach as my teaching method" as this item obtained lower mean, (mean = 3.8, SD = 3.81). This is due to the technical student's reading habit and the preferred learning approach. Besides, this approach is less practical for the technical students whose journal required a lot of reading comprehension and reviews. It is supported by the study of [7] which stated that polytechnics student have less interest in the reading book as compared to using technology to gain more information. In overall, this construct to determine the strategy level of SDL implementation is high (mean = 4.36). The finding indicated most of the respondents were mainly implementation the SDL elements during the T&L session.

Table 3 Level of Self-Directed Learning

No	Item	SD	%	\bar{x}	Rank
B1	I collect information before T & L	0.514	89.2	4.46	6
B2	Prior experience improve information collection	0.591	89.6	4.48	5
B3	Student's reflection help to improve my efficacy level	0.538	91.2	4.56	3
B4	Open discussion helps to get new ideas	0.494	93	4.65	1
B5	Sharing ideas helps to improve my skills	0.500	92.6	4.63	2
B6	Students are active during discussion	0.499	88.8	4.44	7
B7	Students shows their interest during discussion	0.517	87.8	4.39	8
B8	I prepare special space to store my journals	0.861	74.8	3.74	10
B9	I prepare special space to store my module	0.614	89.8	4.49	4
B10	I prepare special space to store my publication/article	0.753	71.6	3.58	11
B11	I prepare special space to store my computer tools.	0.540	81.4	4.07	9
Overall mean				4.36	high

4.3. Implementation Approach Used in Self-Directed Learning

Self-learning is also known as independent and individual learning is sometime challenging even for the most motivated and fast-learners. For successful independent study students need different skills and attitudes towards learning. Therefore, educators play an important role to provide practical approach toward implementing SDL. Table 4 presented the implementation approach used in SDL. Most of the respondents were agreed that the use of technology can be helpful in the SDL implementation process as the higher mean obtained for this item (mean = 4.96, SD = 4.96). The finding indicate that technology has the ability to enhance the teacher-student relations. By integrating the technology in classroom, educators can only play a role as content expert, coach and observant. Technology helps bring meaning and fun to teaching and learning. [30] have also claimed that there is interrelation between technology use in SDL can improve student engagement and performance. However, most of the respondents were less agreed on the use of skill training that can improve their efficacy level (mean = 3.07, SD = 61.4). This finding shows that educators are still finding the possible way in T&L to meet the desired or intended result. Moreover, implementation approach used in SDL is in high level as overall mean obtained is 4.41.

Table 4 Implementation approach used in SDL

No	Item	SD	%	\bar{x}	Rank
C1	Use of discussion forums helps to improve my skills	0.756	79.2	3.96	21
C2	Use of Module help to improve my skills	0.576	88.8	4.44	8
C3	Skill training help to improve my skills	0.745	84.6	4.23	14
C4	Use of technology help to improve my skills	0.567	89.8	4.49	4
C5	Use of Youtube help to improve my skills	0.590	87.6	4.38	10
C6	Use of journal help to improve my skills	0.974	78.8	3.94	22
C7	Forum discussion is easier to assess and conduct	0.768	93.2	4.66	2
C8	Use of Module is easier to be assessed	0.589	89	4.45	7
C9	Skill training is easier to be assessed	0.579	86.6	4.33	11
C10	Use of technology is easier to be assessed	0.580	99.2	4.96	1
C11	Use of Youtube is easier to be assessed	0.614	89.2	4.46	6
C12	Use of journal is easier to be assessed	0.884	77.8	3.89	23
C13	Forum discussion is easier to be conducted	0.778	82	4.10	15
C14	Use of module is easier to be conducted	0.705	88.4	4.42	9
C15	Skill training is easier to be conducted	0.714	86.2	4.31	12
C16	Use of technology is easier to be conducted	0.625	90.6	4.53	3
C17	Use of Youtube is easier to be conducted	0.658	89.8	4.49	4

No	Item	SD	%	\bar{x}	Rank
C18	Use of journal is easier to be conducted	0.927	79.8	3.99	20
C19	Forum discussion can improve my efficacy level	0.653	80.4	4.02	19
C20	Use of module can improve my efficacy level	0.736	82	4.10	15
C21	Skill training can improve my efficacy level	0.742	61.4	3.07	24
C22	Use of technology can improve my efficacy level	0.823	85.6	4.28	13
C23	Use of Youtube can improve my efficacy level	0.741	81.2	4.06	18
C24	Use of journal can improve my efficacy level	0.763	81.4	4.07	17
Overall Mean				4.41	high

4.4. Relationship between implementation level of self-directed learning strategies with implementation's approach

Referring to Table 6, Pearson Correlation test was conducted to examine the relationship between implementation strategies, level of implementation and medium of self-learning among respondents. The finding reveal that, there is a significant relationship between the implementation stage and the implementation strategy. The mean value of the implementation strategies, implementation level and implementation approach is 0.000 which is lower than the alpha value, 0.01 ($p \leq 0.01$). As conclusion, a positive relationship between implementation strategies, implementation level and implementation approach ($r = 0.684, p = 0.000$), ($r = 0.711, p = 0.000$) and ($r = 0.561, p = 0.000$) was obtained in this study.

Table 5 Relationship between implementation level of self-directed learning strategies with implementation's approach

Item		Implementation Strategies	Implementation Level	Implementation Approach
Implementation Strategies	Pearson correlation	1	0.684**	0.711**
	Sig. (2 tailed)		0.000	0.000
	N	144	144	144
Implementation Level	Pearson correlation	0.684**	1	0.561**
	Sig. (2 tailed)	0.000		0.000
	N	144	144	144
Implementation Approach	Pearson correlation	0.711	0.561	1
	Sig. (2 tailed)	0.000	0.000	
	N	144	144	144

There are several limitations that could have influenced our results. For example, our response was relatively small due to the method of survey distribution that do not able to generalize to all the technical teachers. Secondly, the implementation approach and material mentioned in survey was pre-identified, that educator might use other effective tools and implementation strategy during T&L. In conclusion, SDL requires responsibilities or roles from both students and educator with the assistance of technology and practical implementation approach. The SDL approach can be used in 21st century learning activities, such as in their study using heutagogy elements and learning activities [31].

5. Conclusions

SDL is a learning system based on the desire of the students to gain information. In the background of this report, SDL is based on teaching staff at Community Colleges to develop their knowledge and

skills in their respective fields. These changes will help boost pedagogical content knowledge ability to deliver lessons. A person's ability to formulate a strategy and recognize the tools, resources, and strategies needed for his or her own learning. Behaviors and characteristics linked to self-directed learning have to do with intrinsic motivation, honesty, organization, persistence, perseverance and grit. Intrinsic motivation in other words self-motivation is one of the important fundamentals for students especially in the vocational institutions. Therefore, self-motivation need to be constantly refined and improved by the institutions through various teaching and learning approaches to ensure that the graduates are equipped with strong self-motivation to work in future. The findings from this study therefore contribute to the knowledge on SDL capabilities for TVET teachers.

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