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## **A RELATIONSHIP BETWEEN RESEARCH SKILLS AND AUTONOMOUS LEARNING AMONG POSTGRADUATE STUDENTS**

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### **ABSTRACT**

Knowledge of research methodology and the skill of applying it in research are two important things required by postgraduate student in producing a good research. A postgraduate student who is equipped with research skill or knowledge of research methodology and able to apply it while conducting research therefore, should be autonomous in research writing. The idea of autonomy raises important highlight that need to be explored, particularly in terms of students' taking responsibilities for learning, while this recent research focuses on the practice of autonomy among postgraduate students in conducting research. This paper looks into whether research skills or knowledge of research method is significantly related to autonomy in learning among postgraduate students with abilities to plan for research writing and monitor the strategies used, evaluate its progress and maintain the motivation of research writing. To address this problem, this study is carried out to investigate the relationship between research method skill and autonomous learning among 125 postgraduate students from the Department of Arabic Language and Literature (DALL) at the International Islamic University Malaysia (IIUM), by using Pearson Correlation Coefficient. The result shows that there is a significant relationship between these two variables, hence the hypothesis of this study is accepted.

Keywords: Research method skill, planning for research writing, monitoring strategies used, evaluating progress, maintaining motivation.

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## INTRODUCTION

Research skills are considered as a key factor in determining student's success especially at masters and doctoral level (Rahman et. al., 2014), in which acquiring research skill could be an indicator to measure students' capabilities in conducting research and producing new knowledge. Therefore, a great of emphasis has been put on the role of postgraduate students as researchers. However, a study found that identifying a research problem is the most challenging aspect in teaching research skills at the postgraduate level (Rahman, et.al., 2014). Postgraduate students are having difficulties to identify the problem statement, then explain and write it precisely, which making them unable to conduct research and learn the proper way in research method (Al Rayyashi & Hassan, 2014). One possible reason behind such problems is lack of knowledge in research method. It would be a trouble for postgraduate students because identifying research problem is considered as the first step in writing research (Abul Majd & Al 'Arfaj, 2017).

There is a study that found the level of acquiring research method skill among postgraduate students is decreasing because they are unable to design a research, thus it will lead to the extension of the study period (Ssegawa & Rwelamila, 2009). Another study indicates that the graduates in general have moderate knowledge and competencies to conduct research (Meerah et. al. 2012). Hence, the purpose of developing the research writing among postgraduate students cannot be achieved unless by improving their competencies in research method (Al Hamdani, et.al., 2006).

Despite this, there is an important factor in what contributes to research skill. The competency among postgraduate students in conducting research is related with the level of autonomous learning acquired by postgraduate students, as recent study showed that there is a significant relationship between metacognitive strategies and developing research skills among postgraduate students (Rahman et. al., 2014). The theory of autonomous learning has been studied over the latest few decades as it is defined as the ability of the learners to take control of their own learning (Holec, 1979). According to Holec, learners are able to determine the objectives, define the contents, monitor progress and procedures, select methods and techniques, and evaluate what has been acquired (Holec, 1979). In fact, autonomy represents the core of learning and shifts the emphasis from teacher to learner (Adriana, 2012), and the learner will become autonomous and less dependent on teacher in learning process. Meanwhile the theory of autonomous learning in this study promotes students' minimum dependency on supervisor in conducting research, especially in planning, monitoring and evaluating research progress, and maintaining motivation while doing research.

Autonomous learning is getting increasing attention at postgraduate level seeing that it is a characteristic that should be equipped among postgraduate students, thus it becomes the focus point in this study. Autonomous learning refers to the situation in which the learner is totally responsible for all of the decisions concerned with his learning and the implementation of those decisions (Dickinson, 1987). These characteristics are related to a study that found postgraduate students have higher motivation, confidence and independence in reading Arabic text and learning Arabic (Abu Bakar, 2011), while Yan (2007) found that postgraduate students have positive attitude towards autonomous English learning. This learner centred approach requires students to decide their learning structure, which resulting in increases of students' involvement and motivation (Tavallali et. al, 2015).

This current study is different from some previous studies in a few aspects. Firstly, this study focused on the significant relationship between research method skills and autonomous learning among postgraduate students. Postgraduate students should be equipped with autonomous learning because there is a significant relationship between metacognitive strategy and developing research skills among postgraduate students (Rahman et. al., 2014). But the relationship was explained in a way that metacognitive strategy assists students in developing research skills. However, literature review that study about the relationship between autonomous learning and research method skill is limited. Could the relationship be vice versa is identified as the gap in this study. Secondly, the previous literature review (Rahman et. al., 2014) focused on the practice of autonomous learning among students who are using English language as the medium of research writing at postgraduate level. However, this study is conducted on postgraduate students who are majoring in Arabic language, hence it is required for them to write thesis in Arabic. Therefore, it could be another research gap because language usage in research writing in both previous and recent studies are different, it might affect the level of students' competencies in research skill and autonomous learning.

This study seeks to investigate is there any significant relationship between research method skills and autonomous learning among postgraduate students? It is hypothesized that there is a significant relationship between research method skills and autonomous learning among postgraduate students in which research method skills or knowledge of research method might contribute to autonomy in learning. Since the practice of autonomous learning related with research method skills among postgraduate students, this recent study is considered as an important element toward enhancing their competencies in research method skill, while making students more autonomous in conducting research.

This study outlines the literature review on these two variables in this study; research method skill and autonomous learning, which explains the relation between autonomous learning and metacognitive learning strategy, including the four main components of autonomous learning. The next section in this study will explain about the selected participants and instruments used, data analysis by using Pearson Correlation Coefficient, discussion and conclusion.

## **RESEARCH METHOD SKILL**

Research method skill is related with problem solving of the research and adding a new idea from the previous researches. Writing a good research is also related with designing the research, identifying the methodology in collecting and analyzing the data (Ashwin et. al., 2015). To address this issue, acquiring research method skill has become the main concern as it is consistent with the theory of autonomous learning, in which it minimizes the dependency of postgraduate students on their supervisors when writing research (Meerah et. al., 2011). Therefore, the present study seeks to investigate the level of research method skill among postgraduate students of Department of Arabic Language and Literature, International Islamic University Malaysia and its relationship with autonomous learning.

## **METACOGNITIVE LEARNING STRATEGY**

The model of metacognitive learning strategy is considered as a part of autonomous learning strategy, and it is based on planning, monitoring and evaluating (Oxford, 2011). In other words, the term metacognition refers to what a learner knows about how he or she learns a language; it is a process of relating the language learning to the self. Finding out about learner styles and the corresponding learning strategies could be vital when our aim is to foster learner autonomy (Lazar, 2013).

Considering postgraduate students as researchers, they should have the ability to plan the objective before writing their researches, thus monitor each stages of the research and evaluate those planned objectives.

It can be concluded that active learning approach using metacognitive strategies able to improve students' skills in planning, monitoring and evaluating the process of identifying a research problem and writing the problem statement of their research project (Rahman et. al., 2014). Among the skills that are related to research method skill are critical thinking and problem-solving skill, as these two skills enhancing the students' abilities to identify and analyze the research problems (Al Rayyashi & Hassan, 2014).

## **PLANNING FOR RESEARCH WRITING**

Planning the learning objective is considered as the first step in autonomous learning (Holec, 1979). The learner is able to determine clearly what is his objective in learning and plan which strategies suits him in order to achieve that objectives (Holec, 1979, Zimmerman, 1996). It is also considered as a part of metacognitive strategy which is much deeper than cognitive strategy (Oxford, 2011). In research writing, the learner has clear objectives of the purpose of research writing, he has a clear schedule when writing each chapter of the research, thus being able to plan his strategies and methods to be used in order to achieve that objectives.

## **MONITORING STRATEGIES USED**

According to Holec (1979) and Zimmerman (1996), autonomous learner is able to select and define the content and material of his learning consciously based on the prior learning objectives. He is exposed to more strategies, then he will try to implement the appropriate strategy and method that work the best for him. The last step in this part is he monitors the progress in his learning. When writing his research, autonomous learner is able to monitor his understanding after reading academic articles whether he can understand and write well in research, he monitors which writing strategies work the best for him.

## **EVALUATING PROGRESS**

Being autonomous means that a learner is capable to evaluate what has been acquired (Holec, 1979) throughout his learning strategies to find out the effective ones and improve them. It involves his ability to evaluate his own progress during research writing, such as evaluating how many language mistakes he made in writing his research. According to Marandi (2016), being able to monitor and self-evaluate is an important attribute which discriminates autonomous learners from non-autonomous ones.

## **MAINTAINING MOTIVATION**

Maintaining motivation is considered as meta-affective strategy whereby the learner being able to motivate himself in learning (Oxford, 2011). Interest and motivation as the core elements of learner autonomy framework (Little, 1996) which make learner being able to maintain motivation in research writing. In previous study stated that internal and external motivation in learning English was the primary leading force toward the goal of learning English language (Marandi, 2016).

## RESEARCH METHOD

### PARTICIPANTS

This study was conducted on 125 postgraduate students from Department of Arabic and Literature (DALL), International Islamic University Malaysia (IIUM), out of 170 total number of population. The number of sample was measured by referring to the table of Krejcie and Morgan (1970). Those postgraduate students are pursuing their studies in master and doctorate levels in three different modes respectively, which are research mode, mixed mode (research and coursework) and coursework mode. The sample was selected by using convenient sampling.

Postgraduate students are chosen as the sample for this study due to a few reasons: the fact that they have a broad exposure on conducting and writing research, compared to undergraduate students who have less exposure and knowledge on how to conduct a research. Second, writing research or article is the main requirement for them to graduation, without writing research or article, they are unable to complete their postgraduate studies. Third, postgraduate students are considered as advanced in terms of their level of study, so it is believed that they are more autonomous than undergraduate students (Jamal, 2015). In addition, the nature of postgraduate life makes them working in relative isolation on individualized programs of study, they, far more than undergraduate students, have the need for the metacognitive and pragmatic skills (Green et., Al, 1997).

### INSTRUMENT

This study is a correlational study. The data is analyzed using Pearson Correlation Coefficient to investigate the relationship between research method skill and autonomous learning among postgraduate students. The data first is analyzed using Statistical Package for Social Science (SPSS). Both questionnaires consist of 23 questionnaires that are measured using Likert Scale (Joshi, 2015), ranging from 1-5. The value of Cronbach Alpha for these questionnaires are 0.9 which indicates the higher level of reliability. These questionnaires also validated by two subject-matter experts from both autonomous learning and research method skill backgrounds. Two adapted questionnaires are used in this study;

#### 1. Adapted questionnaire by Oxford

First questionnaire is adapted from the strategies of autonomous learning by Oxford (2011). It consists of 15 items that focus on four components of autonomous learning; planning the objectives on writing research, monitoring the strategies in writing research, evaluating the progress of writing research and maintaining the motivation of writing research. These four components are based on metacognitive and affective strategies of autonomous learning.

#### 2. Adapted questionnaire by Alvarado (2016).

The second questionnaire that measures research method skill is adapted from Alvarado. Previously this questionnaire was used to measure the research method skill among degree students majoring in engineering. It consists of eight items which highlighting on identifying problem statement and literature reviews, designing methodology, collecting and analyzing data, reporting and discussing, awareness of research writing and managing references.

### DATA ANALYSIS

The data from both questionnaires were analysed by using Statistical Package for Social Science (SPSS). To investigate the relationship between research method skill and autonomous learning, Pearson Correlation Coefficient is used in this study. The hypothesis is tested whether there is a significant relationship between research method skill and autonomous learning or vice versa. The dependent variable of this study is research method skill and independent variable is autonomous learning.

Pearson Correlation Coefficient is used to measure the relationship between research method skill and autonomous learning among postgraduate students. The result is shown in table (1).

**Table (1) Pearson Correlation Coefficient between research method skill and autonomous learning**

		Research method skill	Autonomous learning
Research method skill	Pearson Correlation	1	0.395**
	Sig. (2-tailed)		0.000
	N	125	125
Autonomous learning	Pearson Correlation	0.395**	1
	Sig. (2-tailed)	0.000	
	N	125	125

\*\* Correlation is significant at the 0.01 level (2-tailed).

Results of the Pearson Correlation Coefficient in table (1) indicated that there is a positive correlation between research method skill and autonomous learning among postgraduate students ( $r = .395, p = \leq .001$ ), while  $r = .395$  indicated moderate positive

relationship. The hypothesis is accepted, in which the more research method skill acquired by postgraduate students, the higher the level of autonomous learning.

**Table (2) Pearson Correlation Coefficient between research method skill and four components of autonomous learning**

Planning research objectives	Pearson Correlation	1	.457**
	Sig. (2-tailed)		.000
	N	125	125
Monitoring strategies used	Pearson Correlation	1	.349**
	Sig. (2-tailed)		.000
	N	125	125
Evaluating progress	Pearson Correlation	1	.141
	Sig. (2-tailed)		.117
	N	125	125
Maintaining motivation	Pearson Correlation	1	.265**
	Sig. (2-tailed)		.003
	N	125	125

\*\* Correlation is significant at the 0.01 level (2-tailed).

Results of the Pearson Correlation Coefficient in table (2) showed a positive correlation between research method skill and the four components of autonomous learning among postgraduate students. For planning research objectives ( $r = .457, p = \leq .001$ ), monitoring strategies used ( $r = .349, p = \leq .001$ ), evaluating progress ( $r = .141, p = \leq .001$ ) and maintaining motivation ( $r = .265, p = \leq .001$ ). The more research method skill acquired by postgraduate students, the higher their capabilities in planning research objectives, monitoring strategies used, evaluating progress and maintaining motivation.

## DISCUSSION

Finding of the study indicated the significant relationship between research method skill and autonomous learning among postgraduate students from Department of Arabic Language and Literature, IIUM. This might as well demonstrated by Clifford (1999) when among the outcomes of students taking research methodology (unit) increased in-depth of learning and experienced self-reflection and self-assessment. The former research indicated that research methodology knowledge could contribute to autonomous learning among university students. Although suggested by Green et., al. (1997) that self and peer-evaluation are the primary means towards learner autonomy in postgraduate studies, knowledge of research methodology had significantly made the students feel autonomy over their learning (Hardway & Stroud, 2014). In order to develop research method skill among postgraduate students, should be able to conduct research on their own. In fact, research skill does more than that in which it is applicable to work environment of postgraduate students in a longitudinal manner (Wilson et. al., 2017).

The result obtained from this study seem to be partly congruent with the findings of the study conducted by Rahman et al. (2014) which resulted a significant relationship between metacognitive strategy and developing research skills among postgraduate students, or in another word practicing metacognitive strategies could improve research method skill when writing research. What this study suggests is knowledge of research methodology could never be among metacognitive strategies which mainly construct autonomy in learning, but it could be manipulated in order to help in planning research writing so the writing itself can be monitored, evaluated and the motivation towards research writing can be maintained. Postgraduate students become more autonomous as they get more conscious of the process of conducting research. In previous researches, the theory of autonomous learning emphasizes more on learning second or foreign language, but this recent research shows that it is also applicable in conducting research by applying metacognitive strategies.

Eventhough the result of this study indicated significant relationship between research skill and autonomous learning, the strength between these variables is moderate. The result in this study cannot be generalized among postgraduate students who are conducting and writing research in English, as the respondents in this study are using Arabic language as a medium in research writing. Eventhough the respondents are attaching under Department of Arabic Language and Literature, most of them are non-native speakers, in addition the main spoken language in International Islamic University Malaysia (IIUM) is English while Arabic language becoming the second language. Therefore, the environment could be a possible factor which influence students' abilities in writing research using Arabic language. Hence this is the limitation of this study that is found by the researcher.

## **CONCLUSION**

The present research studied the relationship between research method skill and autonomous learning among postgraduate students. It can be concluded that there is a relationship between research method skill and autonomous learning among postgraduate students, thus indicated that knowledge of research method contributes to the practice of autonomous learning among postgraduate students. The knowledge should have helped postgraduate students in planning, monitoring and evaluating their learning, thus able to maintain their motivation. It constitutes basic element a postgraduate student should possess in order to plan for research writing and monitor the writing.

This study suggests that postgraduate students should conduct their research autonomously and develop the competency of doing research in order to produce a successful research work. In the present study, only quantitative data from questionnaires have been utilized to analyses postgraduates' autonomous learning, research method skill and their relationships. Future studies may examine the relationship between these two aspects by using qualitative study in order to supplement this quantitative analysis.

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