

Learner Autonomy and Academic Performance among Undergraduate Students

By

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Abstract

Learner autonomy or capacity to learn plays a very vital role in determining the academic success of individuals. Previous research reported that learner autonomy generates higher retention, regulates independent learning and encourages life-long learning. This study aimed to understand the current state of the capacity to function as learners as a way to describe life-long learners. It is essential to assess learners' levels of autonomy and then establish the relationship of their degree of learner autonomy to the way they perform in some basic courses. The Learner Autonomy Profile was distributed to a sample of 425 Pre-commerce students of Universiti Teknologi MARA Kelantan, selected from marginalized, low income family with poor academic performance in Sijil Pelajaran Malaysia level. The results showed a significant positive relationship of the Learner Autonomy Profile score and academic performance of the students. This study has established that Learner Autonomy Profile could be used as a diagnostic tool to enhance students' capacity to learn.

Keywords: learner autonomy, academic performance, life-long learner

Introduction

Learner Autonomy is defined as the relative capacity to productively participate in learning experiences (Confessore & Park, 2004). Researchers report that learner autonomy generates higher retention, regulates independent learning and encourages life-long learning. According to Derrick, Ponton, and Carr (2003) "understanding an individual's strengths and weaknesses with regard to learner autonomy will provide insight into learners who are able to continue to learn throughout the lifespan with or without the presence of a teacher". Ponton (1999) and Carr (1999) differentiate between learner autonomy and self-directedness as personal psychosocial dispositions, and on the other hand, autonomous learning and self-directed learning as observable behaviours. According to Confessore and Park (2004), learner autonomy focuses on understanding the capacity to productively participate in learning experiences. This capacity consists of a range of functional learner autonomy that is bounded by two relatively

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dysfunctional learner states, which are dysfunctional learner dependence and dysfunctional learner independence. Confessore & Park (2004), postulate that functional learner autonomy is a range of ability and willingness to participate in selecting and shaping learning experiences in which the learner may function independently or in concert with others. Besides, the degree to which an individual is engaged in functional learner autonomy is expressed in the extent that the learner optimizes the learning process by making efficient and appropriate use of their personal resources and the resources of others.

Recorded history in education has highlighted academic performance as a central issue for discussion (Plato, *Apology*, 399 B.C.). Previous literature pertaining to academic performance currently follows four major lines of thought: meaning and measurement (Lavin, 1965), summative vs. formative measurement (Knight, 2002), underachievement and overachievement (Emerick, 1992; Peterson & Colangelo, 1996; Whitmore, 1980), and predictors of performance (Willingham, 1985). Traditionally, the research in academic performance has focused on measurement (GPA, SAT, etc.), however, socio-economic and personality factors are slowly gaining importance in this field of research. This has been driven mostly by the failure of traditional methods to provide an explanation for the variance found in predictive models (Tross et al, 2000). According to Bereiter & Scardamalia (1993), successful learning is not simply taking classes but rather the act of intentionally making learning a goal instead of simply incidental. To help individuals to become successful learners means supporting and nurturing intentions necessary for lifelong learning. The learner's intentional behavior or capacity to learn has a lot to do with their diversified characteristics, learning styles, prior experience and other factors, including their perception of their learning environment (Ng, 2009).

The concept of learner autonomy may be a relatively new addition to the canon of adult learning theory, however, it is founded upon a solid foundation of theory: Houle (1961); Knowles (1980), Bandura (1978); Spear & Mocker (1984); Tough (1971) and Long (1992). Learner autonomy represents an important factor to consider when conducting research in adult learning, and potentially, in predicting academic performance. A study conducted by Lowe (2009) found that there was a positive, significant correlation between the Total Score on the LAP-SF and GPA. Many of the components in the LAP-SF are seen as contributors to academic success. This is important because it points to the possibility that the LAP-SF may be seen as a diagnostic tool for helping to identify areas for improvement that can positively impact GPA, and thus academic success.

Education is the key to developing the full potential of the individual and is regarded by policy makers as instrumental in combating poverty. Pre-commerce students of UiTM are selected from marginalized, low income family with poor academic performance in SPM level. Marginalized or low income groups may have limited access to learning resources (Merriam and Caffarella, 1991). This program aims to give these students educational opportunities so that they could be absorbed into the diploma program in Business Studies. More importantly, this learning is crucial as an insurance against being excluded or marginalized from social participation. This study examined the extent to which the pre-

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commerce students of Universiti Teknologi Kelantan are autonomous by investigating the learner autonomy level among these learners in preparing themselves for tertiary level. In addition, learner autonomy represents an important factor to consider when conducting research in adult learning – and potentially in predicting academic performance. Thus, this study also examined the relationship between students' learner autonomy and their performance in academic.

Methodology

Instrumentation

The Learner Autonomy Profile-Short Form (LAP-SF) was utilized during the course of this research. The instrument assesses constructs of Desire, which addresses the precursors to the development of intentionality, and Resourcefulness, Initiative, and Persistence, which address behavioral intentions to learn (Park & Confessore, 2002). The LAP has 22 components that are centered on four constructs: desire, resourcefulness, initiative, and persistence. Desire to learn describes the individual's motivation to participate in a learning experience, while resourcefulness means the learner's intention to be resourceful. Initiative describes the person's willingness to initiate learning and persistence describes the person's intention to continue learning activities. Taken together, these four constructs provide an accurate assessment of an individual's relative capacity to undertake learning experiences in a wide variety of settings.

Meyer (2001) developed and tested a construct for desire to learn that addresses the issues of the formation of intentions. From an extensive review of the literature, she inferred the following seven components: 1) understanding of circumstances; 2) issues of expression; 3) group identity; 4) growth and balance; 5) love issues; 6) basic communication skills; and 7) basic change skills. Carr (1999) developed and tested a construct for learner resourcefulness that addresses intentions to be resourceful. He inferred a seven component structure for learner resourcefulness which comprises: 1) learning priority; 2) deferring gratification; 3) resolving conflict; 4) future orientation; 5) planning; 6) evaluating alternatives; and 7) anticipating consequences. Ponton (1999) developed the construct for learner initiative in which the following five components were distinguished: 1) goal-directedness, 2) action-orientation, 3) overcoming obstacles, 4) active approach, and 5) self-startedness. Derrick (2001) developed and tested a construct for persistence in learning that addresses intentions to continue learning activities. Derrick's construct comprises: 1) volition; 2) self-regulation; and 3) goal-maintenance.

The 66-item LAP-SF was extracted from Version 3.0 by using stepwise regression to identify the three items from each of the 22 components that are the best predictors of the component score respondents would have gotten if they had completed the longer form. The same Likert-type scale as is used with Version 3.0 is utilized with the Short Form. Park and Confessore (2004) report the correlations of LAP V3.0 to LAP-SF component and construct scores range from .881 and .988 (p. 55). The resultant data does not provide sufficient detail about the precursors to the development of intentionality or behavioral intentions contextualized to learning to support the development of intervention activities designed to enhance levels of

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learner autonomy. However, because of its high degree of correlation with scores that would be expected on the LAP, it can be used to support studies that do not anticipate interventions or to screen large groups with a minimum time commitment by initial respondents for further study using the LAP.

Subjects

The population for the study included all pre-commerce students admitted to the UiTM, Kelantan campus for the July-Nov 2010 semester intake. The LAP-SF was used to obtain scores for 425 students.

Research Design

In this correlational study, participants' scores received on the LAP constructs and components, and scale total were treated as dependent variables and their English course, Mathematics course, and cumulative GPAs were treated as independent variables.

Data Analyses

The tests conducted on the data were simple correlational comparison of the Learner Autonomy scores, and the English grades, mathematics grades, and GPAs of the respondents (Pearson Correlation) to measure the degree and direction of relationship of Learner Autonomy and academic performance. In addition to Pearson correlation analysis, One Way ANOVA and T-Tests were also utilized to determine to what extent the relationships are robust.

Results and Discussion

This exploratory study sought to answer the following research question : To what extent do scores on the Learner Autonomy Profile – Short Form (LAP-SF) among Pre-Diploma students at Universiti Teknologi MARA predict academic performance in the Pre-Diploma session?

The sample for this study was comprised of 425 Pre-Diploma students enrolled in the July-November 2010 intake at the UiTM Kelantan campus who completed the LAP-SF at the beginning of the semester and then went on to complete the English and Mathematics courses in which all Pre-Diploma students were enrolled.

Given the exploratory nature of the study, the researchers decided in advance of collecting the data that $p=.10$ would represent an acceptable level of predictive capacity for the comparisons to be made (Cohen, 1988). Since most readers are likely to have come to expect acceptable r^2 values in excess of .300, it is necessary point out that one would expect lower r^2 values to be acceptable when p is set lower than the traditional value of .05. Moreover, the researchers are aware that the value of accepting $p=.10$ and lower rsq that usual keeps a number of possible lines of further study open by including components, constructs, and totals that would be

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ignored under tradition standards. However, since this is an exploratory study it is essential to keep as many lines of inquiry open as possible.

Pearson product moment correlation analyses were conducted and five components and one construct of the LAP-SF were found to be statistically significant predictors of the semester grade point average (GPA). Ten of the components scores, three construct scores, and the LAP-SF total score were found to be statistically significant predictors of the semester grade in the English course and three component scores and one construct score were found to be a statistically significant predictor of semester grade for the Mathematics course. (See Table 1)

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Table 1. Correlation Analysis of LAP-SF Scores as Predictors of Academic Performance*

Component/Construct	English Grade		Math Grade		GPA	
	p	r ²	p	r ²	p	r ²
Circumstance	.039 ^a	.102	.094 ^b	.083	.065 ^b	.091
Change Skills	.037 ^a	.103	NS	-	NS	-
Desire Total	.098 ^b	.082	NS	-	NS	-
Deferring Gratification	.022 ^a	.113	.073 ^b	.089	.025 ^a	.111
Resolving Conflict	.055 ^b	.095	.002 ^a	.153	.000 ^a	.171
Future Orientation	.089 ^b	.084	NS	-	NS	-
Planning	.079 ^b	.087	NS	-	.093 ^b	.083
Evaluating Alternatives	.042 ^a	.100	NS	-	NS	-
Goal Directedness	.076 ^b	.088	NS	-	NS	-
Resourcefulness Total	.011 ^a	.126	.048 ^a	.098	.010 ^a	.127
Volition	.073 ^b	.088	NS	-	.069 ^b	.090
Goal-Maintenance	.022 ^a	.113	NS	-	NS	-
Persistence Total	.075 ^b	.088	NS	-	NS	-
Short Form Total	.049 ^a	.097	NS	-	NS	-

* NS indicates p value is not statistically significant

^a p<.05 ^b p<.10

When one-way ANOVA is used to compare stanine group scores to academic performance, seven component scores and two construct scores are revealed as statistically significant predictors of the semester grade point average (GPA). Nine component scores and two construct scores are statistically significant predictors of the semester grade in the English course, and three component scores and one construct score are statistically significant predictors of the semester grade in the mathematics course (Table 2).

Table 2. One-Way ANOVA Comparisons of LAP-SF Scores as Predictors of Academic Performance Using Stanine Categories*

Component/Construct	English Grade	Math Grade	GPA
Circumstance	NS	.056 ^b	.013 ^a
Love Issues	NS	.018 ^a	.059 ^b
Change Skills	.035 ^a	NS	.070 ^b
Desire Total	.034 ^a	NS	.049 ^a
Learning Priority	NS	NS	.083 ^b
Deferring Gratification	.028 ^a	NS	.057 ^b
Resolving Conflict	.067 ^b	.009 ^a	.002 ^a
Future Orientation	NS	.057 ^b	NS
Planning	.054 ^b	NS	NS
Initiative Total	NS	.039 ^a	.016 ^a
Goal-Maintenance	.073 ^b	NS	.075 ^b

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* NS indicates p value is not statistically significant

^a p<.05 ^b p<.10

As suggested by Park & Meyer (2003), in order to reduce the affects of regression toward the mean, the several component and construct scores on the LAP-SF for the sample in this study were converted to stanine scores and grades and GPA for only the participants who fell into the extreme scores of stanines 1, 2, and 3 were compared to those who fell into the extreme scores of stanines 7, 8, and 9. Since the resulting LAP-SF data were categorical in nature, comparisons to grades and GPA were subjected to independent samples t-tests. Table 3 reveals that when the affects of regression toward the mean are reduced, LAP-SF scores on three component scores and one construct score are statistically significant predictors of the semester grade point average (GPA). Further, seven component scores and one construct score are statistically significant predictors of the semester grade in English, and one component score is a statistically significant predictor of the semester grade in Mathematics.

Table 3. T-Test Comparisons of Mean Grade and GPA to High vs Low LAP-SF Scores*

Component/Construct	English Grade	Math Grade	GPA
Circumstance	.086 ^b	NS	NS
Learning Priority	NS	NS	.083 ^b
Deferring Gratification	.030 ^a	NS	NS
Resolving Conflict	.086 ^b	.003 ^a	.002 ^a
Evaluating Alternatives	.032 ^a	NS	NS
Anticipating Consequences	.041 ^a	NS	.084 ^b
Resourcefulness Total	.005 ^a	NS	.025 ^a
Active Orientation	.089 ^b	NS	NS
Goal-Maintenance	.015 ^a	NS	NS

* NS indicates p value is not statistically significant

^a p<.05 ^b p<.10

This study sought to fill this gap by exploring the relationship between the LAP-SF and academic success as measured by the respondents' performance in two core courses and the GPA. The research study resulted in six major findings. These included overall correlation, construct correlation, component correlation, strongest correlation, general strength of correlation and the positive nature of the correlations.

The first major finding has to do with the relationship of the four constructs to GPA. The results depicted one of the four constructs, resourcefulness, had a significant relationship with GPA at the .01 level. However, in One Way ANOVA Comparisons test, two constructs – Desire to learn and Initiative were found to be significant and in T-test comparisons, Resourcefulness construct was again found to be significant. Even though not all the constructs make a significant predictor of GPA, this information is important because if the LAP-SF is to be used as a diagnostic tool, it is important to determine which parts are most

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helpful in fulfilling this requirement. That the four constructs differ in correlation is not surprising given that prediction of academic performance, especially traditional measures, is inherently difficult (Mouw & Khanna, 1993). This has been found to be true for intellectual predictors (Gustafson, 1999) and personality predictors (Tross et al., 2000). It seems that throughout the literature, even the best predictors don't explain all the variation thus a predictor that correlates significantly with GPA but that also offers many components to it would seem to be advantageous for future research.

The second important finding dealt with the individual components that make up the LAP-SF. It was found that five individual components have a significant relationship with GPA. In One Way ANOVA Comparisons, seven components were found to be significant and T-test Comparisons of Mean showed three components to be significant. The results reflected a need to know which areas of learner autonomy to concentrate upon so that better results could be derived.

Another vital finding is that the English Grade showed more predictability in relation to LAP-SF compared to Mathematics Grade. Out of the four constructs, three have a significant relationship with English Grade whereas only one construct is significantly related to Mathematics Grade. Conversely, ten of the 22 components have a significant relationship with English Grade as compared to three components in Mathematics Grade. This depicts that LAP-SF has higher predictability towards English than Mathematics.

The next major finding is the overall strength of correlations. It is common to set the acceptable level of predictiveness at $p=.05$ or better, and to expect r^2 values of at least .300. However, Cohen (1988) asserts that in studies of an exploratory nature, as the present one was, may benefit from allowing greater latitude to identify potentially meaningful relationships through the practice of setting $p=.10$. Concurrent with this step, one should extend meaning to lower r^2 values than is common. Given this, the researchers believe the strength of the correlations reported as significant account for sufficient variance to be meaningful.

Conclusions

This study sought to explore the relationship between learner autonomy and academic success as measured by the Pre Commerce students' GPA of Universiti Teknologi Mara Kelantan. Its findings suggest that there is a positive, significant relationship between the two. This is consistent with the findings of Lowe (2009). Based on the findings, LAP-SF does predict the academic success of the students. This study has established that Learner Autonomy Profile could be used as diagnostic tools to enhance students' capacity to learn because of its potential relationship with academic success in the form of GPA and especially in predicting performance in English courses. Given the nature of the Pre-Diploma program, the study was limited to consideration of grades in English and mathematics. It is intriguing to speculate about why the LAP-SF does not seem to have the predictive power in mathematics that it does in English. Further study into academic performance in courses that require sound mathematical competence should be undertaken.

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It seems certain that having such a strong capacity to make useful predictions of likely performance in English courses may lead to better understanding of academic performance in other courses that require substantial language skills, such as writing. Further study into academic performance in courses that require sound English language competence should be undertaken. Finally, further investigation into the extent that English language and Mathematical competence influence each other would be helpful to improve the literature of learner autonomy and academic success.

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