

The Relationship between Students' Absorptive Capacity and Motivation on Knowledge Transfer in Malaysian Community Colleges

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Abstract: This main objective of this article is to examine the relationship between students' absorptive capacity and motivation on knowledge transfer in Malaysian community colleges. It attempts to provide empirical evidence on students' performance in relation to knowledge transfer. The impact of lecturer support as a moderating variable was also examined. The findings revealed that both of the predictor variables have a significant relationship with the criterion variable. However, the strength of the relationship was not moderated by the existence of lecturer support. This study is perhaps one of the first attempts to apply knowledge transfer model in relation to students' absorptive capacity, motivation and parental involvement. Implications of the findings on the theory and practice are discussed.

Key words: Students' absorptive capacity, students' motivation, knowledge transfer, and parental involvement
Paper Type: Research Paper

INTRODUCTION

Malaysia need to raise the standard of its human capital to pursue a vision to become a fully developed nation (Chen, 2007; Zainal *et al.*, 2009). Quality higher learning institutions are pivotal to contribute to the sufficient supply of skillful human capital. Malaysian government has focused its educational and development policy in providing education for holistic human resources development that cater for social, economic and political development (Ahmad, 1998; Ismail *et al.*, 2009). Social benefits can be in the form of higher national income, healthier population and better functioning societies (Murray, 2009). According to Ahmad (1998) the government has taken various steps to provide wider education opportunity to school dropouts as well as to adult learners. The introduction of community colleges in 2001 paved the way for a better diffusion of education and significantly lift the burden of the under privileged students. The community colleges which mostly located in rural area would be able to provide cheap and equal education opportunity for the masses. Thus, there is a wider opportunity for students with lower previous academic performance to further their study. However, the easy students admission has made the institutions to have more academically underprepared students enrollment than university (Fike and Fike, 2008). This leads to a negative perception on the quality of the institution and its ranking has been perceived as the lowest among other public higher learning institutions. The negative image of Malaysian community colleges has worsened as students from the colleges constituted the biggest number of unemployment compared to other higher learning institutions. Based on the problem, this study posits that there is likelihood that knowledge has not been transferred effectively. Moreover, issue such as student's absorptive capacity, student's motivation, and knowledge transfer have raised the question of whether organizations in this sector have been on the right track in terms of their successful implementation of current teaching and learning methods, after making huge investments on each program. In order to investigate the matter, the main objective of this study is to examine the relationship between students' absorptive capacity and motivation on knowledge transfer. The next section reviews pertinent literatures that have garnered impressive theoretical and practical support.

Literature Review:

Knowledge transfer can be defined as a process on the way people learn through transformation of knowledge (Nonaka *et al.*, 1996). An effective of knowledge transfer is pivotal to ensure students can perform well in during their school time as well as for their future undertaking. However, very few studies have been conducted to address knowledge transfer issue in the context of students' education. Meta-analysis on knowledge transfer articles from 1980 to 2004, found that the number of knowledge transfer studies that focus

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only two articles from total studies (1.48 percent) and mostly were not done on the educational domain (Liu, 2007). In actual fact, knowledge transfer study should be given equal attention with regard to education domain due to its importance as a reservoir of knowledge pool which has a potential to produce knowledge workers. Skill and knowledge teach in must be effectively transferred to the students in order for them to be sufficiently equipped for their future undertakings. Students have always been known as failing to apply knowledge and skills learned in one context to other contexts when they are outside the school (Perkins and Salomon, 1988). The study stated that transfer of knowledge is important for students learning. This study posits that if knowledge can be transferred effectively, it is expected that even academically underprepared students in community colleges could be benefited from the knowledge they learn in theoretical and practical classes.

Knowledge transfer theory which was often overlapped with general management theory always attempted to determine positive and negative factors that can affect transfer of knowledge (Kalling, 2003). In relation to that, most of knowledge transfer studies stated that individuals absorptive capacity and motivation are two of the most important factors that could determine successfulness of knowledge transfer (Gupta and Govindarajan, 2000; Ko *et al.*, 2005; Lane and Lubatkin, 1998; Mu *et al.*, 2010; Szulanski, 1996). In a seminal paper of absorptive capacity, Cohen and Levinthal (1990) discussed on the cognitive basis of an individual's absorptive capacity before proceed to explain the organization's absorptive capacity. Previous related experience on the knowledge is necessary for individuals to develop their absorptive capacity (Cohen and Levinthal, 1990). In addition to that, students motivation can give positive impact on their academic performance (Little, 2008; Pintrich and Groot, 1990) A study on international strategic venture stated that motivation to learn is important to ascertain the level of learning and the ability of individuals to capture knowledge (Simonin, 1991). Hence, students as important individuals in a personal exchange of knowledge in higher learning institutions should have sufficient absorptive capacity and motivation to engage in an effective knowledge transfer. However, there are also studies that indicated he impact of absorptive capacity and motivation has some inconsistencies. For example, in a study on knowledge transfer barrier by Szulanski (1996) indicated that recipients' motivation was not among the most important factors in knowledge stickiness. In a study on the implementation of best practices, it was found that absorptive capacity did not emerge as one of a determinant factors (Ungan, 2004). Due to the existence of some inconsistency in absorptive capacity and motivation literature, this study intends to look into the influence of parental involvement in moderating the relationship. Parental involvement had also been found to have a moderating effect in various studies. For example, parental involvement in a study of self-medication of adolescents found that parental involvement moderated the relationship between daily negative effects and used of alcohol (Reimuller *et al.*, 2011) and reducing the impact of school norms and peer influences on aggression in middle school students (Farrell *et al.*, 2011). In conclusion, the extensive review of literature allow us to posit that, students' absorptive capacity and students' motivation will lead to knowledge transfers but will strongly influence by parental involvement.



Students' Motivation

Fig. 1: Conceptual Framework

Figure 1 shows the framework developed to depict the relationships between the variables. The following hypotheses are thus proposed:

H1:

There is a significant relationship between students' absorptive capacity and knowledge transfer.

H2:

There is a significant relationship between students' motivation and knowledge transfer.

H3a:

Parental involvement support affects the relationship between students' absorptive capacity and knowledge transfer.

H3b:

Parental involvement affects the relationship between students' motivation and knowledge transfer.

Methodology:

This study used quantitative research method and the data was obtained through self-administered questionnaire survey. The population is all certificates level of students at their final semester in Malaysian community colleges. Except for respondents' particulars and geographic proximity, all of the variables are measured by using 5- to 7 point Likert scales self administered questionnaire. Questionnaires are intended to

measure students' perception of knowledge transfer, absorptive capacity, motivation and parental involvement. All the variables items were adapted from previous related studies (Amabile, Hill, Hennessey, and Tighe, 1994; Grolnick and Slowiaczek, 1994; K. Murray, 2008; Park, Suh, and Yang, 2007; Syed Omar Shanifuddin and Fytton, 2004). Based on total population of 2,657 total students, the expected samples of 342 students are sufficient for good generalization of this study (Krejcie and Morgan, 1970). The multistage cluster sampling method involves selecting clusters and subsequently selecting individuals within the cluster (Gal, Gall, and Borg, 2003). The number of classes selected in each cluster is based on the ratio of total final semester students in each cluster. All students in the selected clusters (classes) will become respondents for this study. The students were selected as they had gone through the industrial training module in previous semester. This provides natural grouping among population of studies and they are expected to be able to give better response on the successfulness of knowledge transfer effectiveness which involves the transfer of external knowledge from the industry to the students

Analysis of Data:

Descriptive statistic analysis was used to derive the mean, median and standard deviation from the data whereby it can be used to make description of the phenomenon of the study (Parmjit et al, 2006) and data was analyzed by using Statistical Package Social Science (SPSS) version 17.0. The standard deviation is to measure of the dispersion of the data from the average (mean). Normality distribution of the data was observed through skewness and kurtosis. All factors indicated that the data was normal for further analysis. In order to achieve internal consistency of individual and overall measurement, reliability test will be conducted by using Cronbach's coefficient alpha. Then, the hypotheses statements were examined through regression analysis. The analyses could provide an accurate measure of the relationship of a dependent variable with the independent variables if the predictor variables are related to a certain extent with other variables. Apart from that, hierarchical regression analysis could be used to test the moderating variable of quantitative or qualitative variables on its effect on the relationship between the predictor variables and criterion variable (Baron and Kenny, 1986). This study would examine the parental impact on the relationship between students' absorptive capacity and students' motivation on knowledge transfer separately.

RESULTS AND DISCUSSION

The survey captured the respondents' perception on the tested hypotheses. The results can be categorized to:

Descriptive Statistics:

Table 1 showed all KMO measures had higher than recommended KMO cut-off point of 0.60 (Norzaidi et al., 2011). This indicated the sampling or a satisfactory sampling adequacy for a factor analysis to proceed and Bartlett's test indicated all factors were significant (p = 0.000). This indicates that the intercorrelation matrix contains enough common variance to make factor analysis worth pursuing (Pallant, 2007).

Table 1: The Validity and Reliability Analyses for Constructs

Variable	Items	Factor Loadings	KMO	Bartlett's Test (sig.)	Cronbach's Alpha
Knowledge Transfer	9	.53 –.91	0.876	0.00	0.87
Students' Absorptive Capacity	9	.65-.84	0.836	0.00	0.83
Students' Motivation	12	.50-.86	0.892	0.00	0.88
Parental Involvement	9	.56-.93	0.896	0.00	0.88

Table 2 showed the means, standard deviations and reliability coefficients for each subscale used in the present study. In term of internal consistency of constructs, Cronbach alpha coefficient ideally need to be above 0.70 (DeVellis, 2003; Nunnally, 1978). The reliability coefficients alpha for each subscale ranged from 0.87 to 0.88 and was considered as good.

Source Computed Data Analysis:

Independent variables must show at least some relationship with the dependent variable (above .3 preferably) and the correlation between independent variables should not be above 0.70 to avoid multicollinearity (Nunnally, 1978; Pallant, 2007). The independent variables namely students' absorptive capacity and motivation correlated positively and significantly with knowledge transfer (r = 0.622 and r = 0.519 respectively). The positive correlation matrixes showed that that if students' absorptive capacity and students'

motivation were high, the tendency for knowledge to be transferred was also high. On the other hand, the bivariate correlation between independent variables (students' absorptive capacity and motivation) is 0.566 which is less than 0.70 to be considered as highly correlated; therefore all variables were retained for further analysis.

Table 2: Descriptive and Correlation for Constructs (n=312)

Construct/scale	Mean	Standard Deviation	Pearson Correlation Analysis (r)			
			1	2	3	4
1. Knowledge Transfer	4.89	0.73	-			
2. Students' Absorptive Capacity	4.87	0.71	.622**	-		
3. Students' Motivation	5.51	0.77	.519**	.566**	-	
4. Parental Involvement	5.20	1.02	.464**	.458**	.532**	-

** Correlation is significant at 0.01 levels

Multiple Regressions:

Table 3 showed the regressions analyses that both independent variables explained 44.5 percent (R squared) of the total variance in knowledge transfer and statistically significant. Therefore, both hypotheses 1 and 2 were supported. The largest beta value is 0.484, which was for students' absorptive capacity. The beta coefficient for student's motivation was lower (0.246), indicating that it made less of a contribution toward the relationship. In short, the first independent variable had a stronger influence than the second independent variable in explaining the dependent variable (knowledge transfer).

Table 3: Regression analysis predicting knowledge transfer

Model	Coefficients				
	β	t	R	R-square	Sig.
Students' Absorptive Capacity	.484	9.272	.655 ^a	.429	.000
Students' Motivation	.246	4.712			.000

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.655 ^a	.429	.425	4.99419

Source Computed Data Analysis:

The correlation between students' absorptive capacity and students' motivation is 0.655. While the coefficient of determination for the sample is 42.9 percent. This shows that both independent variables (students' absorptive capacity and motivation) explain 42.5 percent of the variance (R squared) in knowledge transfer.

Hierarchical Regression:

Based on Table 4 and 5, two (2) hierarchical multiple regression analysis were conducted to test the impact of lecturer support on the relationship between students' absorptive capacity and motivation on knowledge transfer. The results of testing hypotheses were shown in Step 3. The inclusion of interaction variables had only marginal positive impact on the relationship (0.2 % and 0.1 % respectively). Both of the Table indicated that once the interaction terms (students' absorptive capacity x parental involvement and students' motivation x parental involvement) were included the findings were not significantly correlated with knowledge transfer (β=, p>0.005), therefore hypothesis 3 and 4 were not supported.

Discussion and Suggestion:

Theoretically, this study extends body of knowledge by examining knowledge transfer in relation to students' performance in education domain. The investigation of knowledge transfer from the view point of students' would increase individual level of knowledge transfer study. Integration of variables from cross domain of studies and testing them in a single model would allow a comprehensive outlook of the relationship

between the variables in the context of knowledge transfer. In addition, there is a probably one of the first attempts to link parental involvement as a moderator in the relationship between students' absorptive capacity and motivation on knowledge transfer in community colleges..

Table 4: Results of Hierarchical Regression Analysis 1

Step	Variable	R Square	R Square Change	F Change	p
1	a	.387	.387	196.112	.000
2	b	.402	.015	7.540	.006
3	c	.404	.002	1.177	.279

- a. Predictors: (Constant), Students' Absorptive Capacity
- b. Predictors: (Constant), Students' Absorptive Capacity, Parental Involvement
- c. Predictors: (Constant), Students' Absorptive Capacity, Parental Involvement, SAB and PI
- d. Dependent Variable: Knowledge Transfer

Table 5: Results of Hierarchical Regression 2

Step	Variable	R Square	R Square Change	F Change	p
1	a	.270	.270	114.390	.000
2	b	.302	.033	14.522	.000
3	c	.302	.000	.001	.975

- a. Predictors: (Constant), Students' Motivation
- b. Predictors: (Constant), Students' Motivation, Parental Involvement
- c. Predictors: (Constant), Students' Motivation, Parental Involvement, SM and PI
- d. Dependent Variable: Knowledge Transfer

The findings of suggested that students absorptive capacity and motivation had significantly given positive impact on knowledge transfer. This was in line with previous absorptive capacity Mu et al. (2010) and Ko et al. (2005) and motivational (e.g. Little (2008) and Printich (1990)) studies. Practically, the findings suggested that in order to achieve effective knowledge transfer, the community colleges have to consider the improvement in students' absorptive capacity and motivation. More creative effort need to be undertaken to improve the students' absorptive capacity and motivation. For example, the government can provide the students more exposure in real life industrial job and employment world by having extra collaboration with variety of private sectors employer.

In addition to that, the findings presented empirical evidence on the insignificant impact of parental involvement on the relationship between students' absorptive capacity, motivation on knowledge transfer in Malaysian community colleges. The finding was in contrast with Reimuller et al. (2011) and Farrell et al. (2011) who found parental involvement had a moderating effect in their studies. One of the possible answers can be attributed to the background of the students. Most of them come from poor to middle level economic family background and their age levels are at adolescents' category. That factor might diminish the impact of parental involvement as they may tend to be much more independent in their life. However, the insignificant impact need to be investigated further as the variable may have impact in a real life situation.

Limitations and Future Research:

One of the limitations of this study is the population frame are only confined to the final semester students in Malaysian community colleges who are taking certificate levels of study. The qualifications requirements for its students' intake and level of studies offered are not compatible with other higher learning institutions. Since the study sample could not represent other students in other higher learning institutions such as polytechnics, public and private universities, the interpretation of the survey results on other higher learning institution should be done cautiously. In order to overcome this, future studies should look into many other types of higher learning institutions. The current study is cross-sectional in nature which just makes a snapshot of knowledge transfer perception in community colleges. Future study should examine it through longitudinal method or based on qualitative research methods such as direct observations and interviews to get to the hidden depths of the characteristics of the knowledge transfer in community colleges.

Conclusion:

The findings of this study could be used as a guidance to improve the academically underprepared students who can be considered as a party who really need extra attention and support. It provides more empirical research on knowledge transfer study on other field of domain namely education. Through understanding of knowledge transfer from students' perspective would increase individual level of knowledge transfer study.

Hopefully, a right message can be delivered to the academically unprepared students that they still have a chance to be as successful as their academically brilliant counterparts in other higher learning institutions. By having more understanding on the important variables, the students and other stakeholders are expected to be able to make an appropriate and informed decision, choice and policy. Eventually, Malaysia can be benefited in term of quality knowledge workers that can be produced to support its industries and at the same time help the nation to sustain its economic development through quality human capital.

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