Enhancing Students' Creativity at Research Universities in Malaysia

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ABSTRACT

Creativity is an important element in the development of educational organizations. Although many variables influence student's creativity in universities, there is a reason to suspect that particularly the leadership behaviors' of lecturers have powerful influences. In this study, we examined leadership behaviors contributing to enhancement of the student's creativity. Findings of this study indicated that the leadership behaviors of lectures (e.g., idealized influence, intellectual stimulation, inspirational motivation, technical skills, and involvement) can influence student's creativity, both directly and indirectly. The leadership behaviors of lectures may nurture or stifle the student's creative potential. The implications of these findings for theory and practice are discussed.

Keywords: Students' creativity, leadership, Transformational leadership

1. Introduction

Since the 1990s, creativity has been recognized as an important skill that should be developed at educational institutions (Craft & Jeffrey, 2008) . In fact, creativity has been identified as an engine of educational development both in developed and developing countries. It is an important factor in the success and competitive advantage of educational organizations. Nowadays, many corporations are investing very heavily in creativity education because creativity enables students to become much efficient interpersonal and intrapersonal problem solvers (Plucker, Beghetto, & Dow, 2004). It stimulates learning and enhances literacy. Moreover, it can be considered as a driving force of economic growth and is essential to tackling the social, cultural, and environmental challenges facing communities in the future (Craft, 2005). Therefore, it is argued that creativity education should be a priority in all educational institutions.

There are several definitions of creativity in the literature. The empirical research has defined creativity as the generation of ideas or products that are useful, valuable, and original (Amabile, 1996). According to Sternberg (2006), creative work requires applying and balancing three abilities, the synthetic, analytic, and practical abilities, which can all be developed. Based on these definitions, creativity can be defined as the ability of a person to generate novel and interesting ideas, to analyse and evaluate ideas, and to translate theory into practice and abstract ideas into practical accomplishments. Lecturers play an important role in encouraging and developing creativity by teaching students to establish balance between the synthetic, analytic, and practical thinking. Many teachers and lecturers want to encourage creativity in their students, but they do not know how to do .They do not know that their actions and the way that they direct and support students in their creative endeavours can mobilize or stifle creative thinking(Andriopoulos & Dawson, 2009) .

Many researchers emphasized the importance of leadership in mobilizing creativity and change in educational organizations (e.g., Andriopoulos & Dawson, 2009; Shin & Zhou, 2003) . The behavior of a leader may nurture or stifle the employees' creative potentials. Gumusluoglu and Ilsev (2009) believe that the supportive supervisory management style can enhance creativity more than the controlling style because it enhances individual motivation. A controlling style does not allow the creative processes to flow because it provides a tightly constructed set of rules and guidelines in which members have little freedom to express their ideas (Andriopoulos & Dawson, 2009). The empirical study of Gumusluoglu and Ilsev

(2009) indicated that creativity of the group member will be enhanced if he/she sees the leader as supportive of creativity. Furthermore, Andriopoulos and Dawson (2009) stated that transformational leaders have great effects on their followers and that they can influence creativity and innovation. These leaders are usually enthusiastic, energetic, and passionate (Afshari et al., 2010). They are able to change and transform individuals through the strengths of their visions and personalities. According to Bass et al. (2003), transformational leaders are attentive to the needs and motives of their followers and they normally try to help their followers achieve their fullest potentials. In fact, "This type of leadership is becoming more and more important to organizations as workforces become more diverse, technology improves, and international competition heightens (Afshari, Siraj, Faizal A. Ghani, & Afshari, 2011)" Several researchers have examined the effect of transformational leadership on followers' levels of performance (e.g., Dvir, Eden, Avolio, & Shamir (2002) and Howell & Avolio (1993)), but only a handful of studies have examined the effects of transformational leadership behaviors, namely, intellectual stimulation, inspirational motivation, idealized influence, and individualized consideration, on student's creativity.

On the other hand, some scholars have argued that the lecturer's creative problem-solving skills and expertise can be significant factors in developing students' creative works (Barnowe, 1975 cited in Mumford, Connelly, & Gaddis, 2003). Moreover, Andriopoulos and Dawson (2009) stated that communication is essential to the creative process because the cross-fertilization of different ideas leads to generation of more and better ideas. Another social aspect that has significant impact on creativity is the extent to which lecturers encourage involvement of the students in the creative process. Many researchers (e.g., Shalley & Gilson, 2004) believe that students need autonomy to experiment with new ideas and concepts. However, to the best knowledge of the author, no published studies have quantified the effects of all these variables in a model to identify the best predictors of student's creativity. Hence, the model proposed by the current study will contribute significantly to the existing knowledge about the factors which contribute significantly to enhancement of the students' creative works. In addition, this study will show that lecturers should teach students in a way that develops their synthetic, analytic, and practical thinking. In fact, having knowledge is no longer enough to get ahead in a competitive global market, but having the ability to analyze and solve problems is the sought-after skill for the students of today and tomorrow. Therefore, this study will highlight ways how lecturers can encourage creativities of their students. Furthermore, gaining an understanding of the variables that foster student's creativity will be useful for lecturers, policy makers, and providers of professional development programs for lecturers. This study aims at examining leadership behaviors contributing to enhancing students' levels of creativity. Based on a model which has been developed for this purpose, leadership behaviors (intellectual stimulation, inspirational motivation, idealized influence, individualized consideration, expertise, communication and information exchange, involvement, and autonomy) relate positively to student's creativity.

2. Review of the literature

According to Gumusluoglu and Ilsev (2009, p. 462), "transformational leadership behaviors closely match the determinants of innovation and creativity at the workplace, some of which are vision, support for innovation, autonomy, encouragement, recognition, and challenge." In fact, these behaviors are instrumental for promoting creativity (Sosik, Kahai, & Avolio, 1998).

Bass and Riggio (2006) highlighted that the ransformational leadership comprises five dimensions: idealized influence (attribute), idealized influence (behavior), intellectual stimulation, inspirational motivation, and individualized consideration (Bass & Riggio, 2006). They also illustrated that "Idealized influence (attribute) demonstrates attributes of principals that motivate respect and pride and display a sense of power and confidence; idealized influence (behavior) refers to the principal's behavior of communicating values, purpose, and importance of mission; inspirational motivation refers to leaders who motivate and inspire others by challenging them to exert effort; intellectual stimulation prompts followers' efforts to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways; and individualized consideration focuses on development and mentoring of followers and attends to individual needs."

Gumusluoglu and Ilsev (2009) conducted a study on 163 research and development (R&D) personnel and managers at 43 micro-, and small-sized Turkish software development companies and found that transformational leadership has important effects on creativity at both the individual and organizational

levels. Sternberg (2006) illustrated that creativity needs a balance among synthetic, analytic, and practical abilities. In light of this, the lecturers as transformational leaders carry the responsibility of encouraging and developing student's creativity by teaching the students how to construct a balance between synthetic and practical thinking (Sternberg, 2006).

According to Mumford et al. (2003), the lecturer's expertise and technical skills appear to be significant predictors of creative performance. The lecturers should be able to evaluate students' ideas and provide evaluative feedback. Moreover, they should be competent facilitators assisting their students in achieving the schools' objectives. Communication and information exchange are effective social skills that can enhance student's creativity (Andriopoulos & Dawson, 2009). Communication is vital to the creation process. Students tend to make more connections when they are exposed to a diverse range of sources and this will eventually make them more creative (Andriopoulos & Dawson, 2009). Communication is the main point for the good relationship. Lecturers must be good communicators and creative persons in order to inspire and motivate students to collaborate in creative work (Reppa, Botsari, Kounenou, & Psycharis, 2010).

In other respects, Mumford et al. (2003) stated that the critical issue confronting lecturers is to find ways for encouraging involvement. The extent to which leaders encourage involvement of their employees in the creative process is very important. Lecturers should direct the student's motivation and curiosity to the problem at hand (Mumford, Scott, Gaddis, & Strange, 2002). Involvement of the students will increase when the lecturers encourage them to participate in defining the problems to be tackled and the approach to be used in addressing these problems. In addition to participation, however, it seems that involvement will grow when creative people are directed to work in groups with peers, mostly due to social facilitation (Farris, 1972). Moreover, many researchers believe that the individual's autonomy is an essential prerequisite for creativity (Houtz et al., 2003). People who are empowered are more likely to be intrinsically motivated, which in turn promotes creative endeavors (Jung & Sosik, 2002). Consistent with this view, Zhou (1998) found that the members of their study sample generated the most creative ideas when they worked in a highly-demanding autonomy work environment.

3. The Study

The aim of this study was to identify the relationship between leadership behaviors that enhance student's creativity in research universities in Malaysia. The following questions are specifically to be answered by this study:

1. What is the relationship between leadership behaviors (intellectual stimulation, inspirational motivation, idealized influence, individualized consideration, expertise, communication and information exchange, involvement, and autonomy) and student's creativity?

2. What is the proportion of the variance in the student's level of creativity that can be explained by lecturers' leadership behaviors?

3. What is the relative significance of each element of leadership behaviors in predicting student's creativity?

4. Method

This study was an exploratory research intending to find the causal relationships between variables. In fact, an exploratory study can be described as finding out what is happening, and asking questions and assessing phenomena in a new light. This type of research is most useful when there is limited research regarding the population of study (Creswell, Plano Clark, Gutmann, & Hanson, 2003). Five hundred and twenty Master and PhD students in the faculties of education at three selected research universities in Malaysia (Universiti Malaya (UM), Universiti Putra Malaysia (UPM), and Universiti Kebangsan Malaysia (UKM)) participated in the study. For obtaining the required information, two sets of questionnaires were used; one to assess the leadership behaviors of lecturers and the other to assess the students' levels of creativity. The questionnaires were delivered to 550 randomly-selected postgraduate students in these three research universities in October 2011. Five hundred and twenty completed forms were returned, corresponding to a 91.4% return rate.

Validity and reliability are technical properties of a measurement. They constitute the most important features of a test that indicate its usefulness and appropriateness. A panel of experts in the area was consulted about the instrument, the survey's appearance, relevance, and representativeness of its elements . These experts established face and content validities of these instruments.

Moreover, the internal consistencies of these instruments were measured with Cronbach's alpha using the Statistical Package for Social Sciences (SPSS) v19 software. The Cronbach's alpha coefficients for these scales were as follows: 0.867 for the creativity scale, 0.909 for the transformational leadership style scale, 0.843 for the expertise scale, 0.764 for the communication and information exchange scale, 0.795 for the involvement scale, and 0.853 for the autonomy scale. Afterwards, descriptive statistics (mean, percentage, and frequency) and inferential statistics (correlation analysis and multiple regression analysis) were conducted in this study. The descriptive statistics were utilized to describe the students' levels of creativity while Pearson's correlation analysis was used to identify the relationships between leadership behaviors (intellectual stimulation, inspirational motivation, idealized influence, individualized consideration, expertise, communication and information exchange, involvement, and autonomy) and student's creativity. Furthermore, multiple regression analysis was used to determine the proportion of the variance in the level of student's creativity that is explained by the lecturers' leadership behaviors. This analysis was additionally employed in determining the relative importance of lecturers' leadership behaviors for explaining student's creativity.

5. Findings and Discussion

The findings indicated that about 46.3% of the respondents were males and about 53.7% were females. More than half of the respondents (54.8%) were within the age range of 19-28 years. Furthermore, the socio-demographic analysis showed that the highest number of students were Malay (37.7%; n = 196) followed by Chinese (35.4%; n = 184), Indians (15.6%; n = 81), and others (11.3%; n = 59). Moreover, the majority of the participants (89.8%) reported that they never attended any creative training programs.

5.1 The Relationship between Creativity and Independent Variables

In this study, Pearson correlation analysis was used to identify the relationships between student's creativity and independent variables. Results of this analysis helped the researcher to determine the strengths and directions of the linear relationships between the various tested variables. Besides, preliminary tests for normality, linearity, and homoscedasticity were carried out to examine compliance of the data with the assumptions of regression analysis. The output of correlation analysis showed a number of significant relationships between creativity and the independent variables (Table 1).

Table 1. Summary of the correlation matrix of independent variables and creativity

Variable	Pearson Correlation	Sig. (2-tailed)
Creativity	1	
Idealized influence (attributed)	.575**	0.000
Idealized influence (behavior)	.575**	0.000
Inspirational motivation	.596**	0.000
Intellectual stimulation	.597**	0.000
Individualized considerations	.616**	0.000
Communication	.617**	0.000
Expertise	.580**	0.000
Involvement	.641**	0.000

According to Table 1, there was a positive, moderate relationship between each element of leadership and student's creativity. The study results indicated that students of lecturers or supervisors who display supportive leadership behaviors are much creative. In fact, the "supportive supervisory management style is more likely to contribute to creativity than the controlling style since it enhances individual motivation" (Andriopoulos & Dawson, 2009). Lecturers should provide an open forum in which students feel free to roam with new ideas and suggestions. They should create an environment conducive to the generation and implementation of novel and useful ideas. This can be achieved by concentrating on enhancing the factors that nurture student's creativity.

6. The proportion of the variance in students' creativity that can be explained by the independent variables

To identify the percentage of variance in student's creativity that can be explained by the elements of leadership behaviors, a multiple regression analysis was performed. A summary of the results is provided by Tables 2 and 3. According to Table 2, the elements of leadership behaviors (i.e., involvement, individualized consideration, communication, and idealized influence (behavior and attributes)) explained about 60% of the variance in student's creativity ($R^2 = 0.60$), which is a good result. On the other hand, the F value of the final model was 124.93 and the concomitant p value indicates that the final model is statistically significant ($p = 0.0001$). Thus, it can be deduced that this model fits the data at the 0.05 level of significance. In other words, this model can provide good description of the relationships between the five elements of leadership behaviors and students' levels of creativity. Therefore, this is a suitable and stable model that successfully identified the variables which can enhance the student's creativity.

As can be seen in Table 3, five variables were found significant to prediction of student's creativity: involvement ($t = 4.409$, $p = 0.001$), individualized consideration ($t = 6.679$, $p = 0.001$), communication ($t = 5.648$, $p = 0.001$), idealized influence (behavior) ($t = 5.648$, $p = 0.001$), and idealized influence (attributed) ($t = 3.055$, $p = 0.002$). All five variables are equally significant to explanation of student's creativity despite having different effects on it. Therefore, in accordance with the conceptual model suggested in this study, all five constructs should be considered in an integrated manner.

Table 2. Summary ANOVA table

Source	Sum of Square	df	Mean Square	F	R^2	Adjusted R^2	R	P
Regression	9977.225	5	1995.44	124.93	0.593	0.589	0.77	0.000
Error	6837.542	514	13.303					
Total	16814.767	519						

Table 3. Multiple regression on dependent variable

	Unstandardized Coefficients		Standardized Coefficients	t	Sig
	B	Std Error	Beta		
Constant	12.483	1.499		8.331	.000
Involvement	.382	.087	.203	4.409	.000
individualized consideration	.688	.103	.263	6.679	.000
Communication	.420	.074	.250	5.648	.000
Idealized influence (behavior)	.385	.120	.129	5.648	.001
Idealized influence (attributes)	.377	.124	.125	3.055	.002

7. Conclusion

This study identified the effects of lecturer's leadership behaviors on student's creativity. Findings of this study indicate that there is a positive and significant relationship between student's creativity and each of the elements of leadership behaviors of lecturers. In fact, lecturers should help their students in correctly defining their projects and identifying the requirements and resources needed for generating and developing new ideas. In addition, their persuasive skills are very important for mobilizing creative efforts(Mumford & Licuanan, 2004). Supervisors should persuade their students of the value of their projects and encourage their involvement in the creation process. By so doing, the students will tend to focus all their energies and times on performing their jobs. Moreover, supervisors should allow the students to choose the projects which they wish to work on, or strive to provide them with the projects which they find attractive and challenging. In other words, it is important to determine an appropriate level of autonomy for students in the pursuit of efficient levels of creative performance (Shalley & Gilson, 2004). Lecturers should have technical and creative problem-solving skills to enhance the student's creativity. They need to be competent facilitators to help their students in completing their tasks. Furthermore, they should spend time on evaluating the students' works and provide them with constructive feedback.

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