

## **The Moderating Effect of Training on the Relationship of Teacher's Efficacy and Teacher's Effectiveness: A Proposed Framework**

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**Abstract:** The purpose of this study is to propose a framework on the relationship between teacher's efficacy and teacher's effectiveness when training program continues to develop teachers to acquire knowledge and skills for effective professional practice. One of the main challenges of the Malaysia's education system is to improve the education services to prepare students to face the future challenges for the 21st century skills such as critical thinking, creative thinking and problem solving skills. The recent challenges require teachers to not only equip but strengthened themselves with Higher Order Thinking Skills (HOTS) program to fulfill the organizational vision. Previous studies have shown teacher's efficacy influenced teacher effectiveness. Another significant issue in the teacher effectiveness research is the training program. The respondents will consist of teachers in Malaysian public secondary schools. Most of the past results had suggested that there were significant relationships between these variables. The findings are expected to have some contributions both to the practical and theoretical aspects to enable public secondary schools to develop and strengthened teachers as competent managers of teaching and learning in the classrooms.

**Key words:** Efficacy, training program, effectiveness, HOTS, teachers

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### **INTRODUCTION**

Many nations around the world have undertaken wide-ranging reforms of curriculum, instruction and assessments with the intention of better preparing students for the higher educational demands of life and work in the 21st century. The Malaysian Ministry of Education (MOE) have also taken a number of education policy initiatives to reform its education system by introducing Higher Order Thinking Skills or HOTS through the integrated curriculum for secondary schools (KBSM) in 1988, vision 2020 in 1991, the critical and creative thinking skills (KBKK) in 1996 and 'smart school' in 1997 (Yen and Halili, 2015). Numerous studies have attempted to explain that the lack of critical thinking skills caused an unemployment problems among graduates. Their job applications have been rejected even though they were qualified and met the necessary requirements for the regular job market (Ghadi *et al.*, 2013). Improving the quality of secondary school education is an important sub-sector in the education system for the development of the country's economy because the inputs into higher education and in the workforce depend on qualified outputs from secondary schools (Jidamva, 2012; Arslan *et al.*, 2014) found the lack of the fundamental

learning concepts such as analysis, synthesis and evaluation caused students as future employees develop poorer job skills which would jeopardized their employers in terms of productivity and innovation. In fact there is a mismatch in the supply and demand of graduates with employers reported graduates lacked of requisite knowledge, skills and attitude.

HOTS has been devised in the education system since the Integrated Curriculum for Secondary Schools (ICSS) in 1989 but it has not been fully implemented in the classroom teachings or executed holistically (Ganapathy and Kaur, 2014; Siew *et al.*, 2015) found teachers had difficulty to enhance HOTS among students, unprepared for this aspects of teaching due to their limited knowledge and skills in HOTS. Students do demonstrate an inclination towards critical thinking but only to the first 3 sub-categories that is knowledge, comprehension and application. This phenomena indicated that the quality of teaching in terms teacher effectiveness is quite poor in preparing students for the future workforce.

**Literature review:** Teachers are the most valuable resource available to all schools and they play an important role for student development at the grass root

level. A wide body of research shows that teacher effectiveness is the most important school-based factor related to student achievement (Wreikat *et al.*, 2011). Previous research on teacher effectiveness focus on student's achievement (Beck, 2014; Snook *et al.*, 2013).

Clearly, teacher effectiveness has yielded a wealth of understanding about the impact that teacher ability has on student growth (Adeyemo and Chukwudi, 2014; Magiante, 2011). So, far there is limited study on teacher effectiveness that focus on teacher's teaching behaviour in the classroom. Hence, it is important to conduct this study because teacher behaviours are attributes for teacher to be effective (Crone, 1992; Tilfarlioglu and Eyyup, 2012).

Educational research has supported the notion that teacher self-efficacy is a construct that affects all teacher behaviours and can explain teacher effectiveness (Beck, 2014; Yildiz, 2015) posited that the student's success is strongly related to teacher's teaching behaviours. Bayer and Kerns (2015) found that teachers with low self-efficacy are poor at handling student's disruptive behaviour and academic problems. They often face difficulties to control student's undesirable behaviours, impart knowledge and motivate student's learning.

Past research suggests that effective classroom managers are teachers who create high standards for themselves and are the most confident in their classroom practicing abilities (Giallo and Little, 2003). Kola *et al.* (2015) viewed teachers reluctant to apply varied instructional strategies because they do not know how to select the right strategies and apply in their teaching due to lack of training.

Yazan and Muhamad posited most of the training programs for teachers are improperly organized and negatively influenced the effectiveness of the training programs. Thus, analysis of early obstacles is necessary to focus more on how to structure training programs to enhance teacher's self-efficacy that is helpful to teacher-training community (Bhatia, 2012).

**Hypotheses statement:** The main objective of this study is to propose a research framework of the relationship between teacher efficacy and teacher effectiveness when training program are tailored to teachers in Malaysian public secondary schools. Therefore, several research hypotheses are proposed for further empirical investigation.

**The relationship between teacher efficacy and teacher effectiveness:** Teacher efficacy can contribute to teacher effectiveness (Tschannen-Moran *et al.*, 1998). Basically,

research on teacher effectiveness attributes approached from different perspectives; teacher characteristics (Omotayo, 2014; Adu *et al.*, 2014; Schulze, 2014) personality traits (Liakopoulou, 2011) and student's achievements (Beck, 2014; Snook *et al.*, 2013). Teacher effectiveness can also be approached by their teaching behaviours because if they are not effective in teaching, student's academic performance will be obviously poor.

Lately, several researches in teacher effectiveness attributes have been using teacher efficacy constructs to explore how teacher self-efficacy affects student's learning outcomes (Beck, 2014; Gowrie and Ramdass, 2014). Besides that, several previous studies suggested that teacher efficacy was positively related to teacher effectiveness (Adeyemo and Chukwudi, 2014).

Bitto and Butler (2010) highlighted that teacher self-efficacy directly correlated to a teacher willingness to try new strategies. Adeyemo and Chukwudi (2014) discovered that teacher efficacy had predictive influence on teacher effectiveness. Although, there is numerous research on teacher efficacy, empirical studies using social cognitive theory to measure the relationship between teacher's efficacy and teacher effectiveness is still limited. Thus, this study intends to fill this research gap by looking at teacher's level of efficacy in student engagement, instructional strategies and classroom management with specific reference to HOTS.

In this study, the three dimensions of teacher efficacy as proposed by Dellinger *et al.* (2008) namely efficacy in student engagement, efficacy in instructional strategy and efficacy in classroom management were used as an independent variables. Teacher effectiveness was the dependent variable of interest in this study. Specifically, this study focus on teacher's teaching behaviour in the classroom. Therefore, teacher effectiveness served as the dependent variable which in turn was predicted by the independent variable (i.e., teacher efficacy).

Teacher efficacy was theoretically identified by Bandura (1986)'s social cognitive theory. This component points to the importance of the variable regarding the prediction of teacher effectiveness which the following hypotheses are formulated:

- $H_{1i}$ : there is a significant relationship between teacher efficacy and teacher effectiveness

Component of teacher efficacy formulate the sub hypotheses stated as follows:

- $H_{1a}$ : there is a significant relationship between teacher efficacy in student engagement and teacher effectiveness

- H<sub>1b</sub>: there is a significant relationship between teacher efficacy in instructional strategy and teacher effectiveness
- H<sub>1c</sub>: there is a significant relationship between teacher efficacy in classroom management and teacher effectiveness

**Moderating effect of HOTS training program on the relationship between teacher efficacy and teacher effectiveness:** The training that teachers receive is one of the critical factors contributing to teacher effectiveness. Teacher effectiveness is linked to good training (Pretorius, 2012). Evidence from previous study support that the employee training can be used as a moderator. For example, the influence of work environment variables on transfer-related variables was moderated by employee's pre-training performance (Chan *et al.*, 2014). According to Baron and Kenny (1986) moderator variables modifies the strength or the direction of the relationship between independent and dependent variables. Since, little is known about the effect of HOTS training program as a moderator of the relationship between teacher efficacy and teacher effectiveness as a single model therefore, this study propose the conceptual framework on how it can affects the direction and/or strength (moderate) the relationship between teacher's self-efficacy (IV) and teacher's effectiveness (DV) as a single model.

Previous study examined the relationship between teacher efficacy and teacher effectiveness (Adeyemo and Chukwudi, 2014) between teacher efficacy and classroom quality (Jennings, 2014). Besides that, teacher effectiveness supports teacher's ability in communicating, instructional strategies and competence in classroom management (Adu *et al.*, 2014; Abd *et al.*, 2012). Therefore, the present study intends to investigate the possible (interacting effect) of HOTS training program with teacher effectiveness. The following hypotheses are formulated:

- H<sub>2</sub>: there is a significant relationship on the moderating effect of HOTS training on the relationship between teacher efficacy and teacher effectiveness

Given the above, Guskey (2000) training dimensions formulate the sub hypotheses stated as follows:

- H<sub>2a</sub>: there is a significant moderating effect of reaction on the relationship between teacher efficacy and teacher effectiveness
- H<sub>2b</sub>: there is a significant effect of learning on the relationship between teacher efficacy and teacher effectiveness

- H<sub>2c</sub>: there is a significant effect of organizational support and change on the relationship between teacher efficacy and teacher effectiveness
- H<sub>2d</sub>: there is a significant effect of knowledge and skills on the relationship between teacher efficacy and teacher effectiveness
- H<sub>2e</sub>: there is a significant effect of student learning outcomes on the relationship between teacher efficacy and teacher effectiveness

## MATERIALS AND METHODS

This study examines whether the moderating effect of HOTS training program can contribute in enhancing teacher's efficacies in secondary schools. This study employs a quantitative method to investigate the moderating effect of HOTS training program on the relationship between teacher efficacy and teacher effectiveness. The questionnaire is based on training levels by Guskey (2000) with slight modifications to fit the context of this study. Meanwhile, a cross sectional study will be utilized to collect data from the respondents. A random stratified technique is chosen and respondents will be drawn from the target population randomly.

**A proposed research framework:** Based on the earlier discussion, the following research framework is proposed.

## RESULTS AND DISCUSSION

Figure 1 shows the conceptual framework of the study that depicts teacher efficacy and teacher effectiveness with the presence of HOTS training program. Previous studies showed there were inconsistent findings on the moderating effects of training. Inconsistent findings from Sarina and Noraini (2015) found that employee training does not modify the relationship between employee's collaboration, top management support and Information Technology (IT)

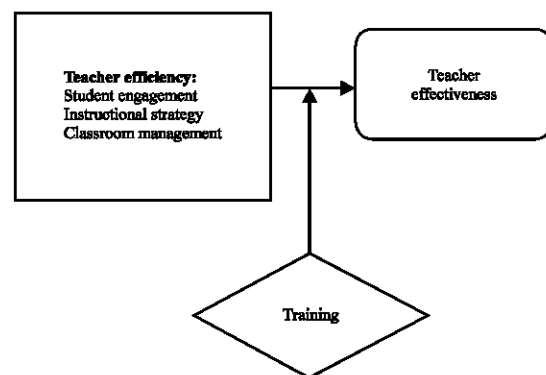


Fig. 1: Proposed framework

support with knowledge management. They argued that training is not a moderator; does not alter the direction and strength between predictors and outcome.

In another study by Norfazlina *et al.* (2016) examined the moderating effect of training on the relationship between user's satisfaction factors and task productivity of Customer Information System (CIS) implementation. Their results showed that training significantly moderate the relationship between ease of use in CIS and task productivity. However, it does not moderate the relationship between user satisfaction (content and format) and task productivity.

Based on the inconsistent findings above, the framework clearly suggests that there is a need to test the moderating effects of HOTS training program on the relationship between teacher efficacy and teacher effectiveness.

## CONCLUSION

To conclude, teacher training programs offer educational experiences aligned to their pedagogical needs and can help to enhance their self-efficacy provided these training activities are planned appropriately.

Over the past decade, the study of teacher effectiveness has made a remarkable progress. Hence, the primary objective of this article is to develop a research framework of the relationship between teacher efficacy and teacher effectiveness when HOTS training program is practiced in Malaysian public secondary schools. Figure 1 shows a proposed research framework. This framework will guide and provide a comprehensive understanding of the relationship between all variables and will lead to empirical research in the future. It is expected that the findings will reflect on how HOTS training program can affects the direction and/or strength (moderate) the relationship between teacher efficacy and teacher effectiveness.

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