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Are Teachers Qualified to Teach Entrepreneurship? Analysis of Entrepreneurial Attitude and Self-efficacy

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Abstract: Recent research on the impacts of entrepreneurship education revealed that graduates lack the motivation and competencies required for new venture creation. Students' entrepreneurial motivation and competencies can be highly influenced by teachers' attitude toward and self-efficacy in entrepreneurship. However, there is little knowledge about entrepreneurial attitude and self-efficacy of teachers specifically at vocational and technical schools. This study aimed to examine entrepreneurial attitude and self-efficacy among 315 teachers from technical and vocational secondary schools in Malaysia. It employed a survey research method and a set of questionnaire to measure the teachers' entrepreneurial attitude and self-efficacy. Analysis of the data indicated that the teachers had attitudes as consistent with entrepreneurs and a high entrepreneurial self-efficacy. More specifically, the teachers scored high in all dimensions of entrepreneurial attitude except self-esteem affect and behavior, personal control affect, personal control cognition and innovation behavior. Therefore, the teachers have a positive attitude towards entrepreneurship and a high sense of self-efficacy.

Key words: Entrepreneurship, education, entrepreneurial attitude, entrepreneurial self-efficacy, entrepreneurship teachers, technical and vocational schools, Malaysia

INTRODUCTION

Recent research on the impacts of entrepreneurship education revealed that graduates lack the motivation and competencies required for new venture creation (Oosterbeek *et al.*, 2010; Matlay, 2008). Students' motivation, learning and achievement can highly be influenced by teachers' tendency and ability to teach effectively (Bayraktar, 2011; Tschannen-Moran and Hoy, 2001; Tschannen-Moran *et al.*, 1998). To improve students' entrepreneurial learning and competencies, therefore, they should be taught by qualified teachers who have a positive attitude toward entrepreneurship and a strong sense of entrepreneurial self-efficacy (Peltonen, 2008). However, there is little knowledge about attitude and self-efficacy of teachers in general (Bayraktar, 2011; Adedoyin, 2010) and Malaysian teachers in particular (Wah, 2007).

Additionally, the importance and necessity of technical and vocational education and training for entrepreneurs and those who are involved in entrepreneurial endeavors has been identified by previous researchers (Hussain and Matlanday, 2007; Matlay, 2001). Yet, few empirical studies have been published about entrepreneurial competencies in the context of technical and vocational education (Pihie and Bagheri, 2010).

In response, this study was an attempt to narrow the gaps through examining entrepreneurial attitude and self-efficacy among Malaysian teachers from technical and vocational schools.

Teachers' attitude and self-efficacy: Based on the theory of planned behavior (Ajzen, 1991), attitude is one of the main factors that influences one's behavior. Teachers' attitude toward a subject not only affect their choice to teach that subject and the quality of their instructional performance (Harlen and Holroyd, 1997), but also influences students' attitudes toward the subject, their motivation to learn the subject, and their achievement (Chong *et al.*, 2010). Importantly, environmental and contextual factors such as teacher education programs can improve a positive attitude toward a particular subject among teachers (Bayraktar, 2011).

A review of the definitions proposed for teacher self-efficacy indicates a process of evolution. The first definitions focused on teacher efficacy as general beliefs in one's abilities to enhance motivation and learning of all students particularly, unmotivated and difficult ones (Guskey and Passaro, 1994). Derived from "locus of control" construct, teacher efficacy in this sense is a personal perception about one's ability to overcome the impacts of the environment and

enhance students' motivation, attitude, learning, and achievement (Huang *et al.*, 2007). The deficits of this definition in terms of neglecting specificity of teacher efficacy to the subject and context has led researchers to seek more robust theoretical foundations for teacher efficacy definition and measurement (Tschannen-Moran *et al.*, 1998).

Later, scholars based teacher efficacy on the social cognitive theory (Bandura, 1997) and defined it as a multi-dimensional construct which develops through an analytical process of combining information from different sources (Chong *et al.*, 2010). Based on the theory, "Teacher efficacy is the teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran *et al.*, 1998, P.233). Teachers' beliefs about their abilities to teach and influence students' motivation and learning take shape through dynamic, continuous and reciprocal interactions between personal, behavioral, and environmental factors (Bandura, 1997). These beliefs highly affect the time and effort that teachers spend in teaching practices, their persistence in the face of difficulties and the extent of emotional arousal such as stress or anxiety they experience in dealing with difficulties (Tschannen-Moran and Hoy, 2001).

According to this definition, teacher efficacy consists of two main aspects including personal teacher self-efficacy and outcome teaching self-efficacy (Bayraktar, 2011). Personal teacher self-efficacy reflects teachers' perceived capacity to successfully perform the roles and tasks of a teacher. Outcome teaching efficacy indicates teachers' perceived abilities to effectively create the desired behaviors, skills and competencies in students. While teacher self-efficacy motivates teachers to select or avoid teaching a specific subject, teaching self-efficacy enables them to effectively perform various instructional roles and apply different teaching strategies in a particular subject and context. Although there is a correlation between personal and specific teaching self-efficacy, they are two different constructs that build teacher self-efficacy independently (Tschannen-Moran and Johnson, 2011). Tschannen-Moran *et al.* (1998) argued that personal teacher self-efficacy precedes and facilitates outcome teaching self-efficacy formation and greatly affects its development. Importantly, teacher self-efficacy develops through involvement in practicing real teaching roles and tasks (Tschannen-Moran and Hoy, 2001; Wah, 2007; Bandura, 1997). Examining secondary school teachers' self-efficacy formation, Adedoyin (2010) recently concluded that the teachers build their teaching self-efficacy through interacting and in relation

to their teaching practices, students and teaching environment. The authors emphasized that secondary school teachers construct their teaching efficacy mostly based on their capability to create an encouraging teaching and learning environment in the classroom.

Tschannen-Moran *et al.* (1998) developed a comprehensive model for teacher self-efficacy development based on situational nature of the construct. According to the model, teacher self-efficacy takes shape by a personal cognitive process through which teachers construct a sense of capability for their future instructional behaviors by analyzing their past experiences and outcomes of their current performances. Therefore, teacher self-efficacy formation and development is both a retrospective (based on previous experiences) and a prospective (future-oriented) process that occurs over time. In this sense, teacher self-efficacy is a complex personal process that can be formed and developed by environmental factors. Cognitive abilities of teachers to analyze, weight and interpret the information from different resources play a key role in developing their teaching self-efficacy. Therefore, teachers differ in terms of their teaching self-efficacy beliefs and consequently their effectiveness in teaching based on their cognitive and reflective abilities.

Teachers' entrepreneurial attitude and self-efficacy: In entrepreneurship context, attitude has been defined as the extent to which one perceives entrepreneurial behavior and its consequences as valuable, beneficial and favorable (Ajzen, 2002). Robinson *et al.* (1991) identified four dimensions for entrepreneurial attitude including need for achievement, personal control over behavior, innovation, and self-esteem. Need for achievement reflects the perceived results and outcomes of new venture creation (Hansemark, 1998). Personal control over entrepreneurship behavior is individuals' perceived control and influence on venture creation outcomes. Innovation is thinking of new ideas, products and methods and developing them to be effective in practice. Finally, self-esteem indicates individuals' perceived confidence in their entrepreneurial competence. Each of the entrepreneurial attitude aspects is measured in three dimensions including affection (feeling and emotion), cognition (thought and belief), and conation (action and behavior). It is the combination of all these dimensions that constructs individuals' general attitude toward entrepreneurial behavior. Teachers should possess an entrepreneurial attitude to improve students' entrepreneurial motivation and competencies (Peltonen, 2008). Yet, research on entrepreneurial attitude has been

mostly focused on measuring students' attitudes toward entrepreneurship (Harris and Gibson, 2008) and there is little information about entrepreneurial attitudes of teachers.

Given the assumption that teacher efficacy is a subject-specific and contextual-oriented construct (Bandura, 1997), a growing body of research focused on measuring teachers' efficacy in different subjects and contexts (Tschannen-Moran and Johnson, 2011; Siwatu, 2011; Chong *et al.*, 2010; Tschannen-Moran and Hoy, 2007). Accordingly, entrepreneurship researchers have shown an increasing interest in conceptualizing and measuring entrepreneurship teachers' efficacy and specifying the contextual and environmental factors that influence development of a strong sense of self-efficacy among them (Peltonen, 2008; Gibbs, 2002). It is argued that analysis of teaching tasks in a specific subject and context is one of the significant factors that shapes teacher self-efficacy (Tschannen-Moran *et al.*, 1998). Therefore, to explain how self-efficacy may assist teachers to effectively teach entrepreneurship, the particular tasks that entrepreneurship teachers need to accomplish should be specified.

Peltonen (2008) emphasizes that it is vital for teachers to become more entrepreneurial if entrepreneurial learning should be improved among students. Particularly, teachers need to act in an entrepreneurial way in discovering opportunities and innovatively exploiting them (Heinonen and Poikkijoki, 2006). Entrepreneurship teachers should apply innovative teaching methods, cope with various challenges of teaching entrepreneurship and engage students in the process and challenges of entrepreneurship learning (Adedoyin, 2010; Heinonen and Poikkijoki, 2006; Smith *et al.*, 2006). Previous research findings indicate that self-efficacy helps teachers to apply innovative teaching methods, engage students in challenging learning opportunities, persevere in the face of obstacles, and improve students' persistence to deal with the complexities and difficulties of learning process (Deemer, 2004; Tschannen-Moran *et al.*, 1998). Furthermore, entrepreneurship teachers should have a strong motivation to teach and maintain their motivation through the whole process of instructional delivery (Fiet, 2000). Self-efficacy highly improves teachers' motivation and abilities to teach (Tschannen-Moran *et al.*, 1998).

Entrepreneurship learning is an experiential process which highly requires students to practice real roles and tasks of an entrepreneur and deal with the challenges associated with managing a new venture (Richardson and Hynes, 2008; Heinonen, 2007;

Heinonen and Poikkijoki, 2006). Students should also be involved in participatory and collaborative activities in which students, academics, and entrepreneurs incorporate in the process of entrepreneurship learning (Pittaway and Cope, 2007; Heinonen and Poikkijoki, 2006; Smith *et al.*, 2006; Gibbs, 2002). Teachers play critical roles in creating such a pragmatic and social interactive environment which improves students' entrepreneurial self-efficacy through mastery experiences, vicarious learning, verbal persuasion and social support (Deemer, 2004; Gibbs, 2002; Bandura, 1997).

METHODS

This study employed a survey research method to determine entrepreneurial attitude and efficacy among teachers from technical and vocational secondary schools. Selection of only secondary school teachers was based on the assumption that teachers' perceptions toward entrepreneurship education and their self-efficacy in teaching entrepreneurship vary in different school levels (Gibbs, 2002). A sample of 315 teachers from three selected states in Malaysia participated in this study. Data were collected in October to November, 2008. Permission to conduct the survey was obtained from the Educational Planning and Research Division, the Ministry of Education and the Directors of Education of the three selected states. The school principals were contacted to fix the date of data collection. The principals made the necessary preparations with teachers of form four vocational and technical classes. Data were collected by the researchers.

To measure teachers' Entrepreneurial Attitude Orientation (EAO) and Entrepreneurial Self-Efficacy (ESE), a questionnaire was developed based on previous researches. The questionnaire consisted of three main sections. First section contained demographic information of the teachers including age, gender, years of teaching experience and race. The second section measured teachers' Entrepreneurial Attitude Orientation (EAO) based on a questionnaire developed by Robinson *et al.* (1991). This section assessed teachers' entrepreneurial attitudes in four dimensions including achievement, self-esteem, personal control, and innovation. A reliability test was conducted, and a Cronbach's α of 0.94 was obtained which indicates that this section was highly reliable for measuring the teachers' EAO. The last section encompassed modified items from entrepreneurial self-efficacy (ESE) questionnaire developed by De Noble *et al.* (1999) in six dimensions. This section consisted of items related to coping with unexpected challenges, developing new products and opportunities,

building an innovative environment, initiating investor relationships, defining the core purpose, and developing critical human resources. This part of the questionnaire was also reliable ($\alpha = 0.89$) to assess the teachers' entrepreneurial self-efficacy (ESE). The teachers were asked to state their agreement to the items based on a 5-point Likert scale, with 1 indicating "strongly disagree" and 5 indicating "strongly agree". A mean score above 3.80 was considered high, 3.40 to 3.79 was considered moderate and below 3.39 was considered low. Statistical techniques such as mean and standard deviation were utilized to analyze the data.

RESULTS

Analysis of the data showed that the teachers from technical and vocational secondary schools had attitudes consistent with entrepreneurs in different dimensions of achievement and innovation as illustrated in Table 1. Moreover, the teachers scored high in different dimensions of personal control and low in self-esteem dimensions except self-esteem cognition in which the teachers scored high.

Table 2 illustrates the mean scores for entrepreneurial self-efficacy of vocational and technical secondary school teachers. The teachers perceived themselves as highly capable in all categories of entrepreneurial self-efficacy. From the teachers' perceptions, they were

Table 1: Mean scores of vocational and technical secondary school teachers on entrepreneurial attitude orientation

Dimension of EAO	Mean	SD	Level
Achievement affect	3.98	0.48	High
Achievement behavior	3.97	0.49	High
Achievement cognition	4.13	0.50	High
Personal control affect	3.65	0.64	Moderate
Personal control behavior	3.84	0.48	High
Personal control cognition	3.79	0.55	Moderate
Self-esteem affect	3.27	0.66	Low
Self-esteem behavior	3.33	0.53	Low
Self-esteem cognition	4.16	0.56	High
Innovation affect	3.99	0.49	High
Innovation behavior	3.67	0.46	Moderate
Innovation cognition	3.95	0.53	High

Table 2: Technical and vocational secondary school teacher's entrepreneurial self-efficacy

Self-efficacy dimensions	Mean	SD	Level
Coping with unexpected challenges	3.81	0.54	High
Developing new products and market opportunities	3.81	0.58	High
Building an innovative environment	3.83	0.59	High
Initiating relationship with investors	3.87	0.61	High
Defining core purposes	3.88	0.61	High
Developing critical human resources	3.82	0.57	High
Overall mean	3.86	0.39	High

highly efficacious in performing different roles and tasks of an entrepreneur. Specifically, they perceived themselves as highly capable of coping with unexpected challenges, developing new products and market opportunities, building an innovative environment, initiating relationship with investors, defining core purposes and developing critical human resources. With this high entrepreneurial self-efficacy, it seems that teachers are more likely to be effective in delivering innovative and challenging teaching methods which are essential for entrepreneurship instruction (Adedoyin, 2010; Heinonen and Poikkijoki, 2006).

DISCUSSION

Better understanding of teachers' entrepreneurial attitude and self-efficacy is prominently urgent if entrepreneurship educators are to create more efficacious and competent entrepreneurs out of today students. However, there are few researches on teachers' attitude and self-efficacy in entrepreneurship educational settings. Specifically, few empirical studies have been conducted in technical and vocational schools where teachers play key roles in exposing students to requisite knowledge and skills for their future career path (Pihie and Bagheri, 2010, 2011). This lack of knowledge may affect developing entrepreneurial motivation and knowledge among students. It may also influence provision of effective entrepreneurship education, training and professional development programs for entrepreneurship teachers. Measuring teachers' attitudes toward a particular subject and their perceptions about their capacity to successfully teach that subject is the first step in improving a positive attitude and strong self-efficacy among them (Tschannen-Moran *et al.*, 1998). It is argued that through measuring teacher attitude and self-efficacy their teaching and assessment practices in the classroom and their performance in the school system can be predicted (Bayraktar, 2011; Adedoyin, 2010). In addition, the more teachers are engaged in the process of learning a specific field, the better they can involve their students in the process of learning that field (Tschannen-Moran and Johnson, 2011).

The findings of this study indicated that overall the secondary school teachers had attitudes consistent with entrepreneurs. However, the teachers scored moderate to low in some dimensions of their entrepreneurial attitude. In particular, they had low scores in self-esteem affect and behavior and scored moderate in personal control affect, personal control cognition and innovation behavior. To improve teachers' effectiveness in teaching entrepreneurship, these aspects of teachers'

entrepreneurial attitude require to be improved by more effective entrepreneurship teacher education and training programs (Van Wyk and Boshoff, 2004).

From the teachers' perceptions, they are highly efficacious in performing all of the critical roles and tasks of an entrepreneur. With this high entrepreneurial self-efficacy, they appear to have a positive attitude toward their entrepreneurship teaching abilities and students' abilities to learn entrepreneurship skills (Adedoyin, 2010). Furthermore, the teachers are more likely able to instill a positive attitude toward entrepreneurial endeavors and learning entrepreneurial as well as a high sense of entrepreneurial self-efficacy in students (Bayraktar, 2011; Tschannen-Moran and Hoy, 2001). High entrepreneurial efficacy seems to enable the teachers to enthusiastically deliver entrepreneurship instructional methods, use innovative and challenging methods to teach entrepreneurship (Deemer, 2004). They can also more effectively deal with the challenges and complexities of teaching entrepreneurship and the difficulties they may face in their teaching contexts (Tschannen-Moran and Hoy, 2001). Additionally, the teachers with a high sense of entrepreneurial self-efficacy assess their teaching practices when students fail and consider students' mistakes as a part of entrepreneurship learning process (Adedoyin, 2010; Chan *et al.*, 2007).

High entrepreneurial self-efficacy of the teachers may also indicate that they are highly confident in improving their instructional content and teaching methods to better match students' learning needs (Tschannen-Moran *et al.*, 1998). High entrepreneurial self-efficacy motivates the teachers to engage in entrepreneurial activities and develop a better understanding of entrepreneurs' real life and improve students' abilities to cope with challenges of a new venture creation (Zhao *et al.*, 2005; Chen *et al.*, 1998). The findings of this study showed that the teachers scored high in coping with unexpected challenges of entrepreneurship. This high efficacy in coping with challenges enables the teachers to improve students' awareness of the inherited difficulties of a new venture creation and develop their skills to successfully overcome the difficulties. In addition, teachers' high efficacy in building an innovative environment empowers them to facilitate students' innovativeness and risk taking (Chen *et al.*, 1998).

CONCLUSIONS

While there is a robust and increasing body of research on teachers' attitude and self-efficacy beliefs in different fields, research on teachers' attitude and self-efficacy in the complex domain of entrepreneurship education is limited. Based on the findings of this study,

it can be concluded that the technical and vocational secondary schools provided sources of information that enhanced the teachers' entrepreneurial attitude and self-efficacy because secondary school teachers mainly build their self-efficacy based on their practices in the classroom. The findings provide a clearer picture of entrepreneurial competence among technical and vocational secondary school teachers.

Examining different dimensions of entrepreneurial attitude and self-efficacy among teachers reveals the strengths and weaknesses of the teachers in each dimension. This may assist entrepreneurship teacher educators to design more purposeful entrepreneurship training and professional development programs for entrepreneurship teachers. To improve teachers' entrepreneurial attitude and self-efficacy, the programs can enhance their awareness of the strengths and weaknesses in each dimension and involve them in learning opportunities based on their strengths and weaknesses. Furthermore, the findings can assist entrepreneurship teachers to analyze their specific tasks and roles in teaching entrepreneurship. Teachers also can benefit from the findings of this study to assess their learning methods for entrepreneurship and improve them in order to better enhance students' entrepreneurial self-efficacy. The findings also contribute new understanding of the pattern of entrepreneurial attitude and self-efficacy among technical and vocational secondary school teachers which may assist school principals to provide the educational environment that the teachers can effectively teach entrepreneurship.

However, more research into the aspects of entrepreneurship teachers' attitude in which the teachers scored moderate or low would be useful to better prepare them for their complex and challenging tasks in teaching entrepreneurship. Furthermore, it would be useful to examine if the high level of entrepreneurial self-efficacy among teachers leads to implementing experiential and innovative entrepreneurship teaching methods. Future research can also specify the sources of information in vocational and technical schools that build teachers' entrepreneurial self-efficacy in order to provide them with more effective entrepreneurship education and training programs. Additionally, future studies can examine whether mastery experiences or actual teaching accomplishment with students is the strongest source of entrepreneurship teachers' teaching efficacy development as for other teachers. Finally, it is of great theoretical and practical value to assess entrepreneurship teachers' self-efficacy through a scale specifically developed for measuring entrepreneurship teaching self-efficacy.

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