

**AN ASSESSMENT TO ANALYZE PRE-SERVICE TEACHERS'
PERCEPTIONS OF TEACHER EFFICACY**

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ABSTRACT

The focus of the study was to analyze pre-service teachers' perceptions of teacher efficacy. A quantitative assessment has been used in a study-involving questionnaire. The questionnaires focused on two constructs: efficacy in general knowledge and skills consisted 16 items and efficacy in diversity and multicultural consisted 9 items. A total of 166 pre-service teachers in Institute of Teacher Education Malaysia, Technical Campus have been selected as a sample in the study. The analysis showed that pre-service teachers demonstrate a high level of teacher efficacy, particularly the use of technology in teaching and relate classroom learning to the real world. Educators in teacher preparation programs need to be aware of the factors associated with increased levels of self-efficacy in order to produce the most capable and dedicated teachers possible.

Keywords: pre-service teacher, teacher efficacy, teacher preparation program,

1. INTRODUCTION

Education plays a central role in the pursuit of economic growth and national development. A primary goal of education is to prepare and to ensure that the students are being equipped with the knowledge and skills to become successful and productive adults. This goal is a fundamental objective of any education system. The teacher is an important factor in determining student achievement, improving schools and the quality of education (Colin, 2008). To improve student achievement and quality of education are depending on the knowledge, skills and commitment of teachers (Burden and Byrd, 2009). Teachers need to continuously update the knowledge and improve the skills to enhance their teaching practices to create a quality teaching. Teachers have a responsibility to the basic teaching functions and develop a supportive and effective teaching and learning in the classroom.

Malaysia Education Development Plan (MEDP) 2013-2025 through the Education Policy Review, which was launched in 2011 by the Ministry of Education to improve the quality of education and provide children and youth needs of the 21st century (Ministry of Education Malaysia, 2012). These changes will necessitate the implementation of strategic support systems to engage students in the learning process. Schools will be able to provide quality teaching, guidance, and support for the students. Quality teaching is the most effective lever available to transform primary and secondary education and deliver improved outcomes for students (Ministry of Education Malaysia, 2012).

To meet the requirements of quality teaching requires all classrooms have a 'highly qualified teacher'. Keeping newly trained teachers in the classroom namely, novice teacher is a tough task and becoming increasingly difficult. Teacher preparation programs require knowledge in content, pedagogical theory and methodology, assessment, technology, diversity, as well as a practicum. Higher demands have been placed on the teacher in the form of increasing high-stakes assessment. Teacher education programs are often blamed for the fact that many teachers are not prepared and not competent for their role as a teacher. The effectiveness of education programs in preparing teachers is an important part of the quality of education, which is worth investigating (Croom, 2009). Teachers believe that education programs that adequately prepare them for teaching influence their performance. Researchers (Goddard, Hoy & Woolfolk Hoy, 2000; Pajares, 1996; Ross, 1998; Tschannen-Moran et al., 1998) through their works found the correlation between

student achievement and the three kinds of efficacy: students' efficacy, teachers' efficacy and schools' efficacy.

Teachers' perceptions of teacher efficacy specifically pre-service teachers was the focus of this study. There is a strong need to study the efficacy of pre-serviceteachers to identify if their preparation is adequate for the demands and challenges of teaching in the classroom today.

2. LITERATURE REVIEW

Over a quarter century ago, Albert Bandura introduced the concept of self-efficacy and defined it as people's belief in his or her own ability to succeed in specific situations (Bandura, 1997). The theory of self-efficacy was based on Bandura's social cognitive theory, which emphasizes the role of observational learning and social experience in the development of personality. Since that time, research in many arenas has demonstrated the power of efficacy perceptions in human learning, performance, and motivation (Woolfolk-Hoy & Spero, 2005). People's efficacy can play a major role in how he or she approaches, goals, tasks, and challenges. People with high self-efficacy who believe they can perform well are more likely to view difficult tasks as something to be mastered rather than something to be avoided. High self-efficacy is a predictor of increased motivation to achieve goals and feeling more comfortable in coping with unfavorable environments (Bandura, 1997).

Lancaster & Bain (2007) and Main & Hammond (2008) as well as Romi & Leyser (2006) through their studies have considered the term 'self-efficacy' to represent teachers' self-efficacy for teaching. Tschannen-Moran & Woolfolk Hoy (2001) defined teaching efficacy as teachers' beliefs in their own abilities to accomplish specific tasks related to teaching. Teachers with a sense of high self-efficacy believe they can accomplish difficult goals and will therefore persevere to achieve them. A teacher's sense of efficacy is consistently recognized as an important attribute of effective teaching and has been positively correlated with teacher and student outcomes (Tschannen-Moran, Woolfolk Hoy, 1998; Cakiroglu, Cakiroglu, & Boone, 2005). Woolfolk Hoy (2004) affirmed this theory in which she found that "self-efficacy beliefs are strong predictors of behavior". How efficacious a person believes him or her to be influences the choice of activities, the amount of effort spent, and the persistence put forth to complete the tasks when confronted with obstacles (Bathia, 2012). Furthermore, how competent a teacher feels in his ability to affect the performance of all students, no matter how difficult or unmotivated those students is influenced by his or her efficacy (Tschannen-Moran, Woolfolk Hoy, 1998). Teachers form beliefs about teaching and the classroom prior to training to become a teacher (Pajares, 1992).

According to Bandura (1997) teaching-efficacy of pre-service teacher began to take shape during their teaching practice. Researchers (Mulholland & Wallace, 2001; Roberts et al., 2006; Stripling, et al., 2008; Woolfolk-Hoy & Spero, 2005) agree with Bandura that the development of the teachers' level of efficacy is experiencing during their student teaching and the induction year. Some of these studies have confirmed that teacher efficacy is highest among pre-service teachers and but this level of efficacy drops, often to a great extent, during the first year of teaching (Durgunoglu & Hughes, 2010; Woolfolk-Hoy & Spero, 2005).

The pre-service teachers' experience or practicum that they have in a teacher preparation program can represent a mastery experience and can be the catalyst to higher feelings of efficacy in the classroom (Usher and Pajares, 2008). High self-efficacy can be a great blessing to a new teacher. Many studies have shown the relation between teacher self-efficacy and success in the classroom. The study of Ross and Bruce (2007) indicated that teachers would gain success in the classroom if they have high self-efficacy. The beliefs of pre-service teachers about their abilities to teach seem to affect how well they internalize the content of teacher education programs which can ultimately influence the success of that program. Mulholland & Wallace (2001) suggested that helping to establish efficacy and a strong belief in person's abilities during the pre-service stages of teacher preparation programs may have more of an impact than waiting until after teachers are already in the classroom. Woolfolk Hoy and Burke Spero (2005) affirmed the importance of helping pre-serviceteachers establish a sense of personal efficacy for teaching early on during the pre-service program and during practicum. High feelings of preparedness and efficacy to teach are vital for beginning teachers to be successful in the classroom. During teacher education programs, pre-service teachers have been shaped by the experiences they went through and these experiences are significant with lasting effects.

Many pre-service teachers earned good grades, demonstrating they are meeting the expectations of the teacher preparation programs. However, a passing grade is not a true indicator of a teacher's teacher efficacy. To instill efficacy, they must undergo the actual activities and experiences in the program. Teacher education programs that provide meaningful opportunities for instruction, modeling, and feedback will also produce teachers with high levels of self-efficacy (Darling-Hammond, 2006). The study of Ross and Bruce (2007) has indicated that program experiences within teacher preparation programs can have a strong influence on pre-service teachers' self-efficacy. These studies suggested that the way of structuring teacher preparation programs could lead to increase teacher efficacy in pre-service teachers.

Discussion on teacher efficacy, the topics of diversity and multicultural of the students should be taken into consideration. Teachers have a professional responsibility to prepare for the diversity and multicultural of students in their classrooms. Teachers should strive for cultural competence by incorporating culturally responsive educational strategies to affect student achievement positively (Ford & Whiting, 2007). The goal relies on teachers' perceptions of diversity and their ability to instruct culturally diverse students that needs a concern of educators in teacher preparation and practice. Educators in teacher preparation programs have a responsibility to prepare prospectiveteacher to become culturally sensitive by teaching classroom behaviors that support diversity and multiculturalism, by reflecting on perceptions, and by using pedagogical techniques that leading to a shift in values (Haberman, 1991).

3. Methodology

This study involved 166 of final year pre-service teachers in Institute of Teacher Education Malaysia, Technical Campus as respondents. One reason of choosing this group was for predicting their preparedness just before they are entering into the real world of teaching.

The data for the research were accumulated by using two subscale of Utah Teacher Efficacy Scale (UTES) developed by Clarks (2009) to explore the pre-service teachers' perception of their

teacher efficacy. The questionnaires consisted of 24 items with the following two subscale: efficacy in general knowledge and skills, and efficacy in diversity and multicultural. Respondents were asked to read each statement and then respond to each one on a Likert-scale. The Likert-scale included five points ranging from 1 (strongly agree) through to 5 (strongly disagree).

The study utilized both descriptive and inferential statistics using SPSS for Windows version 17 to analyze the data to answer the study objectives. Overall teacher efficacy scores were determined by the mean of all 24 items in the instrument. Mean score will be categorized as high level of efficacy (3.8 – 5.00), moderate level of efficacy (2.4 – 3.7) and low level of efficacy (1.00 – 2.3). One-way ANOVA and Mann-Whitney Test were used to determine whether significant different score mean occurred between respondents' specialization and gender respectively

4. FINDINGS

The Utah Teacher Efficacy Scale (UTES) for pre-service teacher originally had 5 forms, 15-item general knowledge and skills, 9-item diversity and multicultural perspectives, 13-item reading, 10-item mathematics and 10-item assessment, but the 15-item general knowledge and skills and 9-item diversity and cultural perspectives of UTES were used in this study. The reliability for the 15-item scale was 0.93 and for the 9-item scale was 0.94 in the original UTES. The reliability of adapting UTES used in this study, as it referred to pre-service teachers' self-efficacy beliefs about teaching knowledge and skills; and diversity and multicultural perspectives were $\alpha = 0.87$ and $\alpha = 0.92$ respectively. The results of Cronbach's alpha reliability coefficients (Nunnally, 1978) of this study demonstrated an adequate level of reliability and indicated a high level of internal consistency among the items of UTES. The general knowledge and skills sub-scale score for pre-service teachers (N=166) had a scale mean of 65.40, a standard deviation of 5.77, and a range of 15-75 points. The diversity and multicultural perspective sub-scale score of pre-service teachers (N=166) had a scale mean of 37.60, a standard deviation of 5.19, and a range of 9-45 points.

Hundred and sixty-six pre-service teachers completed the survey. The participants were primarily females (97) and males (69) and all were being certified for the elementary grades with a specialization in Science (39), Mathematics (31), Technology & Design (56) and Remedial Malay Lesson (40).

Descriptively pre-service teachers indicated high level of efficacy in regards to their general teaching knowledge and skills with an overall item mean of 4.34. On average, the pre-service teachers felt most confident in their abilities to teach basic knowledge and skills (M=4.55, SD=0.63); to use educational technology in teaching (M=4.53, SD=0.61); and to relate classroom learning to the real world (M=4.46, SD=0.65). Pre-service teachers felt less confident in their abilities to maintain an orderly, purposeful learning environment (M=4.19, SD=0.68); to integrate subject matter knowledge, knowledge of learning and student development, and curriculum to plan effective lessons (M=4.19, SD=0.68); and to use the standard curriculum and performance standards to plan instruction (M=4.20, SD=0.69) (Table 1).

In regards to efficacy related to diversity and multicultural perspectives, pre-service teachers reported high level of efficacy. The overall item mean was 4.18. The study showed that the pre-service teachers felt more prepared to teach in ways that support students learning Malay Language

($M=4.48$, $SD=0.64$); to encourage students to see, question, and interpret ideas from diverse perspectives ($M=4.33$, $SD=0.70$); and to help parents and families to better support their child's learning ($M=4.19$, $SD=0.70$). Pre-service teachers felt less prepared to use community resources to create a multicultural curriculum ($M=3.95$, $SD=0.81$); to develop a curriculum that includes the perspectives, experiences, and contributions of different cultural groups ($M=4.01$, $SD=0.80$); and to use knowledge about linguistic differences to create learning opportunities for students ($M=4.14$, $SD=0.76$) (Table 2).

Further, the study dealt with analyzing the differences among Science, Mathematics, Technology & Design and Remedial Malay Lesson pre-service teachers' perceptions of their general knowledge and skills; and diversity and multicultural perspectives. The ANOVA was used to investigate the differences across all the specialization. The results showed no differences in the overall teaching efficacy in general knowledge and skills across specialization [$F(3,162)=2.17$, $p>0.05$] (Table 3).

There was a significant difference nevertheless, in teaching efficacy in diversity and multicultural across specialization [$F(3,162)=2.92$, $p<0.05$]. Pre-service teacher specialized in Science exhibited significantly better teaching efficacy in diversity and multicultural perspectives as opposed to their counterparts. However, the magnitude of the differences in the means based on Cohen's d , the effect size was small ($\eta^2 = 0.05$) (Table 4).

Results from the independent samples Mann-Whitney Test found no significant differences in teaching efficacy in general knowledge and skills between male ($M=78.62$) and female ($M=86.97$) pre-service teachers at $p>0.05$ ($z = -1.105$, $p=0.269$). The same test also showed no significant differences in teaching efficacy in diversity and multicultural perspectives between male ($M=77.99$) and female ($M=87.42$) pre-service teachers at $p > 0.05$ ($z = -1.251$, $p=0.211 > 0.05$) (Table 5).

5.0 DISCUSSIONS AND CONCLUSION

Results from the current study have highlighted the level of teacher efficacy in general knowledge and skills; and diversity and multicultural perspectives among pre-service teachers in Institute of Teacher Education Malaysia, Technical Campus was remarkably high. The results suggested an agreement with previous study by Clark (2009). In previous years, studies examining the efficacy of teacher education graduates found that pre-service teachers' teacher efficacy are generally satisfactory (Darling-Hammond, 2006; Helfrich, 2007; Shaw et al., 2007). The current study supports the findings of these more recent studies.

The current study also indicated that pre-service teachers regardless of their specialization have higher feelings of teacher efficacy in general knowledge and skills. Although, the pre-service teacher specializing in Science reported statistically differ on teacher efficacy in diversity and multicultural perspectives as opposed to their counterparts, but the difference was small. This findings consistent with work by Syed Abdullah et. Al. (2011) that pre-service teachers tend to feel positive about their teaching experiences. Most of the pre-service teachers understand that they were capable of their own actions, therefore, believe strongly in their abilities in influencing learning as reported by Bourdoncle and Robert (2000).

As mentioned earlier gender was found systematically not related to the teacher efficacy of the participating pre-service teachers. This indicated that both male and female pre-service teachers have strong beliefs about teaching efficacy in general knowledge and skills; and on teacher efficacy in diversity and multicultural perspectives, thus they have developed the confidence in their ability to influence their students' learning. This finding was consistent with other research confirming that gender variable has not been significant predictors of the teacher efficacy (Tschannen-Moran & Woolfolk Hoy, 2007).

In reporting pre-service teachers' beliefs of teacher efficacy in general knowledge and skills, they reported the highest mean for item related to teaching basic knowledge and skills and lowest mean for an item related to maintaining an orderly, purposeful learning environment. As pre-service teachers take their college learning into the classroom, they need to link the theory to the practice. This practice requires that the pre-service teacher has knowledge of the syllabus and the aims of teaching in order to facilitate purposeful learning within the education system requirements (Hudson, 2007).

In reporting their beliefs of teacher efficacy on diversity and multicultural perspectives, pre-service teachers reported the highest mean for item related to teach in ways that support students learning Malay Language and lowest mean for item related to use community resources to create a multicultural curriculum. This finding suggested that there was an emphasizing need for pre-service teachers to receive more exposure and experience in using community resources to create a multicultural curriculum. Thus, teacher educators need to consider all sources of information that influence prospective teachers' efficacy beliefs, if prospective teachers' efficacy is to be enhanced during teacher education programs.

To develop high levels of prospective teachers' efficacy, teacher education programs should provide positive information from vicarious experience and a form of mastery experience offered by all parties involved in teacher preparation programs. Instead, a deep understanding of the influences on teacher efficacy is needed. In order to have a quality of teaching, all parties, particularly educators and teacher preparation programs need to be aware of the factors associated with increased levels of teacher efficacy.

The findings, discussion, and conclusions presented in this study produce several interesting questions that need further investigation. In other populations are pre-service teachers feeling high efficacy on efficacy in general knowledge and skills; and on efficacy in diversity and multicultural perspectives? Are there differences in abilities and efficacy in two sub-scale used in this study? If teaching efficacy were measured using others teacher efficacy scales or variables would similar results be observed?

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APPENDICES

Table 1: Efficacy in General Knowledge and Skills

Item	Percentage					Mean	SD
	Not at all	Poorly	Adequately	Well	Very well		
1 Improve the academic performance of challenging or unmotivated students	0.0	0.0	3.6	71.7	24.7	4.21	0.49
2 Tailor teaching and curriculum to individual students' needs.	0.0	0.0	4.2	60.2	35.5	4.31	0.55
3 Develop curriculum that builds on students' experiences, interests, and abilities.	0.6	0.6	5.4	53.6	39.8	4.31	0.69
4 Relate classroom learning to the real world.	0.6	0.0	2.4	45.8	51.2	4.46	0.65
5 Use educational technology in instruction	0.0	0.6	4.2	36.7	58.4	4.53	0.61
6 Choose different teaching strategies to meet the needs of different ability levels of students.	0.0	1.2	6.6	57.2	34.9	4.26	0.63
7 Maintain an orderly, purposeful learning environment.	0.6	0.0	9.0	59.6	30.7	4.19	0.68
8 Engage students in cooperative group work.	0.6	0.0	3.0	44.6	51.8	4.46	0.66
9 Integrate subject matter knowledge, knowledge of learning and student development, and curriculum to plan effective lessons.	0.6	0.6	7.8	60.8	35.5	4.19	0.68
10 Create learning experiences that make the central concepts of the subject matter meaningful to students.	0.6	0.0	3.0	60.8	35.5	4.30	0.63
11 Use the standard curriculum and performance standards to plan instruction.	0.6	0.6	7.8	59.6	31.3	4.20	0.69
12 Motivate students to participate in academic tasks.	0.6	0.0	1.2	50.6	44.0	4.37	0.67
13 I am prepared to teach basic knowledge and skills.	0.6	0.0	1.2	39.2	59.0	4.55	0.63
14 Refer students for special assistance when appropriate	0.6	1.2	5.4	42.8	50.0	4.40	0.74
15 Prepare students to be engaged citizens in a democracy.	0.6	0.6	8.4	48.8	41.6	4.30	0.73

Table 2: Efficacy in Diversity and Multicultural

Item	Percentage					Mean	SD
	Not at all	Poorly	Adequately	Well	Very well		
1 Help parents and families to better support their child's learning.	0.6	0.6	8.4	59.0	31.3	4.19	0.70
2 Implement strategies to help students from different cultures interact positively with each other.	0.0	0.6	12.0	54.8	32.5	4.18	0.72
3 Use community resources (e.g., library, museum, art center) to create a multicultural curriculum.	0.6	1.8	23.5	49.4	24.7	3.95	0.81
4 Work with parents and families to help me understand students and support their learning.	0.0	0.6	15.7	48.8	34.9	4.17	0.76
5 Develop a curriculum that includes the perspectives, experiences, and contributions of different cultural groups.	1.2	2.4	14.5	57.8	24.1	4.01	0.80
6 Teach in ways that support students learning Malay Language	0.0	0.6	1.8	45.2	52.4	4.48	0.64
7 Address the needs of students from diverse cultural backgrounds.	0.6	0.6	14.5	51.2	33.1	4.15	0.76
8 Encourage students to see, question, and interpret ideas from diverse perspectives.	0.0	0.6	7.2	49.4	42.8	4.33	0.70
9 Use knowledge about linguistic differences to create learning opportunities for students.	1.2	0.6	10.8	56.6	30.7	4.14	0.76

Table 3: ANOVA Test -General Knowledge and Skills Across Specialization

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.39	3	0.47	2.17	0.09
Within Groups	34.76	162	0.22		
Total	36.19	165			

Table 4: ANOVA Test – Diversity and Multicultural Perspectives Across Specialization

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.81	3	0.94	2.92	0.04
Within Groups	52.14	162	0.32		
Total	54.96	165			

Table 5: Mann-Whitney Test - General Knowledge and Skills
Diversity and Multicultural Perspectives Among Gender

	General Knowledge and Skills	Diversity and Multicultural Perspectives
Mann-Whitney U	3010.000	2966.000
Wilcoxon W	5425.000	5381.000
Z	-1.105	-1.251
Asymp. Sig. (2-tailed)	.269	.211