

# **Pre-service Teachers' Self-efficacy: Improving Teacher Effectiveness in Inclusive Classrooms**

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## **Abstract**

*Pre-service teachers' self-efficacy is an important factor that can predict their actual performance in real classroom situation. More specifically, it has been reported in a wide body of research that pre-service teacher trainees who possess a high level of self-efficacy for inclusive education tend to show more positive attitudes and take more initiatives to minimize challenges in an inclusive classroom. This paper aims to discuss critically the origin of the self-efficacy construct, what research claims about pre-service teachers' self-efficacy for inclusive education, the current scenario of pre-service teachers' self-efficacy for inclusive education in Bangladesh and implications for professional preparation for inclusive education of pre-service teachers who possess self-efficacy attributes..*

## **1. Introduction**

Since Salamanca Declaration (UNESCO, 1994), the world has gone through a number of reforms regarding inclusive education around the world aiming to make education systems welcoming for all learners for achieving the Education For All (EFA). As a result of this, schools are now welcoming diverse learners irrespective of their race, gender, class, religion, ethnicity, socio-economic conditions and disability. Consequently, teachers are now facing more challenges in inclusive classrooms to meet the learning needs of all learners. An OECD (2005) study has confirmed that teacher quality is the single most important factor for ensuring students' achievement. Therefore, for meeting the learning needs of all learners in an inclusive classroom, teachers have to be prepared adequately. It has also been recommended by a wide range of studies that the period of pre-service teacher education is the best time to ensure their preparedness for inclusive classrooms. Research studies have confirmed that pre-service teachers self-efficacy for inclusive education is an important predictor of how teachers will perform in real classroom situations. This paper introduces and critically discusses the issue of pre-service teachers' self-efficacy for inclusive classrooms.

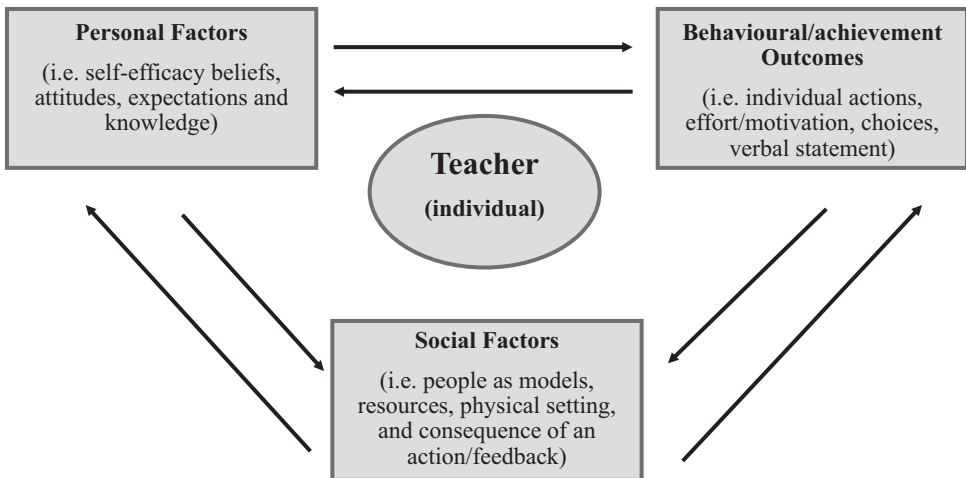
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## 2. Social cognitive theory: The origin of self-efficacy

The self-efficacy concept is derived from the Albert Bandura's (1997) *Social Cognitive Theory*. This theory is a refined version of Bandura's Social Learning Theory, which emphasized observation, modeling and vicarious reinforcement as the key factors of human learning (Woolfolk, 2007). Later on Bandura gave more importance to cognitive factors for learning such as, expectations, beliefs and social influences of models (Woolfolk, 2007). According to social cognitive theory, personal factors (i.e. beliefs, attitudes, expectations and knowledge); social environmental factors (i.e. people as models, resources, physical setting, and consequence of an action/feedback); and individual behavioural/achievement outcomes (i.e. individual actions, effort/motivation, choices, verbal statement) interact and influence each other in the learning process. Bandura calls this process reciprocal determinism (Bandura, 1997; Tuckman, 1992; A. Woolfolk, 2007), see Figure 1 adapted from Bandura (1997, p 6).

It has been found that three factors of reciprocal determinism influence a person's development as well as they are influenced by each other. Among these three factors of the reciprocal determinism in social cognitive process of learning, Bandura gave further importance to one personal belief factor that has a tremendous influence on peoples' behaviour in different social contexts, which he named Self-efficacy (Tuckman, 1992, p. 279; Woolfolk, 2007).



**Figure1:** Reciprocal determinism-factors that influence learning process adapted from Bandura (1997, p. 6)

Bandura (1997) suggests that if people don't believe that they can generate a desired effect through their acts, they will not get enough motivation to conduct the act. Therefore, self-efficacy belief can be considered as a driving force to human actions. Bandura (1997) defines self-efficacy as:

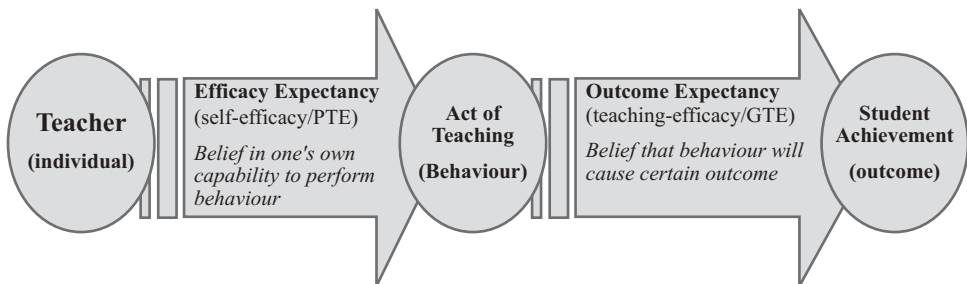
...beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments (p. 3).

Self-efficacy is distinct in its notion from self-concept and self-esteem. Self-efficacy is considerably context and task specific, whereas self-concept is a much broader concept that emerges inside an individual on the basis of judgment of internal and external factors and develops a perception of self. Self-efficacy is a part of the development of self-concept (Tuckman, 1992; Woolfolk, 2007). Self-efficacy has a more direct impact on behaviour than the self-concept (Bandura, 1997). On the other hand, there is no direct relationship of self-efficacy with self-esteem as self-efficacy is concerned with self-abilities and self-esteem is based on the judgment of self-worth (Tuckman, 1992; Woolfolk, 2007). Therefore, one can have high self-efficacy in one aspect, but may not have high self-esteem in his/her everyday life.

Teachers' self-efficacy can be defined as the teachers' own belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific task in a particular context (Tschannen-Moran, Hoy, & Hoy, 1998: 233). According to Bandura (1997) any person's (i.e. a teacher's) self-efficacy belief is dependent on four sources of information: mastery experience/performance accomplishment, vicarious experience; verbal persuasion and physical and emotional arousal. *Mastery experience* refers to how success/failure in previous task that contributes to increase/decrease respectively the belief on specific capabilities (Bandura, 1997; Carpenter et al., 2005; Henson, 2001) *Vicarious experience* refers to the scope of observing other peoples'/models performance to imitate those for developing own self-efficacy (Bandura, 1997; Carpenter et al., 2005; Henson, 2001). It provides opportunity to conduct social comparison of a success/failure of others and builds in us the belief of choosing the right strategy for self. *Verbal persuasion* means influence of verbal feedback from others (Bandura, 1997; Carpenter et al., 2005; Henson, 2001). For example, good mentors help to build up confidence through providing constructive feedback. Lastly, *physical and emotional arousal* means the comfort and wellbeing feelings both physically and emotionally for performing a task successfully (Bandura, 1997; Carpenter et al., 2005; Henson, 2001). This includes physical and emotional status of a person such as, stress, anxiety, rapid heart-beat, nervousness that often act as a challenge to a person and the person needs proficiency to overcome such conditions (Tuckman, 1992; Woolfolk, 2007). All four of these components can be carefully embedded in the pre-service teacher education courses for developing teachers' self-efficacy (Lancaster & Bain, 2007).

### 3. Measuring self-efficacy

Different scales have been developed to measure teachers' self-efficacy. The history of efficacy measurement shows that it is normally measured by 5-9 point likert scale in a quantitative manner (Tschannen-Moran et al., 1998). These scales generally covers information on two factors-- General Teaching Efficacy (GTE), which deals with information on the belief of teachers' ability to achieve control over the environment for the desired outcome, and secondly, Personal Teaching Efficacy (PTE), which is the belief of teachers that he or she has the skill to influence students' performance and learning (Romi & Leyser, 2006; Tschannen-Moran et al., 1998). These two items actually reflect two concepts of Bandura's social cognitive theory. GTE reflects the outcome efficacy and PTE replicates self-efficacy (Tschannen-Moran et al., 1998). Bandura differentiated the efficacy expectancy from the outcome expectancy as efficacy expectancy is belief in one's capability to perform a behaviour and it creates the expected behaviour; whereas, outcome expectation is the belief that outcome is caused by the behaviour that occurred (Tuckman, 1992), See Figure 2 *adapted from Bandura (1977, p 193)*. Significantly, these two concepts are related to one another.



**Figure 2:** *The difference between efficacy expectancy and outcome expectancy of a teacher adapted from Bandura (1977).*

### 4. Importance of teachers' self-efficacy

Evidence shows that teachers' self efficacy has an impact on students' academic achievement (Woolfolk, 2007). Change in the level of self-efficacy belief also changes teachers' performance (Woolfolk, 2007). Hargreaves (1988) noted, "Changing the teacher... involves changing the person... and, therefore, changing the life". Pre-service teacher education is considered as an important stage to change teachers' beliefs and attitudes. Therefore, pre-service teachers' self-efficacy has received considerable attention from current educational researchers. Yet not many research studies have been conducted in this area. A brief review of the literature reveals that pre-service teachers showed the evidence of low self-efficacy if they were exposed to traditional teaching learning environments such as rigid classroom environments, and the use of too much reward and punishment based learning (Cakiroglu, 2008; Tschannen-Moran et al., 1998) On the other hand, research of Saklofske et al. (1988)

on pre-service practicum teachers found that teachers who had reported high self-efficacy were successful in the classroom management, lesson preparation and behaviour management issues in classroom (cited in Tschannen-Moran et al., 1998).

Further research reveals that teachers with high self-efficacy have shown proof of applying effective teaching-learning strategies, flexible assessment strategies, peer tutoring and successful classroom management strategies (Martinez, 2003; Paneque & Barbetta, 2006). In contrast, pre-service teachers who did not have proper training and experience to deal with children in a diversified educational needs environment showed poor confidence in classroom management, providing individual support and offering educational accommodation (Martinez, 2003). Besides, pre-service teachers' efficacy belief increased when they had direct field level experience during their pre-service course (Liaw, 2008). Cakiroglu (2008) found that pre-service teachers have a preconceived belief in the teaching-learning process that they experienced during their school age and therefore, teacher educators have to face the challenge of bringing them out of that preconceived mindset.

Teachers who have a high level of self-efficacy generally show positive attitudes towards inclusive education (Martinez, 2003). Teacher self-efficacy also has an impact on the teachers' behavioural characteristics towards taking initiatives, decision making, keeping patience in the challenging environment and also improving students' motivation, as a consequence of which students turn into high achievers (Paneque & Barbetta, 2006). Pre-service teachers' self-efficacy is very important for effective teaching, positive attitudes and self-confidence development. Many factors can influence pre-service teachers' self efficacy. Therefore, it is important to find out the factors that can affect the positive development of pre-service teachers' self-efficacy for inclusive education.

### **5. Pre-service teachers' self-efficacy for inclusive education**

Teachers' self-efficacy regarding inclusive education has a significant impact on the successful implementation of the philosophy of inclusion (Liaw, 2008; Moeller & Ishii-Jordan, 1996; Paneque & Barbetta, 2006). However, various factors and contexts can affect teachers' self-efficacy development. There are some factors that have a direct impact on the development of positive self-efficacy belief of regular teachers regarding dealing with children with special needs in the inclusive classroom. Teachers' self-efficacy is found to be related to specific contextual factors, subject matter factors and student diversity (Tschannen-Moran et al., 1998). One teacher can be highly self efficacious with one group of students in teaching a particular subject, but can be very low in self-efficacy in teaching another subject to the same group or teaching the same subject to another group of students. Therefore, teachers' self-efficacy is not a constant and very much context based, situation specific and human diversity oriented.

This nature of teachers' self-efficacy makes the concept dependent on different personal and social factors or event-related variables. This attribute of teachers' self-efficacy provides a

better understanding of the reciprocal determinism process of a teacher through evaluating personal, social and feedback factors, which has been mentioned in Bandura's social cognitive theory (Tuckman, 1992; Woolfolk, 2007). The next section (Table 2) presents a brief review of the literature that explores the variables that effect pre-service teachers' self-efficacy. For this research purpose, four broad categories have been selected to describe variables that are related to pre-service teachers' self-efficacy for inclusive education. These categories of variables are: teacher-related, inclusive/special education related course, experience with children with special needs and course structure-related variables.

**Table 2: Variables that affect pre-service teachers' self-efficacy for inclusive education**

<b>Teacher-related variables</b>	Gender	Woodcock, 2008	Female pre-service teachers in Australia got higher scores in both GTE and PTE scales than the male teachers.
		Romi and Leyser, 2006	Israeli female pre-service teachers showed high self-efficacy towards inclusive education than the male pre-service teachers.
		Cakiroglu, 2008	Gender was not a significant factor for high/low self-efficacy in the USA and Turkey
	Age	Weisel and Dror, 2006	Younger teachers' self-efficacy toward children with special needs is much more positive than the older teachers.
	Grade level of joining	Bender, Vail and Scott, 1995	Teachers in different districts of Georgia who were teaching in the higher grades were more negative than the teachers of lower grades towards mainstreaming.
		Moeller & Ishii-Jordan, 1996	Senior grade school teachers show more positive attitude towards inclusion than junior/primary school teachers
	Teaching Experience	Liaw, 2008	Teachers who had higher levels of educational qualification showed less positive tolerance towards inclusion.
		Carpenter et al., 2005; Liaw, 2008; Paneque & Barbetta, 2006; Romi & Leyser, 2006	The most experienced teachers had shown less tolerance to the changes related to inclusive education and children with special needs

<p>► <b>Experience with children with special needs</b></p>	<p>Experience in teaching and/or of having disability in the family/ relatives</p>	<p>Romi and Leyser, 2006</p>	<p>Significant difference was found in the self-efficacy of pre-service teachers in Israel who had much experience in dealing with children with special needs previously in comparison with those who had little or no experience at all.</p>
		<p>Woodcock, 2008</p>	<p>No significant difference was found in either GTE or PTE between pre-service teachers who had or did not have previous experience with children with learning disabilities.</p>
		<p>Liaw, 2008; Moeller &amp; Ishii-Jordan, 1996</p>	<p>If teachers had past experiences (like teaching a child with a disability before or having a child with a disability in the family or among the relative circle) in dealing with children with special needs they showed evidence of positive self-efficacy</p>

**Table 2: (Cont.) Variables that affect pre-service teachers' self-efficacy for inclusive education**

Variable type	Focal Issue	Reference	Key findings
<p>Inclusive/ special education related course</p>	<p>Curriculum content</p>	<p>Romi and Leyser, 2006</p>	<p>Study conducted on 3 groups of Israeli teachers shows that the group who were in the special education major had significantly higher level of self-efficacy than the non-formal and formal education major groups.</p>
		<p>Woodcock, 2008</p>	<p>Australian pre-service teachers who completed the compulsory course on inclusive education showed significantly higher levels of efficacy than the other group who did not complete.</p>
		<p>Kim, 2006</p>	<p>Teachers from the unified model structures showed higher self-efficacy than the segregated and regular curriculum major groups.</p>

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Variable type	Focal Issue	Reference	Key findings
	Experience of diversity focused classroom during practicum	Knoblauch and Hoy, 2007	Study on 102 primary level pre-service teachers in the USA through a pre and post test design show that post-test scores of self-efficacy in the pre-service teachers after their practicum experience was much higher than the pre-test scores.
		Lancaster and Bain, 2007; Paneque and Barbeta, 2006	Inclusion of field level experience of inclusive settings during practicum increases pre-service teachers' confidence
		Campbell & Fyfe, 1995; Graham & Thornley, 2000	Practicum offers a scope for student-teachers to apply perceived ability, skills and knowledge gained in the teacher preparation program
<b>Course structure-related variables</b>	Length of the course	Moeller and Ishii-Jordan, 1996	Teachers who had gone through a longer teacher education courses showed more acceptance of children with diverse needs.

It is clear from the research findings mentioned above that developing a simple conclusion about the impact of different variables on pre-service teachers' self-efficacy for inclusive education is not possible. Therefore, further research on this issue is required.

## 6. Bangladeshi pre-service teachers' self-efficacy for inclusive education

Bangladesh, like many other countries, has taken several policy as well as reform initiatives for implementing inclusive education (Ahsan, 2013; Ahsan & Burnip, 2007; Ahsan & Mullick, 2013). Those initiatives include several reforms to ensure pre-service teachers' preparedness for inclusive education. While there is a large body of research conducted in developed countries regarding pre-service teachers' self-efficacy for inclusive education, there are a few studies available in Bangladeshi context that explored pre-service teachers' self-efficacy for inclusive education.

A recent study conducted by Ahsan, Sharma & Deppeler (2012) with 1623 pre-service teachers in Bangladesh reported that Bangladeshi pre-service teachers possess a high level of self-efficacy for inclusive education. The study used the *Teacher Efficacy for Inclusive Practice (TEIP)* scale (Sharma, Loreman & Forlin, 2011) for measuring pre-service teachers' self-efficacy for inclusive education. This study was conducted with primary level



pre-service teachers who were enrolled in C-in-Ed programs and with secondary level pre-service teachers who were enrolled in 1-year B.Ed programmes offered by the Teachers' Training Colleges (TTCs) and 4-year B.Ed Programmes offered by several universities. The study further found that pre-service teachers who had previous experience with children with disabilities and had interaction with people with disabilities showed higher teaching-efficacy than those who did not have. Besides, the study also found that having knowledge of local legislations regarding inclusive education contributed in developing higher self-efficacy among pre-service teachers.

The study of Ahsan et al. (2012) found that three results from his study are in sharp contrast to the popular research findings around the globe. Those three results were: a) secondary level pre-service teachers had higher self-efficacy than primary level counterparts; b) female pre-service teachers had lower self-efficacy than male counterparts and c) pre-service teachers of 1-year long programme had higher self-efficacy than those who were in 4-year long programme.

To explore the reasons behind the contrasting results, another study was conducted by Ahsan, Deppeler and Sharma (2013), which reported that quality of curriculum, background education of teacher educators, pre-service teachers' age and previous education contributed to differing results found in primary-secondary pre-service teachers and also those in 1-year and 4-year programmes. Regarding gender and self-efficacy it was found that male-dominating Bangladeshi socio-cultural context contributed to developing lower self-efficacy among female pre-service teachers than in their male counterparts. Findings of these studies also indicate that several demographic variables as well as specific socio-cultural context contribute to developing self-efficacy for inclusive education among pre-service teachers in Bangladesh as it was observed in Bandura (1997)'s Social Cognitive Theory and in other international literature mentioned previously. All these finding have several policy implications for promoting pre-service teachers' higher self-efficacy for inclusive education. The next section discusses the issue in brief.

## **7. Discussion and Conclusion**

Pre-service teachers' self-efficacy for inclusive education has the potential to predict their preparedness for inclusive classrooms. It has been observed in the international literature that several teacher-related, teacher education course-related and other demographic variables contribute to predicting pre-service teachers' self-efficacy for inclusive education. Those observations are also applicable for the Bangladeshi contexts. If the research findings related to the effect of variables are considered seriously, pre-service teachers will be better prepared with higher self-efficacy for inclusive education. For example, in the Bangladesh (Ahsan et al., 2012) context, it was found that pre-service teachers who had interaction and experience with children with disabilities previously showed higher self-efficacy for inclusive education. Therefore, if pre-service teacher education programmes offer

opportunities to deal with children with disabilities during teachers' preparedness stage, they will be better prepared for inclusive classrooms.

It was also found in the Bangladesh context that knowledge about local legislations regarding inclusive education developed higher self-efficacy among pre-service teachers. Hence, pre-service teacher education curriculums must include this information while revising it for ensuring inclusive education. In addition, it is also a thought-provoking finding that quality of teacher education curriculum is more important than the length of the curriculum. If the policy makers and curriculum developers consider revising policies and pre-service teacher education programmes from the self-efficacy development perspective, it will definitely provide opportunity for future teachers to be prepared for the inclusive classrooms more confidently.

Commitment, wisdom and motivation to bringing innovation are expected from the key people to ensure such quality in the pre-service teacher education programmes. As Bill Gates said:

“Humanity’s greatest advances are not in its discoveries, but in how those discoveries are applied to reduce inequity.” --Bill Gates in the Harvard University Speech 2007 (Gates 2007).

Indeed human beings become the best creation of the universe when they employ their wisdom for removing inequalities in society. This is an aphorism all concerned with inclusive education must keep in mind.

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