

## **Construction and standardization of a self-efficacy scale for b.ed. Special teacher-trainees: empowering tomorrow's inclusive educators**

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### **ABSTRACT-**

This article embarks on a compelling journey of developing and standardizing a comprehensive Self-Efficacy Scale exclusively designed for B.Ed. special teacher-trainees. By shedding light on the key steps involved in its construction, validation, and standardization, this scale aims to empower tomorrow's inclusive educators with the confidence and competence needed to create meaningful educational experiences for all learners.

The various sections delved into the systematic approach undertaken to construct the Self-Efficacy Scale for B.Ed. special teacher-trainees. It has explored the theoretical underpinnings guiding the scale's development, the rigorous process of item generation, and the validation procedures employed to ensure its reliability and validity. Moreover, the article has discussed the potential implications of implementing this scale in teacher training programs, highlighting how it can contribute to the enhancement of inclusive education practices and ultimately benefit students with special needs.

As we progress further into the article, it becomes evident that by equipping teacher-trainees with a validated tool to assess and enhance their self-efficacy beliefs, we take a significant step toward creating a more inclusive and equitable educational landscape. This not only strengthens the confidence of the educators but also empowers them to make a lasting positive impact on the lives of the students they will serve throughout their careers.

**Key Words:** Self-Efficacy, Self-Efficacy of Special Educators, Measurement of Self-Efficacy, Children with Special Needs (CWSN), Hearing Impaired (HI), Intellectual Disability (ID), Learning Disabilities (LD), Visual Disorder (VD).

### **INTRODUCTION-**

In the realm of education, fostering inclusive learning environments has emerged as a critical goal to ensure that every student, regardless of their abilities, receives a quality education and reaches their full potential (Hayes & Bula, 2017). One pivotal factor in the success of inclusive education lies in the competence and confidence of teachers. Among the various psychological constructs influencing educators' performance, self-efficacy stands out as a powerful determinant of teaching effectiveness and student outcomes (Sharma, Soka, Wang, & Loreman, 2021).

Self-efficacy, a concept pioneered by renowned psychologist Albert Bandura, refers to an individual's belief in their ability to perform specific tasks and achieve desired outcomes successfully (Bandura, 1977). For aspiring special education teachers pursuing a Bachelor of Education (B.Ed.) degree, possessing a high level of self-efficacy is essential as they navigate the complex and diverse learning needs of students with special needs (Pont, Nusche, & Moorman, 2021).

Recognizing the significance of self-efficacy in shaping the behavior and performance of teachers, researchers, and educators have sought to develop and standardize self-efficacy scales specifically tailored for different teaching contexts (Barni, Danioni, & Benevene, 2019). However, despite the vast body of research on self-efficacy in general education settings, there remains a dearth of specialized scales focusing on the unique challenges and requirements of special teacher-trainees in inclusive classrooms (Malinen, Savolainen, & Xu, 2012).

### **THE NEED, PURPOSE, AND SIGNIFICANCE THE STUDY-**

The construction and standardization of a Self-Efficacy Scale for B.Ed. special teacher-trainees concerning serve several essential needs, and purposes, and carry significant implications for the field of special education

#### ➤ **Addressing the Specific Challenges Of Special Education-**

The diverse nature of disabilities presents unique challenges in the educational context. By developing a specialized self-efficacy scale, educators can gain insights into their specific areas of strengths and potential areas of improvement, leading to targeted professional development and effective support strategies for students with varying needs.

#### ➤ **Enhancing Teacher Preparation and Training-**

Teacher preparation programs must equip future educators with the competence and confidence to handle the complexities of inclusive classrooms. The self-efficacy scale facilitates the identification of teacher-trainees self-perceived abilities to work with students with disabilities. This knowledge can inform tailored training initiatives, enabling teachers to develop appropriate instructional methods, behavior management techniques, and individualized support plans.

#### ➤ **Promoting Inclusive Education Practices-**

Self-efficacy beliefs strongly influence teachers' instructional choices and persistence in the face of challenges. By bolstering the self-efficacy of special teacher-trainees, the scale can motivate them to adopt inclusive practices, accommodate diverse learning needs, and create supportive learning environments where every student can thrive academically and socially.

#### ➤ **Assessing Teacher Effectiveness-**

An effective self-efficacy scale provides a robust framework for evaluating the overall effectiveness of special teacher-trainees. By self-assessing their beliefs, educators can gain a clearer understanding of their potential impact on students with disabilities, allowing for continuous improvement and growth in their teaching practices.

#### ➤ **Tailoring Professional Development-**

Teacher development is an ongoing process, especially in the dynamic field of special education. The scale's results can guide the design of targeted professional development programs that address specific areas of concern, leading to more confident and competent special educators.

#### ➤ **Supporting Research and Policy Initiatives-**

A validated self-efficacy scale contributes to the research efforts within the realm of special education. It can generate valuable data on the self-efficacy beliefs of teacher-trainees, leading to a better understanding of the factors influencing effective teaching in inclusive classrooms. Policymakers can also utilize this data to make informed decisions regarding teacher training programs and the allocation of resources in the field of special education.

➤ **Improving Student Outcomes-**

Teacher self-efficacy has a significant impact on student outcomes. When educators feel confident in their abilities to meet the needs of students with disabilities, they are more likely to invest time and effort in their teaching, leading to improved academic performance, social skills, and overall well-being of students with special needs.

**REVIEW OF RELATED LITERATURE-**

The literature on self-efficacy scales for special teacher-trainees encompasses various aspects, including theoretical foundations, scale development methodologies, validation processes, and the significance of self-efficacy in the context of special education. Here are some key themes commonly found in the literature:

➤ **Theoretical Frameworks-**

The literature often discusses the theoretical foundations of self-efficacy, primarily based on Albert Bandura's social cognitive theory (Bandura A. , *Self-efficacy: Toward a unifying theory of behavioural change*, 1977; Bandura & Adams, *Analysis of self-efficacy theory of behaviour change*, 1977). Bandura's work emphasizes the importance of self-efficacy beliefs in shaping individuals' behaviors, actions, and outcomes. Researchers often draw on this theoretical framework to design self-efficacy scales that accurately assess teacher-trainees confidence in their abilities to work with students with disabilities (Lopez-Garrido, 2023; Gallagher, 2012).

➤ **Scale Development And Item Generation-**

Scholars in the field of special education focus on the systematic process of developing self-efficacy scales tailored to the specific challenges faced by B.Ed. special teacher-trainees (Woodcock, Sharma, Subban, & Hitches, 2022; Yada, et al., 2021). They describe the procedures used to generate items that capture the multidimensional nature of self-efficacy in special education contexts, considering factors such as instructional practices, behavior management, and fostering inclusive learning environments (Bandura A. , 2012).

➤ **Validation and Reliability-**

The literature review also highlighted the critical need for rigorous validation and reliability testing of self-efficacy scales (Mahmood, 2017). Researchers utilize various statistical analyses to establish the psychometric properties of the scales, ensuring that they measure what they intend to measure and produce consistent results over time (Boateng, Neilands, Frongillo, Melgar-Quiñonez, & Young, 2018).

➤ **Comparisons across Disabilities-**

Some studies explore the differences in self-efficacy beliefs among special teacher-trainees dealing with different disabilities (e.g., HI, ID, LD, VD) (Kazanopoulos, Tejada, & Basogain, 2022). Such comparisons shed light on how the nature of the disability may impact teacher self-efficacy and inform targeted interventions for specific disability groups.

➤ **Impact on Teacher Performance and Student Outcomes-**

The literature often discusses the relationship between teacher self-efficacy and teaching effectiveness in inclusive classrooms (Woodcock, Sharma, Subban, & Hitches, 2022). Researchers investigate how higher levels of self-efficacy may lead to improved instructional practices, student engagement, and academic achievement for students with disabilities (Yada, et al., 2021).

### ➤ **Implications for Teacher Training and Professional Development-**

Many studies emphasize the practical implications of self-efficacy research for teacher training and professional development programs (Bray-Clark & Bates, 2003; Mok, Rupp, & Holzberger, 2023). They highlight the significance of fostering teacher-trainees self-efficacy beliefs through targeted interventions, mentoring, and ongoing support.

### **RESEARCH OBJECTIVES-**

There were two research questions this study sought to address-

1. Construction of Self-Efficacy for B.Ed. Special Educators?
2. Standardization of Self-Efficacy Scale for B.Ed. Special Educators?

### **RESEARCH DESIGN-**

To fulfill the purpose of the study, a mixed design was used. Among, mixed methods, to obtain the content of the self-efficacy scale, review method, and discussion methods as qualitative methods were adopted, and to standardize the scale, the survey method as a quantitative method was adopted.

### **SAMPLE-**

The present paper is based on a literature review and a quantitative survey. Hence; 120 B.Ed. special teacher-trainees from various Special Teacher-Training Colleges located in Jaipur, Rajasthan, India were selected by random sampling method for the quantitative survey.

### **CONSTRUCTION OF SELF-EFFICACY SCALE-**

Before constructing the self-efficacy scale, the researchers read various studies conducted on self-efficacy and tools related to measuring self-efficacy. Also, thorough discussions were made with the experts and intellects in the field of education, psychology, and research. After this discussion, the researchers developed a self-efficacy scale.

#### • **Determination of Dimensions-**

To determine what dimensions should be measured through the self-efficacy scale, a thorough discussion was made with intellectuals, and as per their opinion, the following dimensions were taken into consideration. These dimensions were also suggested by Bandura (Bandura, Self-efficacy: Toward a unifying theory of behavioural change, 1977)

1. **Mastery Experiences-** Mastery experiences are situations where you complete a challenging task or overcome a difficulty. They provide you with concrete evidence of your abilities and skills, and they reinforce your self-efficacy beliefs. (Cherry, 2023)
2. **Vicarious Experiences-** The vicarious experience of observing a model can also have a strong influence on self-efficacy. By observing others like themselves perform tasks; individuals make judgments about their capabilities. (The University of Connecticut, 2023)
3. **Verbal Persuasions-** The verbal persuasion factor describes the positive impact that our words can have on someone's self-efficacy; telling a child that she is capable and face any challenge ahead of her can encourage and motivate her, as well as add to her growing belief in her ability to succeed. (American Psychological Association, 2022)
4. **Psychological and Affective states-** One's responses and emotional reactions to situations also play an important role in self-efficacy. Moods, emotional states, physical reactions, and stress levels can all impact how a person feels about their capabilities in a particular situation. (Carleton College, 2022)

#### • **Collection of Items-**

At this step, the researchers made a discussed with many experts in the field of research, psychology, teaching, and education. All were requested to suggest items/ideas for the self-efficacy

scale meant for the B.Ed. special Teacher-Trainees. All the ideas from the researchers themselves and other intellects were noted immediately and further discussed with experts. All suggested items were analyzed on logic and repeated items were omitted from the list. Hence; at this stage; a total of 62 items were collected in the tool in all four dimensions.

- **Language Expertise-**

After constructing the first draft of the self-efficacy scale, the draft thus prepared was released to language experts for corrections and to make the language understandable for the subject. The suggestions from language experts were taken on priority and all suggestions were accepted.

- **Field Expertise-**

After making corrections in the self-efficacy scale, the tool was released for the subject experts (Psychologists, and Educationists). Some of the items of the scale were omitted and some new items were added to the scale by these experts. At this stage, the scale was consisting of 58 items in it.

- **Norms-**

For all positive 1 mark has to be given to "Strongly Disagree", 2 marks to "Disagree", 3 marks to "Can't Say". 4 marks to "Agree", and 5 marks to "Strongly Agree". And, for all negative items, 5 marks are to be given to "Strongly Disagree", 4 marks to "Disagree", 3 marks to "Can't Say". 2 marks to "Agree", and 1 mark to "Strongly Agree".

- **First Pilot Study-**

At this stage, the scale was administered to a selected sample of 120 B.Ed. special teacher-trainees. Before it, the details and purpose of the research were deeply explained to the teacher-trainees and the administration of the concerned colleges. Proper consent from the teacher training and college administration was taken before the administration of the tool. Before the try-out as the first pilot study, the subjects were given proper instructions for responding on the scale. After the completion of the stipulated duration, the instruments were taken back from the subjects.

The copies of responses were then checked and analyzed as per the norms and the total marks obtained were calculated. After this, the respondents were divided into three groups. The top 33% of respondents were kept in the upper group and the bottom 33% of respondents were kept in the lower group. Rests of the respondents were not considered for comparison. The item-wise t-test was calculated between the upper and lower groups and items which had higher and significant t-value, were kept in the scale, and the rest of the items were left. At this stage, 40 items remained on the scale. The first dimension (Mastery experiences) had 12 items, the second dimension (Vicarious experiences) had 10 items, the third dimension (Verbal persuasion) had 8 items and the last dimension (Psychological and affective states) had 10 items remaining.

- **Second Pilot Study-**

After a gap of a month, the scale was again administered to the same group of respondents. The scores of the first and second pilot studies (for final items) were then compared for the standardization of the scale.

### **STANDARDISATION OF SELF-EFFICACY SCALE-**

- **Reliability-**

The consistency of information is accomplished when the tools of the research are checked through examination of such things as metadata and procedure notes (Campbell, et al., 1996)). Hence, the tool developer must affirm the high consistency and exactness of the tests and scores. Crocker and Algina (1986) state, "Test developers have a duty of showing the high quality of scores from their tests". The reliability of the scale was determined through three methods. The Cronbach's reliability of the scale was found to be 0.90. The Split-half (odd-even) correlation reliability coefficient was found to be 0.77, and the Split-half with Spearman-Brown adjustment reliability coefficient was found

to be 0.87. All the coefficients are at their higher stage and prove the scale highly reliable as per the reliability norms.

- **Validity-**

At this stage, the tool was again released for research experts to obtain construct validity. Construct validity is the degree to which a test is subjectively seen as covering the idea it implies to measure. It refers to the transparency or relevance of a test as it appears to test participants (Holden R. B., 2010). As per the opinion received from these experts, the tool was found valid under the norms of construct validity.

### **EDUCATIONAL IMPLICATIONS-**

The construction and standardization of a Self-Efficacy Scale for B.Ed. special teacher-trainees have several significant educational implications that can positively impact both teachers and students in inclusive classrooms. Here are some key educational implications-

- **Enhanced Teacher Confidence and Competence-** By assessing and fostering teacher-trainees self-efficacy beliefs, teacher preparation programs can help aspiring special educators develop a stronger sense of confidence and competence. This, in turn, can lead to increased motivation, perseverance, and proactive problem-solving skills when faced with challenges in the classroom.
- **Improved Teacher Performance-** Teacher self-efficacy has been linked to teaching effectiveness and instructional practices. As teacher-trainees self-efficacy improves, they are more likely to use diverse and evidence-based instructional strategies, differentiate instruction, and adapt their teaching methods to meet the individual needs of students with disabilities.
- **Enhanced Inclusive Teaching Practices-** A validated Self-Efficacy Scale tailored to different disabilities can encourage teacher-trainees to adopt inclusive teaching practices that cater to diverse learning needs. This includes creating accessible materials, providing necessary accommodations, and fostering a positive and accepting classroom climate for all students.
- **Targeted Professional Development-** The self-efficacy scale results can inform targeted professional development programs for special teacher-trainees. Identifying specific areas of strength and areas of improvement can guide the design of workshops, mentoring, and training opportunities, allowing teachers to continuously enhance their skills in supporting students with disabilities.
- **Personalized Support for Teacher-Trainees-** Understanding teacher-trainees self-efficacy beliefs can help educational institutions and mentors provide personalized support and resources to address individual concerns. This could involve offering additional resources, coaching, or peer support to build teacher-trainees confidence and capacity to work with diverse learners.
- **Positive Impact on Student Outcomes-** Teachers with higher levels of self-efficacy are more likely to use effective instructional strategies and provide a supportive learning environment. This, in turn, can positively influence student outcomes, leading to improved academic achievement, increased self-esteem, and greater social and emotional development for students with disabilities.
- **Cultivating Inclusive School Culture-** The promotion of teacher self-efficacy in special education can contribute to creating a school culture that values inclusion and diversity. When teachers feel empowered and confident in their abilities, they are more likely to collaborate with colleagues, families, and specialists to support students' holistic development.
- **Informed Policy Decisions-** Research on teacher self-efficacy and the use of a validated scale can provide valuable insights for policymakers in the field of special education. These insights can inform decisions related to teacher training, resource allocation, and the design of inclusive education policies.

Hence, the development and implementation of a Self-Efficacy Scale for B.Ed. special teacher-trainees can yield several educational benefits. By empowering teachers with the confidence and

competence to support students with disabilities effectively, the scale contributes to the advancement of inclusive education practices, positively impacting the learning experiences and outcomes of all students in inclusive classrooms.

### CONCLUSION-

The construction and standardization of a Self-Efficacy Scale for B.Ed. special teacher-trainees is a vital endeavor in advancing inclusive education practices. By acknowledging the unique challenges posed by different disabilities and empowering educators with the confidence to address them effectively, this scale will play a pivotal role in creating an inclusive and supportive learning environment where every student can flourish. Ultimately, the scale's implementation has the potential to transform the landscape of special education, producing a generation of skilled and compassionate teachers dedicated to shaping the futures of their diverse learners positively.

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