Prospective Teachers' Self-Efficacy and Readiness for Inclusive Education:

Perceptions from Graduates of Teacher Training Colleges

Tarekegn Desalegn Fenta[1,]*

[1]Department of Psychology, Institute of Education and Behavioral Sciences, Debre Markos University, Debre MArkos, Ethiopia

*Corresponding Author's Email: tarekegn_desalegn@dmu.edu.et

Abstract

The purpose of this study was to look into the self-efficacy and preparedness of prospective teachers to apply inclusive education in inclusive classrooms. This study included a total of 571 participants (321 males and 250 females) chosen using a stratified random sampling technique. Data were gathered using a questionnaire and a self-efficacy scale. Percentages, the independent sample T-test, and the Pearson correlation coefficient were used to analyze the data. The percentage results showed that, among prospective teachers, 69.7% thought their college education had not given them the knowledge and skills necessary to teach students in an inclusive classroom, while 28.5% thought their college education had given them those skills, and 1.8% were unsure. Furthermore, 46.41% of them indicated that they were prepared to instruct students in an inclusive classroom in the future, while 53.59% indicated that they were not. Furthermore, the results of the independent sample T-test showed that the self-efficacy of aspiring teachers in implementing inclusive education did not have statistically significance difference significantly based on their gender (t(569)=-1388, p>.05. The results of the Pearson correlation coefficient showed that the participants' self-efficacy and perceived inclusive education practices had a positive, moderately significant correlation (r (571) =.401, p<.05). According to this study, assigning teachers to inclusive classrooms without providing them with the necessary training in inclusive education may negatively impact their sense of self-efficacy. Therefore, before starting to teach in inclusive classrooms, prospective teachers must complete capacity building trainings.

Key words: *Inclusive classroom, self-efficacy, readiness, inclusive education*

1. Introduction

Inclusion plays a crucial role in guaranteeing fair learning opportunities for students who are often overlooked (Woodcock et al., 2022). However, providing education to students with special needs within an inclusive setting is shaped by various elements; among these, the confidence teachers have in their abilities stands out as a significant factor (Wray et al., 2022). For instance, teachers who possess high confidence in their capabilities are more likely to put in extra effort to cater to the diverse needs and skills of their students (Pendergast et al., 2011; Woodcock et al., 2022), ensure job satisfaction (Zakariya, 2020), and handle students' behavior in a more professional way (Zee & Koomen, 2016). Bandura's social cognitive theory is employed in this research, which is a conceptual framework for understanding

learning and development, highlighting how future teachers are seen as active participants in their own growth and success (Bandura, 2011).

The belief in one's ability to succeed is shaped by various elements, including the depth of knowledge and skills related to inclusion and inclusive education. For instance, possessing a deep understanding of policies and strategies for inclusive education can boost teachers' confidence in their abilities (Wray et al., 2022). Moreover, when teachers are confident in their professional skills, knowledge, and ability to engage with students with disabilities, they are more inclined to embrace inclusive education, leading to remarkable progress in its implementation in the future (Zegeye, 2022).

In a similar vein, educators who have received some training in teaching students with disabilities, particularly those who are more experienced and well-educated, tend to be more supportive of inclusive education (Mngo & Mngo, 2018). Conversely, the primary obstacles that prevent teachers from embracing inclusive education include a lack of training, insufficient knowledge, and inadequate skills (Mpu & Adu, 2021).

Another aspect related to teachers' confidence in their abilities is their gender. Researches, for example, conducted by Sawari et al. (2015) and Specht and Metsala (2018), have shown that female teachers generally have higher confidence in their abilities compared to their male counterparts. However, a study by Reyhan and Babanoğlu (2016) found that male teachers reported higher confidence in their abilities than female teachers. Nonetheless, other studies have not found a significant difference in confidence levels between male and female teachers (Kazanopoulos et al., 2022; Yazachew, 2013).

Teachers' confidence in their abilities is also shaped by their views on inclusive education

and students with special needs. Studies by Hitches et al. (2022) and Woodcock et al. (2022) have shown that teachers who believe in their own capabilities tend to have a positive view of inclusion and are more likely to practice inclusive education. These studies also indicate that teachers who feel confident in their abilities are more inclined to have a positive attitude towards students with disabilities, to include them in their classrooms, and to view inclusive education as a collaborative effort rather than a burden imposed from above.

Traditionally, inclusive education training has been provided through one-off workshops, and there is growing evidence that these short-term training sessions have limited impact and fail to bring about systemic changes (Rose & Doveston, 2015). Additionally, teachers often feel that inclusive education is something they are required to implement without the necessary support and resources, making it feel like a top-down mandate rather than a collaborative effort (Singal, 2009). However, Ethiopia has adopted a special needs education system that operates within the existing structure and framework of inclusive education (Ministry of Education [MOE], 2010b). It is worth noting that training can positively influence teachers' attitudes towards inclusion, shape their professional roles to include all children in their classrooms, and clarify that the role of teachers extends beyond that of specialists and special curriculum (Sharma et al., 2018).

At the policy level, both general education and special need education teachers' training institutions are compulsory to train teachers to make them ready to fit for an inclusive education demand. If general and special need education teachers' training institutions are compulsory to train teachers to fit them for an inclusive educational demand, examining prospective teachers' training college graduates' self-efficacy belief and

their readiness in applying inclusive education is pretty vital. Thus, this research is important for education experts, policymakers, and other concerned bodies who work in the education of students with special needs. Furthermore, knowing prospective teachers' level of self-efficacy and their readiness before they are placed for practicing inclusive education is vital to identify teachers' gaps and to develop suitable trainings that can enhance their sense of self-efficacy. Moreover, the result can also shed light on the significance of revisiting teacher education programs in the Amhara National Regional State.

Regarding if research is conducted in the area under consideration or not so far, there are some spotted researches conducted on regular primary school college students' practicum, student-centered teacher training, and pilot schools in-service teachers' attitudes towards inclusive education in Ethiopia (Daniel, 2007; Shumet, 2006; Tadesse & Meaza, 2008), and the in-service teachers' self-efficacy to practice inclusive education at public primary schools in the Amhara National Regiononal State (Zegeye et al., 2023). However, there are petite researches steered on college prospective graduates' self-efficacy beliefs and readiness in implementing inclusive education in the Amhara National Regional State so far. Moreover, there is no evidence which indicate that the Amhara Region Education Bureau assessed whether teachers were capable to apply inclusive education or not before it started to implement inclusive education. So, this makes the research unique.

Thus, the following research questions serve as a guide for this study: (1) How do prospective college graduates feel about the pre-service program's knowledge and skills in terms of their suitability for future inclusion initiatives? (2) How prepared are prospective college graduates receiving teacher preparation to implement inclusive education in the future? (3) Are there statistically significant differences between male and female prospective college graduates in applying inclusive education? (4) Are there a statistically significant relationship between participants' self-efficacy belief and perceived inclusive education implementation?

2. Method

2.1. Research Design

In order to characterize the information gathered on prospective teachers' self-efficacy and preparedness in implementing inclusive education at the general primary school level, the study used a descriptive survey approach. A descriptive research design was chosen because it is a very appropriate design to systematically collect information about the phenomenon under consideration. Quantitative method is employed for this study as it is very appropriate for the design and can answer the research questions raised in the research.

2.2. Study population

The population of this study was regular college prospective graduates' who attended their education in the teachers' training colleges of the Amhara National Regional State.

2.3. Sample and Sampling Techniques

The study was conducted on five teachers' training colleges in the Amhara National Regional State. As there was complete list of the teachers' training colleges (11) in the region, five of them (almost 50%) were included using simple random sampling technique (lottery method). In order to adequately represent the subgroups in terms of important variable such as sex, stratified random sampling technique was employed. The process of selection was carried out in the following manner. First, participants were stratified based on the required variable and the number of participants to be selected was determined using a proportional method. Then after, the

required number of participants was selected from each distinct stratum via simple random sampling technique (lottery method).

From each of the five teachers' training colleges of the Amahara Regional State, 175 participants were selected from Debre Berhan teachers' training college using simple random sampling techniques (lottery method), 130 participants from Desie and Gonder teachers' training colleges,100 & 85 participants were selected from Debre Markos and Begemidir teachers' training colleges respectively. The selection of participants from the respective teachers' training colleges was made based on proportional method. In sum, a total of 622 (360 male & 262 female) prospective college graduates were selected. Out of the 622, participants 51 were excluded in the study because (39 male, 12 female) students submitted incomplete information. Thus, the study sample consisted of 571 (321 male, 250 female) participants.

2.4.Research instruments and piloting

The data collection instruments used in the study were all self-administered and consisted of three parts:

Demographic variable includes gender, field of study and the name of the teacher training college where prospective graduates attended.

Self-Efficacy Scale- it pertains to 10 items. The scale initially was designed to assess self-efficacy i.e., the belief that one's actions are responsible for successful outcomes. It was developed and cited by (Zhang & Schwarzer, 1995) but it has been adapted based on the context of this research with the intention to predict the extent of the prospective teachers' training college graduates' self-efficacy to implement inclusive education in an inclusive classroom. The adaptation was done by adjusting the general self-efficacy scale items into more specific items that can

measure the prospective teachers' training college graduates' capability to implement inclusive education in an inclusive classroom without losing the items overall spirit in measuring an individual's self-efficacy. Once the modification and adjusting of items were made on the general self-efficacy scale, it was given for one counseling psychologist and one special-needs expert to check the items appropriateness in measuring self-efficacy in applying inclusive education in an inclusive classroom in the future. Thus, the feedbacks received from the two experts were helpful in warranting the appropriateness of the construct in measuring the required target for this research. The experts' feedback regarded sound that the construct can measure the prospective college graduates capability/incapability of career adaptability level in the future. Here, participants were asked to evaluate how capable they felt in carrying out the described action or behavior on a Likert scale, from 1 (Not well at all) to 5 (Very well). For the self-efficacy scale, the total score ranges between 10 and 50, with a higher score indicating more self-efficacy i.e., an individual has the strongest belief in him/her-self in undertaking a job in the future.

The self-efficacy scale has high reliability, stability and constructs validity. The scale was found to be configurable equivalent across 28 nations and the Cronbach's alpha for the scale was between 76 and 90.

Questionnaire on inclusive education: The researcher developed this questionnaire by consulting pertinent literature and keeping the research questions in mind. It has eight items portraying the participants' perception about the adequacy of the knowledge and skills obtained from the teachers' training colleges in a way that can boost their capability to implement inclusive education in the general primary school. In addition, the questionnaire pertains to items indicating the prospective teachers training college graduates' readiness in applying inclusive

education in the inclusive classroom in the future. Participants were required to select the appropriate response from the choices given in the questionnaire.

Here, both content and construct validity were considered. Regarding content validity, the questionnaire was checked to make certain whether the instrument really measures what it intends to measure. In this regard, to address content validity, the researcher receives series of feedbacks from expertise and amendments were made accordingly.

Moreover, to check the appropriateness and reliabilities of the instruments piloting was administered on randomly selected 50 participants, who they were excluded for main data collection (22 males, 28 females). But, prior to commencement of the pilot study, consent was obtained from the Deans of selected teachers' training colleges and the participants included in the study. The Cronbach's alpha coefficient for the inclusive education questionnaire was .86 while the self-efficacy scale was .78. Through piloting, any ambiguity of the instruments were identified and corrected. Moreover, the workability of the instruments were ascertained (items, formats and instructions were corrected). Overall, the pilot test which was undertaken had ensured the reliability and validity of instruments used in this study.

2.5. Data Analysis

Quantitative data analysis methods were employed in this research. The analysis was undertaken using Statistical Package for Social Sciences (SPSS) version 22. Prior to undertake analysis, assumptions such as (normality, outliers, homogeneity, linear relationship, and continuous variable) were checked in line with the analysis methods employed in the study. In this study, the statistical test level $\alpha = .05$ was referred. Descriptive and inferential statistics were employed. Descriptive statistics such as percentages were used to know how many of the prospective teachers' perceived that the knowledge and skills they have acquired from college education were adequate for applying inclusive education in the future and their readiness to apply inclusive education in an inclusive classroom. Independent samples t-test was used to compare participants' self-efficacy for inclusive education implementation based on gender and Pearson correlation coefficient was used to check if there was an association of self-efficacy with implementing inclusive education.

3. Results

Table1. Participants by Gender

Category	F	%
Gender		
Male	321	56.2
Female	250	43.8
Total	**571**	**100.0**

Table-1 portrayed that 56.2% of the respondents were males whereas 43.8% were females.

Table 2. Participants' Perception on Adequacy of Knowledge and Skills acquired from Teachers Training Colleges

Items	F	%
Participants response on the adequacy of knowledge and skills acquired from the teachers' training graduates in helping them to meet their special students' needs in an inclusive classroom		
Yes, it is adequate	163	28.5
Not adequate	398	69.7
Not sure of it	10	1.8
Total	**571**	**100**

Table 2 shows that, of the participants, 69.7% felt that the knowledge and skills they had received from teachers' training colleges were insufficient to assist them in meeting the needs of their special students in an inclusive classroom in the future, while 28.5% felt that the knowledge and skills they had received from these institutions were sufficient to carry out their jobs effectively. Furthermore, 1.8% of participants had doubts about the matter brought up. This shows that the majority of prospective college graduates thought the courses taught in teacher preparation programs were insufficient to prepare them to teach inclusive education in the future.

Table 3. Prospective Graduates' Readiness in Implementing Inclusive Education in the Classroom in the future

Item	F	%
Graduates' readiness in teaching students in an inclusive classroom		
Ready to take it	*265*	*46.41*
Not ready to take it	306	*53.59*
Total	*571*	*100*
Time required in implementing inclusive education in the future		
Immediately applying it when becoming teachers	191	33.5
Implement it after getting additional trainings	351	61.5
Never thought about to teach in an inclusive classroom	29	5.0
Total	**571**	**100**

As can be seen in Table 3, 46.41% of participants said they were prepared to introduce inclusive education in the future in an inclusive classroom, while 53.59% said they were not prepared to instruct students in an inclusive classroom. According to the same table, 33.5% of respondents said they would implement inclusive education in the classroom as soon as they become teachers, and 61.5% of respondents said they could

implement inclusive education in an inclusive classroom in the future after receiving additional training on the subject. The remaining 5% of participants said they never considered as it their duty to teach students in an inclusive classroom. This suggests that in order to meet the needs of the diverse group of students in the classroom, the majority of college graduates undergoing teacher preparation needed additional training in inclusive education.

Table 4. Gender and Self-efficacy in Implementing Inclusive Education

	Category	N	Mean	Std. Deviation	t-value	p-value
Gender	Male	321	4.1313	.64122	-1.388	.100
	Female	250	4.2013	.56314		

α = .05, df =569, homogeneity of variance was assumed

Regarding the self-efficacy in implementing inclusive education, there was no statistically significant difference between male and female prospective college graduates, according to the results of the independent sample T-test (t(569)=-1388, p>.05). The outcome suggests that there is no relationship between the participants' gender and their self-efficacy beliefs about implementing inclusive education.

Table 5. Correlation between Inclusive Education Implementation and Participants' Self-efficacy

Variables	N	R	P
Perceived inclusive education implementation & self-efficacy	571	.401	*.000

*Correlation is significant at .05 Levels (2-tailed)

The Pearson correlation coefficient result in Table-5 revealed that there is a moderate positive significant relationship between the two variables $r(571)= .401$, p< .05). That is prospective college graduates' self-efficacy belief and their perception to apply inclusive education has relationships.

4. Discussion

Participants' perception on adequacy of knowledge and skills they possessed

Regarding the sufficiency of the knowledge and abilities obtained by the graduates of teacher training colleges, the majority of participants (69.7%) thought that the knowledge and abilities they had received from these institutions were insufficient. The current study's findings showed that prospective college graduates believed they had not gained the knowledge and abilities from their undergraduate studies to carry out inclusive education in the future. In contrast to the current findings, earlier research highlighted the significance of understanding inclusive education policies and practices and believing that people with disabilities can also practice inclusive education (Mngo &Mngo, 2018; Wray et al., 2022; Zegeye, 2022). Conversely, the primary causes of teachers feeling incompetent when instructing in an inclusive classroom were their own lack of training, knowledge, and skills (Mpu & Adu, 2021).

Prospective graduates' readiness in implementing inclusive education in the future

Regarding the preparedness of prospective graduates to implement inclusive education in the future, 46.41% of respondents said they would be ready to teach in an inclusive classroom, compared to 53.59% of participants who said they were not prepared

to do so. This indicates that a large portion of recent graduates from teacher preparation programs were not prepared to start teaching inclusive classes. In order to address the issue, Ethiopia requires general and special education teacher training programs to produce graduates who are prepared to meet the demands of inclusive education.

The results of this study also revealed that most respondents (61.5%) said they could implement inclusive education in the future in an inclusive classroom after receiving more inclusive education training. This suggests that in order to meet the needs of the diverse student body in the classroom, the majority of aspiring teachers' required additional training in inclusive education. Therefore, it is essential that educators possess the knowledge, optimism, and abilities to design inclusive classrooms, as this will help to increase their self-efficacy and preparedness to do so. However, the majority of inclusive education trainings were previously provided as one-time workshops, and there is mounting evidence that the systemic changes and impact of these kinds of brief trainings is minimal (Rose & Doveston, 2015).

Thus, more sustained and ongoing in-service development as well as inclusive pedagogy in pre-service teacher training for all teacher candidates would be prioritized in more sustainable inclusive education implementation. By highlighting the fact that including all students in the classroom is part of their professional role and is not only the purview of specialists and special curriculum, this also has a positive impact on teachers' attitudes toward inclusion (Sharma et al., 2018).

Ethiopia has been using a special needs education system based on providing the service within the existing structure and within the framework of inclusive education, similar to the current study and taking those gaps into consideration (MOE, 2010b).

Gender and Self-efficacy in Implementing Inclusive Education

In terms of their self-efficacy in implementing inclusive education, male and female prospective teachers' training college graduates did not differ statistically significantly, according to the results of the independent sample T-test (t(569)= -1388, p>.05). This suggests that gender has no bearing on one's self-efficacy beliefs about implementing inclusive education. Similar to this study, earlier research (Kazanopoulos et al., 2022; Yazachew's, 2013) showed no discernible difference in self-efficacy between males and females. In contrast to the current investigation, prior research (Sawari et al., 2015; Specht & Metsala, 2018) demonstrated that female educators demonstrated greater levels of self-efficacy compared to their male counterparts, while male educators held higher perceived levels of self-efficacy beliefs than their female counterparts (Reyhan & Babanoğlu, 2016).

Correlation between perceptual inclusive education implementation and self-efficacy

According to the study's findings, graduates' perceptions of their ability to practice inclusive education and their self-efficacy beliefs are significantly positively correlated (r(571)=.401, p<.05. The findings suggest a relationship between the self-efficacy beliefs of prospective college graduates and their perceptions of the application of inclusive education. In a similar vein, earlier research by Hitches et al. (2022) and Woodcock et al. (2022) demonstrated a relationship between instructors' self-efficacy and their inclusive education practices and attitudes. Additionally, the studies showed that educators who possess a high sense of their own efficacy also have a positive attitude toward students with disabilities and their inclusion, and they are eager to teach in inclusive classrooms. Furthermore, the current study supports earlier findings that teachers who have high levels of self-

efficacy are more resilient and make greater efforts to accommodate students with varying needs and skill levels (Pendergast et al., 2011; Woodcock et al., 2022).

5. Conclusion

Based on the study's findings, it can be said that prospective graduates' college education did not provide them with the necessary knowledge or skills to support their teachers in providing inclusive classrooms for their special needs students. Furthermore, most prospective graduates felt that they would not be prepared to teach inclusive education when they became teachers in the future. However, if future graduates receive additional training on inclusive education, they can implement inclusive education in an inclusive classroom in the future. This suggests that most prospective college graduates require additional training on inclusive education in order to teach diverse students in general primary schools. Although self-efficacy beliefs about implementing inclusive education are unrelated to gender, there is a clear and significant positive correlation between prospective graduates' self-efficacy beliefs and their future capacity to implement inclusive education.

Acknowledgments

References

Bandura, A. (2012). On the functional properties of perceived self-efficacy revisited. *Journal of Managemen*t, 38(1), 9-44, https://doi.org/10.1177/0149206311410606.

Daniel, D. (2007). *Post-assessment of inclusive education and innovation project at Kechene Debre Selam Primary School: Some reflections. Paper presented at the proceedings of international conference on inclusive education competence building in special needs education.* Addis Ababa University, Commercial Printing Enterprise.

Hitches, E., Woodcock, S., & Ehrich, J. (2022). Building self-efficacy without letting stress knock it down: Stress and academic self-efficacy of university students. *International Journal of Educational Research Open*, 3(7),100124,https://doi.org/10.1016/j.ijedro. 2022. 100124.

Kazanopoulos, S., Tejada, E., & Basogain, X. (2022). The self-efficacy of special and general education teachers in implementing inclusive education in Greek secondary education. *Education Sciences, 12(6), 383,* doi*:10.3390/educsci12060383.*

Ministry of Education (MoE, 2010b). *Education Sector Development Program IV (ESDP IV), 2010/11-2014/15, Program Action Plan*. Addis Ababa, Ethiopia: Ministry of Education.

Mngo, Z. Y., & Mngo, A. Y. (2018). Teachers' perceptions of inclusion in a pilot inclusive education program: Implications for instructional leadership. *Education Research*

International, 3524879, https://doi.org/10.1155/2018/3524879

Mpu, Y., & Adu, E. O. (2021). The challenges of inclusive education and its implementation in schools: The South African perspective. *Perspectives in Education, 39(2), 225-238,* https://doi.org/10.18820/2519593X/pie.v39.i2.16.

Pendergast, D., Garvis, S., & Keogh, J. (2011). Pre-service student-teacher self-efficacy beliefs: An Insight into the making of teachers. *Australian Journal of Teacher Education,* 36(12), DOI:10.14221/ajte.2011v36n12.6

Reyhan, A., & Babanoğlu, M. P. (2016). Exploring self-efficacy beliefs of primary school teachers in Turkey. *European Journal of Education Studies*, 2(11), DOI:10.5281/zenodo.200195.

Rose, R. & Doveston, M. (2015). Collaboration across cultures: Planning and delivering professional development for inclusive education in India. *Support for Learning, 30(3), 177-191*. DOI: 10.1111/1467-9604.12089

Sawari, S. S. M., Ghazali, M. A. I., & Mansor, N. (2015). A Study of Learning Efficacy among Rural Area Students in Ledang Johor. *Sains Humanika, 5(3),1-9*. DOI: https://doi.org/10.11113/sh.v5n3.660

Sharma, U., Aiello, P., Pace, E. M., Round P., & Subban, P. (2018). In-service teachers' attitudes, concerns, efficacy and intentions to teach in inclusive classrooms: An international comparison of Australian and Italian teachers. *European Journal of Special Needs Education. 33 (3), 437–446*. doi:10.1080/08856257.2017.1361139

Shumet, K. (2006). *A reflective approach to teacher education: The practice of practicum in Eskndrawit College of Teacher Education and Awnda Primary School*. Unpublished MA Thesis, Addis Ababa University, Addis Ababa.

Singal, N. (2009). *Inclusion in the real world: Practitioners making sense of inclusive education in Indian classrooms.* In M. Alur & V. Timmons (Eds.), Inclusive education across cultures: Crossing boundaries, sharing ideas (210-219). Los Angeles: SAGE. doi:10.4135/9788132108320.n13

Specht, J. A., & Metsala, J. L. (2018). Predictors of teacher efficacy for inclusive practice in pre-service teachers. *Exceptionality Education International*, 28(3), 67–82. https://doi.org/10.5206/eei.v28i3.7772

Tadesse, W., & Meaza, F. (2008). Assessment on problems of the new pre-service teachers training program in Jimma University. *Ethiopian Journal of Education and Science, 2(2),63-72*. DOI:10.4314/ejesc.v2i2.41980.

Zegeye, T. G., Alem, S. K., & Abie, A. (2023). In-service teachers' self-efficacy to practice inclusive education at public primary schools in the Amhara region: Implications for teacher education. *Bahir Dar Journal of Education*, 23(1), 5–20. https://doi.org/ 10.4314/bdje.v23i1.

Woodcock,S. Sharma, U., Subban, P., & Hitches, E. (2022). Teacher self-efficacy and inclusive education practices: Rethinking teachers' engagement with inclusive practices.

Teaching and Teacher Education, 117, https://doi.org/10.1016/j.tate. 103802

Wray, E., Sharma U., & Subban, P. (2022). Factors influencing teacher self-efficacy for inclusive education: A systematic literature review. *Teaching & Teacher Education* 117:103800. https://doi.org/10.1016/j.tate.2022.10 3800

Yazachew, A. T. (2013). Relationship between self-efficacy, academic achievement and gender in analytical chemistry at Debre Markos College of teacher education. *African Journal of Chemical Education (AJCE), 3(1), 3-28*

Zakariya, Y. F. (2020). Effects of school climate and teacher self-efficacy on job satisfaction of mostly STEM teachers: A structural multi-group invariance approach. *International Journal of STEM Education, 7(10), 1-12. https://doi.org /10.1186/ s40594-020-00209-4*

Zee, M., & Koomen, H. M. (2016). Teacher self-efficacy and its effects on classroom processes, student academic adjustment, and teacher well-being: A synthesis of 40 years of research. *Review of Educational research, 86(4), 981-1015. https://doi.org/10.3102/ 00346543 1562 680*

Zegeye, T. (2022). The perception of readiness for implementing inclusive education among primary school subject teachers: Implications for teacher education in Ethiopia. *International Journal of Special Education (IJSE),* 37(2). https://doi.org/10.52291 /ijse. 2022.37.42

Zhang, J. X., & Schwarzer, R. (1995). Measuring optimistic self-beliefs: A Chinese adaptation of the general self-efficacy scale. Psychologia: *An International Journal of Psychology in the Orient, 38(3), 174–181.*