



Novice teachers' self-efficacy beliefs in teaching multiple subjects: Relations to academic performance of basic school students in Ghana

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Abstract

Developing the confidence to teach is one of the most challenging tasks in the teaching profession. Educators have recognized that the initial years of teaching is complex and challenging. However, no study examines novice teachers' self-efficacy beliefs in teaching multiple subjects in developing countries like Ghana. Novice teachers in Ghana are often deployed to schools and classrooms with high number of students but less number of teachers. Hence, they are faced with teaching multiple subjects per semester (term) aside from the already outlined challenges of novice teachers in literature. The study employed a cross-sectional survey design. Using the Teachers' Sense of Efficacy Scale (TSEBs, long form), novice teachers in Ghana (n = 72) were assessed on how they perceived their efficacy in teaching multiple subjects. Results from the study indicate that novice teachers perceived themselves to be moderately adequate in their TSEBs. Efficacy in classroom management score was lower than in student engagement and instruction strategies. Males also recorded high TSEBs score than females. Majority of the teachers taught large classes (43-53). It is recommended that educators reduce the class size of novice teachers and organize more training and professional development programs for novice teachers.

Keywords: Teacher efficacy; self-efficacy; novice teachers; academic performance

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1. Introduction

1.1. Introduce the problem

Teachers are significant to the educational process of students (Adarkwah & Zeyuan, 2020; Alam & Farid, 2011). They play a crucial role in education, specifically, the overall development (cognitive and non-cognitive) of students (Agyekum, 2019; Aldridge & Fraser, 2016; Becker, Goetz, Morger, & Ranellucci, 2014; Bennell & Akyeampong, 2007;

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Chen, 2019; Etherington, 2019; Nwakasi & Cummins, 2018). Teachers can facilitate or impede students' progress (Alrabai, 2016). However, teachers need a strong sense of efficacy in order to be successful (Knoblauch & Woolfolk Hoy, 2008). Novice teachers face daunting and unfamiliar challenges in their first few years as professional teachers, and some of these problems are those that can potentially affect the academic performance of students (Çakmaka, Gündüz, & Emstad, 2018). The initial years of teaching are the most difficult times in the life of novice teachers (Çam Aktaşı, 2018). The transition from teacher training institutions to the classroom can be described as a "reality shock" (Fatiha, Abd Razak, & Shanina, 2013). Some of the difficulties novice teachers face are teaching subjects, lesson planning, working with students, and skills in dealing with syllabi which demand skills they are yet to acquire (Chychuk, 2016). Dearth of studies (Giallo & Little, 2003; Hirsch, Lloyd, & Kennedy, 2019; Wolff, Jarodzka, Bogert, & Boshuizen, 2016, Koral & Mirici, 2021) has also shown that novice teachers encounter the difficulty of managing a classroom. Novice teachers differ from veteran teachers (Kim & Roth, 2011). Compared to veteran teachers, novice teachers are often deployed to schools and classrooms with extreme instructional loads (Bruno, Rabovsky, & Strunk, 2019). Novice teachers need to spend additional time and resources on what is considered as routine tasks for veteran teachers (Mintz, 2019). Yet, in the teaching profession, novice teachers are required to perform like veteran teachers (Tait, 2008). It has also been outlined that because of the multitudinous challenges novice teachers face, they leave the profession before their knowledge and skills are honed (Glennie, Mason, & Edmunds, 2016). A study conducted on novice teachers in Ghana revealed that novice teachers faced problems with time management, lack of resources for teaching and learning, student indiscipline, their students' inability to understand the lessons taught, lack of students' interest, and inability of novice teachers to complete their syllabus (Boakye & Ampiah, 2017). It is imperative for novice teachers to exhibit confidence and enthusiasm in teaching (Goh, Yusuf, & Wong, 2017). Novice teachers are faced with challenges such as decreased self-efficacy and increased stress (Tynjälä & Heikkinen, 2011). Using the Teachers' Sense of Efficacy Scale (Tschannen-Moran & Woolfolk Hoy, 2001), the study examined how novice teachers in a basic school in Ghana perceived their self-efficacy in teaching multiple subjects per semester (term). Findings from the study may inform policymakers on novice teacher recruitment and deployment to basic schools and classrooms in Ghana. School administrators will also know the type of support available to retain and improve novice teachers in the teaching profession.

1.2 Statement of the Problem

1.2. Khalid & Husnin (2019) posit that the teaching profession demand teachers to be well equipped with the skills set and knowledge necessary to overcome challenges associated with subject matter, colleagues, students, and also personal matters. Novice teachers in Ghana are classified from 1-5 years of service, after which they are

transitioned to professional teaching after the 5 years (Boakye & Ampiah, 2017). In Ghana, pre-service teachers who later become novice teachers are often enticed with allowances to accept postings in rural areas of Ghana (Acheampong & Gyasi, 2019; Boakye & Ampiah, 2017; Ministry of Education, 2018). Another issue is that novice teachers are often posted to schools with a high number of students and a low number of teachers. The average student-to-trained teacher ratio in Ghana is 25:1 (Ministry of Education, 2018). As a result, novice teachers are often tasked by school principals to take two or more subjects for a particular semester (term). This means that novice teachers who are unfamiliar with a particular subject have to prepare lesson notes, familiarize themselves with the new subject in order to instruct students. According to the Ministry of Education (2018), the curriculum for teachers is also overloaded with content while there is little space for skill development when it comes to communication, critical thinking, digital literacy, collaboration, and problem-solving. A key finding from the report suggests that there is a disconnection between the curriculum used to teach pre-service teachers and the curriculum used to teach students in schools. The report also revealed that teachers are not taught essential skills like classroom management and dealing with diversity, there is no or little emphasis on teaching strategies through extended and supported practices in schools. It has been reported that students' academic performance has been dwindling because of factors such as motivation, and poor instructional and supervisory practices (Acheampong & Gyasi, 2019; Addai, Kyeremeh, Abdulai, & Sarfo, 2018; Adusei, Sarfo, Manukure, & Cudjoe, 2016; Cobbold, 2015; Esia-Donkoh & Baffoe, 2018, Mirici, 2021).

1.3 Purpose of the Research

After you have introduced 'the problem and have developed the background material, explain your approach to solving the problem. In empirical studies, this usually involves stating your hypotheses or specific question and describing how these were derived from theory or are logically connected to previous data and argumentation. Clearly develop the rationale for each. Also, if you have some hypotheses or questions that are central to your purpose and others that are secondary or exploratory, state this prioritization. Explain how the research design permits the inferences needed to examine the hypothesis or provide estimates in answer to the question.

Research Questions

1. To what extent do novice teachers teaching multiple subjects rate their teachers' self-efficacy beliefs?
2. Is there a statistically significant difference in novice teachers' self-efficacy beliefs in teaching multiple subjects with respect to age, gender, socioeconomic status, class size, and educational background? This is based on the research of Tok & Tok, (2016) & (Yeo et al. (2008) who revealed that teachers differ in their efficacy beliefs based on

demographic variables such as gender, age, number of professional years, and number of levels taught.

3. Are there significant differences in the teacher self-efficacy belief dimensions of novice teachers teaching multiple subjects?
4. Is there are correlation between the teacher self-efficacy belief dimensions of novice teachers teaching multiple subjects?

2. Literature Review

2.1 Self-Efficacy

Self-efficacy refers to an individual's awareness of his or her ability to perform a task in a particular domain (Chao, McInerney, & Bai, 2019; Luangpipat, 2018; Malinauskas, 2017; Martin & Rimm-Kaufman, 2015). Self-efficacy is defined as a person's perception that he can undertake a course of action (Bartimote-Aufflicka, Bridgeman, Walker, Sharma, & Smith, 2016). Self-efficacy is grounded in social cognitive theory by Bandura which considers "human behavior", "external environment", and "personal factors" as causal factors that are interrelated (Filatov & Pill, 2015). According to Bandura (1997), teachers develop their self-efficacy beliefs through four identified sources; mastery experience, vicarious learning, social persuasion, and interpretation of physiological states. Tschannen-Moran & Woolfolk Hoy (2001) operationalised teacher self-efficacy into three constructs; efficacy in student engagement, efficacy in instructional strategies, and efficacy in classroom management. Individuals with higher levels of self-efficacy outperform their counterparts with lower levels of self-efficacy (Cave, Evans, Dewey, & Hartshorn, 2018). The study used Bandura's (1997) construct of self-efficacy beliefs to investigate how novice teachers perceived their efficacy in teaching multiple subjects, and whether their personal characteristics and educational background affected their self-efficacy beliefs.

2.2 Teacher Self-efficacy

Teacher self-efficacy refers to a teacher's belief in his abilities to execute and organised a plan of action necessary to accomplish a task successfully in a particular context (Cantrell, Almasi, Carter, & Rintamaa, 2013; Malinauskas, 2017; Ninkovic' & Floric', 2018; Sarac & Aslan-Tutak, 2017). Conceptually, teacher efficacy can be viewed as teachers' belief that variables within their control have a higher effect on teaching outcomes than student-related or environmental factors that are beyond their manipulation (Mosoge, Challens, & Xaba, 2018). Teacher self-efficacy should be contextualised when judging teacher self-efficacy (Malinauskas, 2017). An important construct in teacher motivation research is teacher self-efficacy (Cobanoglu & Capa-Aydin, 2019). Malinauskas (2017) and Baleghizadeh & Shakouri (2017) asserted that teachers who possess high self-efficacy could teach students effectively, including difficult

students. Teacher self-efficacy is a predictor of teaching practices, and to the extent to which a teacher will be involved in a classroom even when faced with challenges (Elisa Oppermann, Martin Brunner, & Yvonne Anders, 2019; Sarac & Aslan-Tutak, 2017). Teachers with confidence in their ability to teach influence their students to achieve better scores in an academic setting (Sarac & Aslan-Tutak, 2017). The academic achievement of students and the job satisfaction of teachers are impacted by teacher self-efficacy (Korte, 2018; Ninkovic' & Floric', 2018). Teachers with low self-efficacy are one of the contributing factors of teacher attrition (Brown, Lee, & Collins, 2014; McKim & Velez, 2015) while high teacher self-efficacy is linked with teacher career commitment, teacher job satisfaction, student achievement, and teacher retention (Hancock & Scherff, 2010; Kelly & Northrop, 2015). The same teacher in different circumstances or teachers with similar skills could undertake an activity differently depending on changes in teacher self-efficacy (Ninkovic' & Floric', 2018). Results on pre-service teachers in China reported that teachers with a high sense of efficacy performed well and attained higher scores through their emotions such as love and joy (Chen, 2019). Chen further states that teacher emotion which is intertwined with motivation has a positive correlation with teacher self-efficacy. Borrachero et al. (2013) gave a supporting statement by positing that when teachers have a high sense of efficacy, they have an emotional calm that helps them to accomplish their tasks. In contrast, when they have low self-efficacy, they acquire negative emotions and rarely get things done. Student achievement, successful change, and innovation implementation have been associated with teacher self-efficacy (Cantrell, Almasi, Carter, & Rintamaa, 2013). Teacher self-efficacy has a positive correlation with the academic achievement of students (Prelli, 2016; Yoo, 2016). Teacher self-efficacy is a predictor of teachers' aspirations, behavior towards change and innovation, methods they employ in the classroom setting, and the resilience of teachers in education (Christophersen, Elstad, Turmo, & Solhaug, 2015). Teacher self-efficacy plays a vital role when it comes to creating a quality environment for teaching (DeMauro & Jennings, 2016) and higher classroom management (Tsouloupas, Carson, Matthews, Grawitch, & Barber, 2010). Teacher self-efficacy encourages and motivates teachers to create a conducive environment and an efficient academic strategy necessary for the success of students (Sezgin & Erdoğan, 2018). A seminal work by Gibson and Dembo (1984) revealed that there was a disparity between teachers with high self-efficacy and those with low self-efficacy. Based on their observation, they noticed teachers with high self-efficacy spent time instructing and correcting their students better than their counterparts with low self-efficacy. Efficacious teachers consider struggling students as teachable and give them extra attention (Yoo, 2016). Teacher self-efficacy has been associated with teacher motivation (enthusiasm, persistence, instructional behavior, burnout and job satisfaction) which might exert influence on educational practice (Cobanoglu & Capa-Aydin, 2019; DeMauro & Jennings, 2016; West, Lunenburg, & Hines III, 2014; Yoo, 2016). Teacher job satisfaction was found to be positively related to

teacher self-efficacy and motivation but negatively related to teacher burnout (emotional exhaustion) (Skaalvik & Skaalvik, 2010; Skaalvik & Skaalvik, 2017).

2.3 Prior Research on Novice Teachers' Self-Efficacy

Theoretically, novice teachers may be aware of the course of action to take but encounter challenges when it comes to their affective abilities, relating to teacher-student interactions and their ability to balance what they value about teaching (Onafowora, 2005). Teacher self-efficacy beliefs of novice teachers are low but increase with time as they gain experience (Ozder, 2011). Novice teachers build their self-efficacy through vicarious learning (by observing credible and competent models) (González, Conde, Díaz, García, & Ricoy, 2018). Mastery experience is one of the most significant sources of self-efficacy for novice teachers (Tschannen-Moran & Woolfolk Hoy, The differential antecedents of self-efficacy beliefs of novice and experienced teachers, 2007). Veenman (1984) in his study concluded that novice teachers perceived eight main problems in teaching; classroom discipline, motivating students, dealing with diversity, family relations, assessing students' work, classwork organization, insufficient teaching materials, and how to deal with individual students' problems. In another study, male novice teachers were found to possess a higher sense of efficacy than female novice teachers (Tok & Tok, 2016). Langley, Martin, & Kitchel (2014) reported that the self-efficacy of novice teachers could be affected by where they live and work, aside from the teaching work itself. The resilience novice teachers bring into the teaching profession has been identified as having a relationship their commitment, success, and personal efficacy (Tait, 2008). A relationship exists between novice teachers' self-efficacy and level of job satisfaction (Epps & Foor, 2015). There is a direct relationship between novice teachers' self-efficacy, teacher placement, and attrition (Moseley, Wandless, Bilica, & Gdovin, 2014).

2.4 Support for Novice Teachers

Bruno et al. (2019) recommended support for novice teachers because it is crucial to their retention and the academic performance of students. When support is available for novice teachers, they are influenced to remain in the teaching profession (Ingersoll, 2012). When there is leadership support available for novice teachers, they build commitment to their schools (Glennie, Mason, & Edmunds, 2016). Mentorship has been outlined as one of the key support for novice teachers (Hadi & Rudiyanto, 2017). According to the authors, mentorship goes beyond retaining new teachers in the profession, it also provides a positive school climate for teachers to develop their knowledge, personality, and career. Showing support for novice teachers through collaboration with mentors and colleagues improve their self-efficacy (Cooke & Faez, 2018). Boakye & Ampiah (2017) opined that pre-service for novice teachers should be able to equip them with skills needed to face challenges at school, and also adequate equipment and materials should be made available for novice teachers, especially those in rural schools. Onafowora (2005)

advocates for an ongoing “teacher learning” experience for novice teachers for them to observe good teaching practices and periodic interactions with colleague teachers. Teacher education programs and support should be given to novice teachers rather than leaving them on their own (Fry, 2009). Giving novice teachers the opportunity to practice in real classrooms during pre-service also helps to improve their self-efficacy (Lentfer & Franks, 2015). Successful teaching practices improve the self-efficacy of novice teachers (Yu, 2018). Positive feedback also enhances the self-efficacy of novice teachers (Hoi, Zhou, Teo, & Nie, 2017).

3. Method

3.1 Research Design

A cross-sectional survey design was employed to investigate the self-efficacy beliefs of novice teachers teaching multiple subjects in Ghana. “A cross-sectional study can examine current attitudes, beliefs, opinions, or practices” (Creswell, 2018, p. 377).

3.2 Procedures

An introductory letter was sent to the office of Education Director of the Birim North District detailing the aims of the study and to get permission to conduct the research. After permission was granted, teachers were notified about the purpose of the study and to get their consent to be recruited to give answers to the research questions. The Birim North District has a teacher population of 200 with 100 being novice teachers (in service for a maximum period of 3 years).

3.3 Participants

Researchers have diverse views when defining the term novice teacher. While Kim and Roth (2011) see novice teachers as those with less or 5 years of experience in the teaching profession, Barrett et al. (2002) define novice teachers as those with less than 3 years of experience in the teaching profession. For the purpose of this research, novice teachers included in the study are those with less than 3 years of experience in the teaching profession. It has been observed that the first three years of teaching has a significant impact on the professional careers of novice teachers (Stokking, Leender, De Jong, & Van Tarwijk, 2003). Participants for the study were recruited through random sampling technique. Random sampling so that individuals from the target population has an equal chance of being selected, and to choose participants who will be representative of the

population (Creswell, 2018). The Teachers' Sense of Efficacy Scale (TSES) long-form was administered to 100 novice teachers who taught multiple subjects in the 2020/2021 academic semester for them to assess their self-efficacy beliefs. Overall, 72 novice teachers filled the questionnaire and submitted (i.e. final sample of the study was 72).

Table 1 Demographics (n = 72)

	Frequency	Percent
Age		
20-24	16	22.2
25-29	31	43.1
30-34	16	22.2
35-39	6	8.3
40-44	3	4.2
Total	72	100.0
Socioeconomic Status		
Low	11	15.3
Middle	61	84.7
High	-	-
Total	72	100.0
Gender		
Male	46	63.9
Female	26	36.1
Total	72	100.0
Education Level		
Diploma	40	55.6
Bachelor's	28	38.9
Master's	4	5.6
Total	72	100.0
Class Size		

10-20	-	-
21-31	21	29.2
32-42	20	27.8
43-53	31	43.1
Total	72	100.0

As presented in Table 1, 72 novice teachers participated in the study. Majority of the novice teachers were between the ages of 25-29 (n =31) with the lowest between the ages of 40-44 (n = 3). Most of the novice teachers reported a “middle’ socioeconomic status (n = 61), few reported low socioeconomic status (n = 11) with none reporting a high socioeconomic status (n = 0). In Ghana, socio-economic status is determined by home resources/household infrastructure. The socio-economic status of participants was determined using self-reported data by the respondents of the study. 46 males signifying 63.9% participated in the study whereas 26 females signifying 36.1% participated in the study. As regards the level of education, most were diploma certificate holders (n = 40), a moderate number had a bachelor’s degree (n = 28), and only a few had a master’s degree (n = 4). A high number (n = 31) of the teachers reported that they taught large classes (43-53 students). There was little difference in the number of those who taught between 21-31 students (n = 21) and those who taught between 32-42 students (n = 20). None taught a class size of 10-20.

3.4 Instrument

Novice teachers’ self-efficacy beliefs were assessed using the long form of the Teachers’ Sense of Efficacy Scale (TSES), which was developed by Tschannen-Moran & Woolfolk Hoy (2001). TSES consists of 24 items along a 9-point continuum ranging from; 1-nothing, 3-very little, 5-some influence, 7-quite a bit, and 9-a great deal. In all the scale has 8-items under 3 subscales; efficacy for instructional strategies, efficacy for classroom management, and efficacy for student engagement. Reliability for the full scale range from .92 to .95, whereas, reliability for subscales range from .86 to .90. Sample items include; efficacy for instructional strategies (How much can you do to control disruptive behavior in the classroom?), efficacy for classroom management (How much can you do to

control disruptive behavior in the classroom?), efficacy for student engagement (How much can you do to motivate students who show low interest in schoolwork?).

3.5 Data Analysis

Descriptive analysis was employed to present the general information of participants in the form of frequency, means, standard deviations, maximum and minimum value, skewness and kurtosis. To test the assumption of normality, normal Q-Q plot of teacher self-efficacy beliefs was produced, and the data points were observed to be closed the diagonal line (Fig. 1). ANOVA test was run to determine whether there was a statistically significant difference of the novice teachers’ self-efficacy beliefs relating to the demographic variables (age, socioeconomic status, gender, level of education, and class size). To answer the third and fourth research questions, Arithmetic mean and dependent group t-test was performed to know whether there was statistically significant within-group difference of the TSES sub-dimensions. Correlational analysis was performed to determine the inter-correlations between the sub-dimensions of TSES. Reliability analysis was also performed on the TSES; the overall Cronbach’s Alpha value recorded was 0.977.

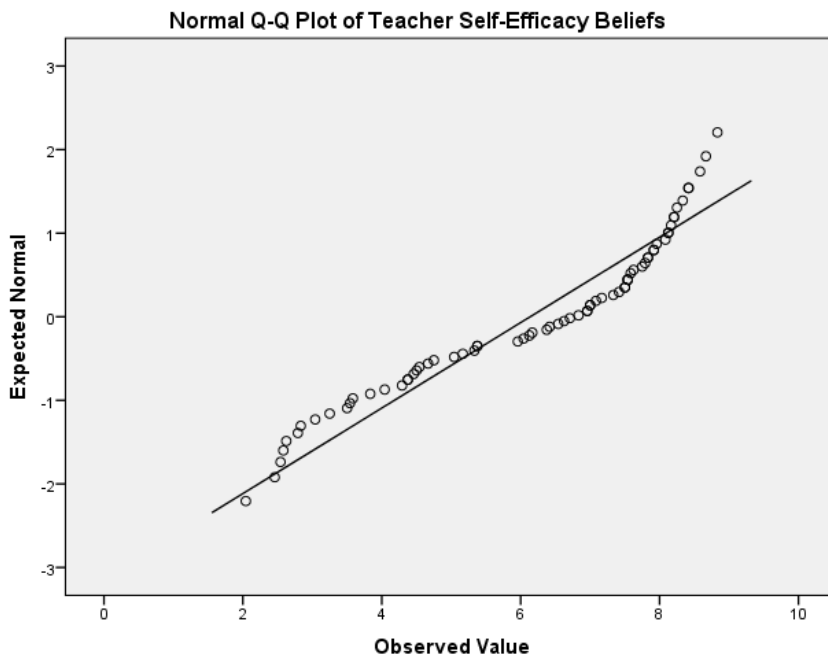


Figure 1 Normal Q-Q plot showing normality of variables in the TSEB scale

4. Results

RQ1. To what extent do novice teachers teaching multiple subjects rate their teachers' self-efficacy beliefs?

Table 2 Teacher Self-efficacy belief scores of Novice teachers

TSES sub-scales	N	Minimum	Maximum	Mean	SD	Skewness	Kurtosis
Efficacy in Student Engagement	72	1.88	9.00	6.1111	1.95229	-.579	-.904
Efficacy in Instruction Strategies	72	2.25	9.00	6.2031	1.96093	-.555	-1.042
Efficacy in Classroom Management	72	2.00	9.00	6.0972	2.08187	-.430	-1.149
Total Score	72	2.04	9.00	6.1372	1.99836		

From Table 2, the overall teacher self-efficacy beliefs (TSEBs) of the novice teachers are at the level of 6.14. The novice teachers perceived themselves to be moderately efficacious in using instructional strategies (mean = 6.20, SD = 1.95), their efficacy belief in using classroom management was lower (mean = 6.09, SD = 2.08) compared to the former and efficacy in student engagement which was also low (mean = 6.11, SD = 1.95).

RQ2. Is there a statistically significant difference in novice teachers' self-efficacy beliefs in teaching multiple subjects with respect to age, gender, socioeconomic status, class size, and educational background?

Table 3 ANOVA test of novice teachers' self-efficacy beliefs relating to demographics (age, SES, gender, education level, class size)

		ANOVA				
Demographics		Sum of Squares	df	Mean Square	F	Sig.
Age	Between Groups	68.708	59	1.165	1.711	.154
	Within Groups	8.167	12	.681		
	Total	76.875	71			
Socioeconomic status	Between Groups	8.819	59	.149	3.588	.009
	Within Groups	.500	12	.042		
	Total	9.319	71			
Gender	Between Groups	15.611	59	.265	3.175	.016
	Within Groups	1.000	12	.083		
	Total	16.611	71			
Educational level	Between Groups	22.333	59	.379	1.239	.358
	Within Groups	3.667	12	.306		
	Total	26.000	71			
Class size	Between Groups	39.944	59	.677	.762	.764
	Within Groups	10.667	12	.889		
	Total	50.611	71			

Results from Table 3 depicts that there was no statistically mean difference of TSEBs between groups of the demographics (age, socioeconomic status, education level and class size) of the participants with significance level set at $p = 0.05$; age, $F(59, 1711) = .154$; socioeconomic status, $F(59, 3588) = 0.09$; education level, $F(59, 1239) = .358$; class size, $F(59, 762) = .74$. However, there was a statistically significant mean difference of TSEBs between groups in terms of gender, $F(59, 3175) = .016$

Table 4 Teacher Self-efficacy scores of Novice teachers relating to demographics

Demographics	Mean	N	SD	Minimum	Maximum
Age					
20-24	6.0234	16	1.90540	2.63	8.13
25-29	6.0094	31	1.95107	2.54	8.83
30-34	6.2318	16	2.24005	2.04	8.58
35-39	6.1111	6	1.94609	4.38	8.67
40-44	7.6111	3	.78874	6.71	8.17
Total	6.1372	72	1.95543	2.04	8.83
Socioeconomic Status					
Low	5.1477	11	1.64141	2.58	7.92
Middle	6.2736	61	1.96567	2.04	8.83
High	8.8333	-	.	-	-
Total	6.1372	72	1.95543	2.04	8.83
Gender					
Male	6.4420	46	1.74701	2.04	8.83
Female	5.5978	26	2.21180	2.46	8.67
Total	6.1372	72	1.95543	2.04	8.83
Education Level					
Diploma	5.6719	40	2.03946	2.04	8.83
Bachelor's	6.8095	28	1.71487	2.54	8.67
Master's	6.0833	4	1.68703	4.50	7.54
Total	6.1372	72	1.95543	2.04	8.83
Class Size					
21-31	6.2123	21	2.04523	2.04	8.42
32-42	5.8479	20	1.92851	2.54	8.67

43-53	6.2728	31	1.95617	2.46	8.83
Total	6.1372	72	1.95543	2.04	8.83

Table 4 demonstrates that the novice teachers between age 40-44 (n = 3) reported a higher TSEBs (mean = 7.61, SD = .789) than the other age ranges. Those at the middle class in terms socioeconomic status reported a higher TSEBs (mean = 6.27, SD = 1.97) than those at the low class (mean = 5.15, SD = 1.64). Males are reported a higher TSEBs (mean = 6.44, SD = 1.75) than females (mean = 5.59, SD = 2.21). TSEBs for bachelor’s degree (mean = 6.81, SD = 1.71) and master’s degree (mean = 6.08, SD = 1.69) holders were greater than that of diploma certificate holders. Those who taught a class size of 32-42) recorded a lower TSEBs than those with 42-52 (mean = 6.27, SD = 2.05) and 21-31 (mean = 6.21, SD = 2.05) class sizes which had averagely similar scores.

RQ3. Are there significant differences in the teacher self-efficacy belief dimensions of novice teachers teaching multiple subjects?

Table 3 Results of t-Test between dimensions of TSES of novice teachers

TSES Dimensions	Mean	Std. Deviation	t	df	Sig. (2-tailed)
Efficacy in Student Engagement in Instruction Strategies	-.09201	.64833	-1.204	71	.232
Efficacy in Student Engagement in Classroom Management	.01389	.83591	.141	71	.888
Efficacy in Instruction Strategies in Classroom Management	.10590	.66332	1.355	71	.180

According to Table 5, there was no statistically significant difference between TSEBs about ensuring student engagement in class and using instruction strategies ($t = -1.204$, $p > 0.05$), between ensuring student engagement and employing classroom management ($t = .141$, $p > 0.05$), and adopting instruction strategies and classroom management ($t = 1.355$, $p > 0.05$).

RQ4. Is there are correlation between the teacher self-efficacy belief dimensions of novice teachers teaching multiple subjects?

Table 4 Correlation matrix of TSES Dimensions of novice teachers

Teacher Self-efficacy Dimensions	Efficacy in Student Engagement	Efficacy in Instruction Strategies	Efficacy in Classroom Management
Efficacy in Student Engagement	1	.945**	.916**
Efficacy in Instruction Strategies	.945**	1	.948**
Efficacy in Classroom Management	.916**	.948**	1

** $p \leq 0.05$

Correlational analysis using Pearson correlation displayed in Table 6 reveals that TSES dimensions significantly and positively correlated with one another. Efficacy in student engagement positively correlated with efficacy in using instruction strategies ($r = .945$, $p < 0.05$) and classroom management ($r = .916$, $p < 0.05$), and efficacy in classroom management positively correlated with efficacy in using instruction strategies in the classroom ($r = .948$, $p < 0.05$).

5. Discussion

RQ1, the novice teachers perceived themselves to be fairly adequate in the TSEBs. This suggests that novice teachers are moderately efficacious in teaching multiple subjects. However, novice teachers recorded a lower score (6.09, which is 146 out of 216) in using classroom management than the other two sub-dimensions of the TSES. This finding is lower than the total scores Tschannen-Moran & Woolfolk Hoy (2001) (mean = 7.1) and Tschannen-Moran & Woolfolk Hoy (2007) (mean = 6.87).

As regards RQ2, TSEBs did not differ significantly within groups of age, socioeconomic status, education level, and class size. There was, however, a statistically significant mean difference ($p < 0.05$) within groups of gender. The results indicate that males recorded a higher self-efficacy than females. This concurs with the statement of Bandura

(1997) who opined that self-efficacy could differ with respect to gender in different cultural settings. Myriads of research have revealed that females possess a higher TSEBs than males (Anderson, 2011; Arslan, 2013; Kurt, Güngör, & Ekici, 2014; Shaukat, Vishnumolakala, & Bustami, 2018). This is attributed to the fact that “teaching is viewed as a female occupation” (Ross, Cousins, & Gadalla, 1996, p.389) Nonetheless, the results of the study aligns with findings of research studies that report higher TSEBs in males than females (Akram & Ghazanfar, 2014; Lesha, 2017; Moalosi & Forchheh, 2015; Riggs, 1991). According to Tok & Tok (2016), males are also perceived as possessing higher TSEBs because they frequently take administrative tasks in society as opposed to females.

Regarding RQ3, It was observed that novice teachers perceived themselves to be equally adequate in the TSEBs of student engagement, instructional strategies, and classroom management in class. Comparing this results to the scores obtained for each of the TSES sub-dimensions (see Table 2), it can be inferred from this finding that novice teachers at Birim North District have received less training that target on improving a specific aspect of their TSEBs. Classroom management problems is a concern for novice teachers, this is because they are often deployed to economically disadvantaged classrooms (Lentfer & Franks, 2015). In another study, beginning teachers reported concerns on classroom management related to instructional challenges, “classroom order” and “discipline” (Çakmak, Gündüz, & Emstad, 2018). Ozder (2011) also found that novice teachers are more adequate in classroom management and instruction strategies than in student engagement.

In answer to RQ4, there was a significant positive relationship between the efficacy of student engagement, instruction strategies, and classroom management of the novice teachers. It can be said that as one sub-dimension of the TSES increase, there is an increase in the other two sub-dimensions. Tschannen-Moran & Woolfolk Hoy (2001) also found significant positive intercorrelations between each of the dimensions of TSES.

6. Theoretical and Practical Implications

The study adds value to the extant literature on teacher self-efficacy, especially novice TSEBs in developing country context. Firstly, novice teachers perceived that their TSEBs in teaching more than one subject were moderately adequate. This suggests a weak positive belief in their capabilities in effectively instructing students. It behoves on school administrators and educators to set up appropriate measures aimed at improving the overall TSEBs of novice teachers in the district. Teachers reported low self-efficacy score in classroom management than the other dimensions of the TSES. This could lead to poor academic outcomes for students in the district. Teacher classroom management is positively associated with improved student outcomes (Hattie, 2009). Tschannen-Moran

& Woolfolk Hoy (2007) opined that demographics demographic variables are not strong predictors of TSEBs. In the current study, four of the five demographic variables (age, socioeconomic status, education level, and class size) investigated revealed that TSEBs did not significantly differ. Gender was the only demographic factor that indicated there is a significant mean difference in TSEBs of males and females. Previous studies have mostly identified females as been more efficacious than males. In this study, males recorded higher TSEBs score than females. This finding was consistent with other current studies conducted in different cultural contexts. Secondly, most of the novice teachers who participated in the study taught large classes. It has been reported that large classes are ineffective (Vandenberg, 2012) for teaching and learning, while small classes increase teacher and student motivation to engage in studies (Biddle & Berliner, 2002). According to Glass & Smith (1979), teacher worries about large classes than anything. In contrast, Leung (2005) asserted that quality teaching and learning can still take place in large classes because what matters is not the class size but the nature of activities that takes place in the room. Thirdly, the classroom management score of novice teachers was lower than any of the other dimensions of the TSES. This can be attributed to the large class sizes, lack of experience on teaching methods, and less training and professional development programs the teachers receive prior to been deployed to large classes. Another major contributing factor could be the multiple subjects taught by novice teachers. Normatively, pre-service teachers in Ghana are taught to teach one subject. Because of inadequate resources and skilled personnel, and economic instability, teachers, are forced to take more than one subject. This can contribute to the inability of teachers to control some classrooms effectively. Finally, it was found in the study that there was a strong positive intercorrelation between the dimensions of the TSES. Prior studies have revealed similar results. It can be said that educators in Ghana can have training programs geared towards enhancing the teachers' efficacy in classroom management, and this would ultimately result in an increase in the other dimensions of the TSES.

7. Conclusion

To conclude, the current study found that novice teachers in the Birim North District of Ghana perceived themselves to be fairly adequate in teaching more than one subject, although most of them instructed in large classes. While their TSEBs scores are above average, there could be a decline in their efficacy levels of educators in the district fail to address emerging issues such as large classes. Bearing in mind the importance of efficacy in classroom management, novice teachers in the district perceived themselves not to be efficacious in managing classrooms than engaging students and employing instructing strategies in the classroom. In terms of education level, novice teachers with diploma certificates recorded low scores than those with bachelor's and master's degree. Since prior research have established than higher education level can improve teacher

performance (Chien, 2015; Wolters & Daugherty, 2007), it is recommended that educators in the district encourage teachers to upgrade their qualifications. Teacher professional development and in-service training programs could be an alternative to improve teacher skills in the district. It is a noteworthy fact that adequate incentives and remuneration can motivate teachers to be efficacious (Knight, Durham, & Locke, 2001) since most teachers reported either low or middle socioeconomic status. Moreover, providing mentors, supervisors, leadership training, support programs (e.g. professional development, conferences, seminars, and exchange programs), and reducing class size for novice teachers in Ghana could be an effective, innovative way of helping in the successful adaptation of novice teachers in the classroom (Chychuk, 2016; Fletcher & Barrett, 2004; Hadi & Rudiyanto, 2017). It is the responsibility of schools to ensure novice teachers are able to cope in school and not the work of the teachers themselves (Caspersen & Raaen, 2014). Further research is required to investigate sources of novice teacher efficacy and support, their job satisfaction level, and their intention to quit the teaching profession.

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