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3 **Teacher self-efficacy and its antecedents**
4 **among Post Graduate Diploma in Teaching**
5 **trainees of Dilla University: Implications for**
6 **Ethiopian Secondary School Teacher Education**
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10
11 **ABSTRACT**
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The purpose of this study was to investigate the level of self-efficacy belief of Post Graduate Diploma in Teaching (PGDT) trainees of Dilla university and identify the factors that affect their belief with the intention of recommending possible improvement strategies to enhance effectiveness of the pre-service teacher education in program. To this end, descriptive survey design was employed because of its suitability for gathering data on attitudes, beliefs and predictions, behavior and experiences both in the past and the present. The study was conducted in Dilla University, Ethiopia on 2017 summer modality prospective graduates of Post Graduate Diploma in Teaching Program. From the total of 568 (161 Female & 407 male) prospective graduates who were attending the program, 112 trainees were selected as a sample using stratified random sampling technique. The results indicated that trainees have marginally average level of efficacy which suggested that they can have only 'Some influence' on their students' learning performance and behavior. It was also found that attitude to teaching ($\beta = .573$, $t = 10.129$, $p < .01$) was the biggest contributor to self-efficacy belief followed by teachers' professional collaboration in secondary schools ($\beta = .198$, $t = 5.276$, $p = .002$) and in-campus training practice ($\beta = .146$, $t = 3.201$, $p < .05$) respectively. In contrast to popular expectations, no significant mean difference was observed in trainees' efficacy scores in terms of their Cumulative Grade Point Average. Based on these findings, it was concluded that trainees' efficacy with regard to bringing desired impact on secondary school students' achievement and behavior was not adequate and requires immediate attention. Hence, it was recommended that graduates should be given on-job training and teachers' professional collaboration in Ethiopian secondary schools should be further strengthened with more emphasis on the affective dimension of the profession.

13
14 *Keywords: Post Graduate Diploma in Teaching (PGDT); Attitude; Teacher self-efficacy;*
15 *Teachers' Professional Collaboration; Dilla University; Ethiopia.*

16 **1. INTRODUCTION**
17

18 **1.1 Background of the Study (deleted)**

19 Quality teacher education program warrants the functioning of effective schools and this is
20 mainly possible through producing competent and highly efficacious teachers. Teachers are
21 highly essential for successful operation of the education system and key to educational
22 development. In other words, education quality cannot be thought without having teachers
23 with relevant skills and disposition. And, one of these essential qualities of effective teachers
24 is teacher self-efficacy. Teacher self-efficacy refers to teachers' judgment of their ability to
25 succeed with teaching strategies, challenging school situations and intended growth of their

26 students [1]. More specifically, it refers to their beliefs regarding the positive effect they can
27 have on student outcomes [2].

28

29 Teacher self-efficacy has emerged as a key concept in teacher education over the past few
30 decades [3] because it is an important construct that shapes teachers' classroom
31 effectiveness [4]. It is the strongest predictor of teacher enthusiasm, commitment to teaching
32 profession, career satisfaction, and superior performance. Teachers with high self-efficacy
33 were found to be more resilient in their teaching responsibilities [5]. Thus, supporting the
34 development of teachers' self-efficacy is essential for producing effective, committed and
35 enthusiastic teachers [2].

36

37 Being a key component of social cognitive theory, self-efficacy describes underlying
38 interrelationship among environmental events, personal elements, and behavior [6].
39 According to Bandura [6], for success to occur, people must believe in their ability to
40 exercise control over events that affect their lives. In the context of teaching, a teacher must
41 believe in his/her ability to impact learning so as to be effective in his/her profession. Self-
42 efficacy, therefore, influences thought patterns and emotions that determine classroom
43 actions of teachers.

44

45 Teacher self-efficacy in itself is influenced by four factors: Mastery experiences (One's own
46 experiences of success and/or failure); verbal persuasion (feedback from significant others);
47 vicarious experiences (modeling and observation of ideal person and/or performance); and
48 emotional arousal (associated with perceived capability that influence the process and
49 outcomes of the attempted task). These four sources undergo a form of cognitive processing
50 that determines how the source of information will be weighed and influence the desired
51 teaching task. In relation to this, Tschannen-Moran et al. [1] proposed an integrated and
52 cyclical teacher efficacy model. According to their model, the sources of efficacy information,
53 cognitive processes of a teacher, analysis of the teaching task and teaching competence,
54 teacher efficacy beliefs, and performance interact and work in a cyclical nature. Although
55 these four sources have influence on efficacy beliefs, the assessment of their effects on
56 efficacy beliefs depends on individual's cognitive process. Cognitive process interacts with
57 teaching tasks and its context and self-perception of teaching competence. Teaching tasks,
58 the context and self-perception of teaching competence shape a teacher's efficacy beliefs.
59 When teaching tasks and the context change, teacher efficacy may change as well. Analysis
60 of teaching tasks includes the factors such as assessment of students' abilities, instructional
61 strategies, resources provided by school, and physical condition of teaching environment.
62 Contextual factors include principal and collegial support and school climate. Especially less
63 experienced teachers use teaching task analysis and teaching competence assessment
64 while shaping their efficacy beliefs. Hence, teachers' efficacy has an effect on their
65 performance and serves as new source of efficacy. Lower levels of efficacy cause lower
66 level of effort and performance while low performance and effort lead to lower level of
67 efficacy.

68

69 Mastery experiences are considered the most powerful influence as they provide authentic
70 evidence of one's performance in a teaching situation [7]. The implication is while successful
71 performance by a teacher leads to increased self-efficacy, a failure results in a decline. As
72 teachers develop mastery experience which positively contributes to their self-efficacy, they
73 rely on these as memories and interpretations of similar past teaching experiences [1].

74

75 Empirical studies conducted in diverse contexts have confirmed that teacher self-efficacy
76 has been related to student achievement [8], teachers' instructional innovations [9], teachers'
77 commitment to teaching [10], increased job satisfaction [11], greater levels of planning and
78 organization; and working longer with students who are less motivated to learn [12].

79 Teachers who have high self-efficacy believe that they have the knowledge, skills, and
80 dispositions necessary to positively affect learning outcomes for students of all ability levels
81 [2]. Consequently, they employ varied instructional strategies to teach a new concept or skill,
82 and continue until all students gain understanding.

83
84 The literature so strongly suggests that teacher self-efficacy positively affects teachers and
85 their students that it needs to be directly considered in the success of educational reform
86 [13]. The effect works for both pre-service as well as practicing teachers. Among teacher
87 candidates, for instance, high efficacy has been associated with greater use of autonomy
88 practices, higher content knowledge, less use of controlling behaviors, and fewer instances
89 of burnout [14, 15]. On the other hand, Teachers with low levels of self-efficacy experience
90 more difficulties with student misbehavior, are pessimistic about student learning, and
91 experience higher levels of job-related stress and lower levels of job satisfaction [16].

92 93 **2. PROBLEM STATEMENT**

94
95 Ethiopian education in general and that of secondary education in particular has been
96 criticized for its poor quality. Equally, the system has been accused for its largely didactic
97 and unresponsive nature to student diversity [17]. The poor quality has been verified by the
98 apparently persistent decline in the academic performance of secondary school students in
99 spite of huge expenditure on education. This could be evidenced by several prior studies
100 conducted on the issue. For instance, the results obtained from National Learning
101 Assessment (NLA) conducted in 2014 indicated that the share of grade 10 students who
102 achieved an average score of 50% across five core subjects (mathematics, English, physics,
103 chemistry, biology) stood at 23%. In the same assessment, though they represent qualified
104 entrants to higher education institution, the scores registered by grade 12 students was not
105 promising either. Only 34% of Grade 12 students achieved an average score of 50% across
106 the five core subjects [18]. These figures tell it all. That is, there remain huge gaps between
107 what was planned and what has been achieved at all levels.

108
109 Cognizant of this limitation, the Ethiopian Ministry of Education (MoE)[19] and its allies have
110 undertaken large-scale reviews making substantial changes to the framework of initial
111 secondary school teacher education program a couple of times in the last two decades. The
112 objective of the reviews was to remedy the impediments prevailing in initial teacher
113 education such as the loose linkage between teacher preparation and secondary schools as
114 well as the inadequacy of the program in producing new teachers for the realities of the
115 profession.

116
117 Likewise, two of the most recent reforms in secondary school teacher education included:
118 Teacher Education System Overhaul (TESO) and Post Graduate Diploma in Teaching
119 (PGDT). Driven by the same quality problems which led to the initiation of the TESO, the
120 PGDT was given a mission to curb the problems in quality education at secondary schools; a
121 goal which its predecessor failed to realize. Hence, the PGDT envisioned “seeing secondary
122 school teachers who are capable of producing responsible and competent citizens,
123 committed to their profession and ready for lifelong learning, and who respect and behave in
124 accordance with the democratic principles enshrined in the constitution” (p.5) [20]. To this
125 end, the PGDT relied on willingness and competence to recruit candidates for the
126 profession, which is in a sharp contrast to the TESO. This showed the emphasis the
127 Ethiopian Ministry of Education (MoE) paid to recruiting intrinsically motivated candidates
128 who have positive attitude to the profession and committed enough to contribute to the
129 enhancement of quality in secondary schools.

131 Yet, as prior studies conducted on the PGDT program [20, 21] confirmed, the program faced
132 several implementation challenges with regard to trainees' motives for joining the program,
133 their attitude to the profession, mentoring processes; among others. More specifically, the
134 studies showed that the PGDT is entangled with shortage of experienced and qualified
135 mentors [20, 21]; trainees' low motivation [22], unorganized program implementation and
136 inadequate collaboration among stakeholders [23]; and shortage of quality training materials
137 [20, 21, 23]. These local studies had considerably contributed to the understanding of PGDT
138 trainees' professional disposition and the challenges of the program. Nevertheless, as most
139 of these studies and anecdotal reports from teacher-educators and trainees suggested,
140 there were certain areas of the training that still needed further investigation.
141

142 One key area to examine, which this study aimed at, was trainees' teacher self-efficacy.
143 Being a construct with several antecedents and multi-dimensional consequences with
144 immense implication to quality education, investigating teacher self-efficacy and ascertaining
145 the relative impact of the factors that contribute to its development is crucial in planning for
146 coursework and practicum experiences that could enhance effectiveness of teacher
147 preparation programs [3]. Because today's teachers are expected to manage a wide range
148 of social and academic processes, the efficacy of their efforts considerably determines their
149 persistence and the quality of their classroom practice. Thus, training programs that attempt
150 to instill appropriate skills and attitudes in prospective teachers are needed to consider the
151 effects of teacher education programs on self-efficacy [24].
152

153 As literature review indicated, and to the best of the researchers' knowledge, there were no
154 prior studies which examined teacher efficacy of PGDT trainees and its relationship with
155 gender, teaching experience, attitude to the profession, level of teacher collaboration and
156 principal support in respective secondary schools trainees teach. In a nutshell, the fact that
157 the area is little researched and the absence of prior studies on PGDT training of Dilla
158 University were the underlying reasons for conducting this study. With such rationale, the
159 study aimed at investigating the level of and the factors that affect PGDT trainees' teacher
160 self-efficacy with particular emphasis to Dilla University. To this end, the study was guided
161 by the following research questions:

- 162 • What is the level of teacher self-efficacy beliefs of PGDT trainees?
 - 163 • What factors affect PGDT trainees' teacher self-efficacy beliefs?
 - 164 • To what extent do these factors predict trainees' teacher self-efficacy beliefs?
- 165

166 **3. LITERATURE REVIEW**

167 **3.1 The Concept of Teacher Efficacy**

168 Teacher efficacy or Teacher Self-efficacy is defined as the belief of a teacher to influence on
169 the behaviors, academic achievement and learning intentions of students [25], especially
170 students with low motivation [2]. These beliefs refer to what teachers believe they can do,
171 rather than what they will do. Teachers with strong teacher efficacy tend to be creative,
172 curious, persistent, and resilient go-getters in their classroom approach. Teacher's efficacy
173 has also been found to correlate positively with their expectation level, effort, affective
174 elements within the classroom, classroom management approaches, the way the teacher
175 communicates, levels of job stress, teacher engagement, levels of teacher emotional
176 exhaustion, and instructional methods [12]. When applied to teaching, these sources of
177 efficacy information combine with analysis of the teaching task and personal competence to
178 create a level of teachers' teaching efficacy [1]. This level of efficacy, in turn, affects how
179 teachers deliver instruction to students. Consequently, it can be concluded that self-efficacy
180 is a dynamic construct which is both a cause and an effect within social cognitive theory.
181 Hence there is a constant interaction between behavior, environment, and personal factors
182 including levels of efficacy.
183

184

185 **3.2 Domains of Teacher Efficacy**

186 Teacher efficacy can be studied along three domains viz., efficacy for classroom
187 management, efficacy for student engagement, and efficacy for instructional strategies [2].
188 Efficacy in these domains is decisive because teachers who are efficacious about their skills
189 in instruction, management, and relationships with students may have more cognitive and
190 emotional resources at their disposal to push students towards developing deeper
191 understandings and solving complex tasks [26].

192

193 **3.2.1 Teacher Efficacy in Classroom Management**

194 Efficacy in classroom management represents teachers' beliefs in their capabilities to
195 organize and execute the courses of action required to maintain classroom order. In
196 particular, it includes teachers' perceived ability to manage and respond to disruptive student
197 behavior, and to establish expectations and rules to guide classroom behavior [2]. Perceived
198 self-efficacy for classroom management also comprises of teachers' belief and practice
199 related to classroom organization, classroom routines and expectation, student participation
200 and attention, cooperative learning and classroom order. Efficacy in classroom management
201 is a prerequisite for teachers to create an effective communication atmosphere and positive
202 learning environment in classroom. Accordingly, efficacious teachers exhibit a classroom
203 management system that supports good behavior and weakens the undesirable ones.
204 Teachers' classroom management style is a reflection of their instructional strategies [27].

205

206 **3.2.2 Teacher Efficacy in Instructional Strategies**

207

208 One of the very crucial tasks of teachers is their skill in using instructional strategies that
209 suits the diverse needs of classroom realities. In this sense, a teacher must have adequate
210 knowledge of and confidence to apply a wide array of instructional techniques. Teacher
211 efficacy in instructional strategies refers to ability of a teacher to create classroom
212 environment which promotes student learning by employing instructional strategies that
213 engage students in meaningful learning. Teachers' efficacy in this dimension impacts their
214 decisions about the nature and structure of classroom activities, as well as students'
215 evaluation of teachers' subject matter expertise [16]. Teachers with high efficacy in this
216 regard invest more time teaching than controlling students who struggle with learning and/or
217 behavior difficulties and adapt instruction to engage students in meaningful learning, when
218 circumstances demand it.

219

220 **3.2.3 Teacher Efficacy in Student Engagement**

221 This domain of teacher self-efficacy represents teachers' confidence in their capacity to
222 develop smooth relationships with all students so as to enable them think creatively, value
223 learning, have in-depth understanding, and develop academic self-efficacy. Highly
224 efficacious teachers come up with innovative techniques to maintain students' engagement
225 in learning, and are confident in their abilities to assist students to sustain their motivation,
226 engagement and personal investment in learning [28].

227

228 **3.3 Factors Affecting Teacher Efficacy Belief**

229 Reviewed literature showed that teacher self-efficacy is affected by various factors. The
230 following is discussion of the relationship between the independent factors considered in the
231 study and teacher efficacy.

232

233 **3.3.1 Gender and Teacher Efficacy**

234 Studies conducted on teacher efficacy in relation to gender showed variation in their
235 findings. Some studies; for instance, Yeo et al [29] found no significant differences between
236 males and females regarding their teacher efficacy beliefs. Other studies, for instance Riggs

237 [30], reported that males are more efficacious about their science teaching abilities when
238 compared to females who also taught elementary science. In a more or less similar manner,
239 the findings of Klassen and Chiu [31] supported the results reported by Riggs [30]. The two
240 studies reported that male teachers held stronger efficacy beliefs than females in classroom
241 management, but not in instructional strategies and student engagement. In contrast,
242 Cheung [32] reported that female teachers had significantly stronger efficacy beliefs than
243 males. Though it might require adequate knowledge of the context where the studies were
244 conducted, it can be hypothesized that the differences of these studies might be due to
245 socio-cultural variables. Another contributing factor might be the different types of
246 instruments used by the researchers.

247 248 **3.3.2 Content Knowledge and Teacher Efficacy**

249 Studies regarding content knowledge measured by Cumulative Grade Point Average
250 (CGPA) and self-efficacy levels of teachers showed a positive relationship. A longitudinal
251 analysis by Newton, Leonard, Evans, and Eastburn [33] for instance found that pre-service
252 content knowledge delivered through the means of a university pre-service methods course
253 significantly and positively related with gains in personal teaching efficacy, but not in
254 outcome expectancy [35]. Similarly, a study by McCoy [34] on pre-service elementary school
255 teachers found significant positive correlations between personal teaching efficacy levels
256 and possession of specialized mathematical knowledge.

257 258 **3.3.3 Teaching Experience and Teacher Efficacy**

259 The literature on the relationship between teaching experience and teacher efficacy seems
260 cloudy to arrive at conclusive evidence regarding the matter. Some studies [35, 36] reported
261 absence of significant relationship between teacher efficacy and teaching experience. In
262 contrast, others [8, 28] suggested efficacy beliefs strengthen as teachers accumulate
263 teaching experience. For instance, the study by Tschannen-Moran and Hoy [8] indicated that
264 experienced teachers had significantly higher efficacy than novices. This might be because
265 confidence increases as the mastery experiences and successes of experienced teachers
266 widens as a result of experience with students [28]. In contrast, Klassen and Chiu [31]
267 asserted that teacher efficacy beliefs weaken through the latter years.

268 269 **3.3.4 Principal Support and Efficacy Beliefs**

270 Principal support has been found to be a significant predictor of school effectiveness which
271 has been linked to collective efficacy [37], which has, in turn, been linked to individual
272 teacher efficacy beliefs [38]. More precisely, if teachers enjoy the principal's support, they are
273 more likely to have stronger self-efficacy. Intellectual stimulation, inspirational influences,
274 and individualized consideration of principals were often cited to be related with novice
275 teachers' efficacy beliefs [39]. Such support for novice teachers within a school promotes
276 their efficacy and reduces the stress they feel while struggling with the demands of the
277 profession. This is because a quality relationship with an effective principal may lessen the
278 influence of emotional and physical demands such as work overload. In this connection,
279 teachers who received more effective principal support often reported greater efficacy beliefs
280 [2, 10, 40]. In contrast to this, some studies [8, 41] concluded that there was no relationship
281 between the supportive behaviors of the principal and teacher efficacy. Tschannen-Moran
282 and Woolfolk-Hoy [8] concluded that "Teachers form beliefs about their capability to impact
283 student learning whether support from administrators is available or not" (p.954).

284 285 **3.3.5 Teachers' Professional Collaboration and Efficacy**

286
287 Professional collaboration plays a decisive role in the efficacy level and easy adjustment of
288 novice teachers to school culture and the demands of the teaching profession. Collaboration
289 often indicates genuine dialogues, collegiality, collective problem solving and supportive

290 relationships among teachers. Tschannen-Moran and Hoy [8] found that verbal persuasion
291 significantly predicted novice teachers' sense of efficacy because "teachers who are
292 struggling in their early years in their careers tend to lean more heavily on the support of
293 their colleagues" (p.953). Billingsley, Carlson, and Klein [42] noted that teachers who watch
294 and work with each other, especially during initial years of their career, have greater success
295 in managing their job, deal effectively with more difficult students, and feel successful with
296 their job than those who work in isolation. Similarly, Guo et al. [43] also ascertained that
297 teacher collaboration was a significant predictor of teacher's self-efficacy.

298 **3.3.6 Attitude to Teaching and Teacher Efficacy**

300 Attitude, which refers to positive or negative assessment expressions, tells what an
301 individual feels about his profession. Perhaps, the biggest difference of teaching profession
302 from other professions is that the affective dimension directly and significantly affects
303 success [44]. A teacher who holds a positive attitude for the profession performs his/her
304 tasks in the best manner and increases the achievement level of his/her students.

306 In relation to teacher efficacy, prior studies found that there was a low but positive correlation
307 between teacher candidates' self-efficacy beliefs and attitudes towards the teaching
308 profession [45, 46]. Similarly, Denizoglu [47] reported statistically significant correlation
309 between prospective teachers' self-efficacy beliefs and the changes in their attitudes.

310 **4. METHODOLOGY**

311 **4.1 Research Design**

314 The purpose of this study was to investigate the level of self-efficacy belief of Post Graduate
315 Diploma in Teaching (PGDT) trainees of Dilla University and identify the factors that affect
316 their belief with the intention of recommending possible improvement strategies to enhance
317 effectiveness of the PGDT program. To this end, descriptive survey design was employed.
318 Descriptive survey is concerned with description and interpretation of conditions or
319 relationships that exist, opinions that are held, processes that are going on, and effects that
320 are evident or trends that are developing [48]. They are useful for gathering factual data on
321 attitudes and preferences, beliefs and predictions, behavior and experiences both in the past
322 and the present [49].

324 The design was chosen for the reason that it enables to obtain pertinent information on
325 trainees' self-efficacy level, their attitude towards the teaching profession, their level of
326 satisfaction with in-campus training at the university, as well as their perception of principals'
327 support and teachers' professional collaboration in the respective secondary schools they
328 work in. Hence, this design was practical for the following reasons: First of all, the study
329 deals with several variables and intends to determine the extent these variables affect
330 trainees' self-efficacy. Secondly, as the participants were summer (in-service) trainees who
331 come to the University only for Two months Stay, there was a time constraint. Above all, the
332 researchers intended to generalize the results from the samples to the population, and
333 survey was found as the most appropriate design considering the time constraint, the nature
334 and number of variables as well as the number of participants considered in this study.

335 **4.1.1 Target Population and Sampling Procedure**

337 The target population of the study included 568 prospective PGDT graduates of the 2016
338 summer modality in Dilla University, Ethiopia. From the total of 568 (161 Female & 407
339 male) prospective graduates, 136 (about 24%) were initially taken as a sample. Yet, only
340 112 questionnaires were found legit while the rest were not returned or discarded due to
341 inconsistency of responses. Having determined the sample size to be taken from the target

342 population, stratified random sampling procedure was used. Gender was used as the main
343 stratification variable so as to make statistical comparison between the two genders
344 possible. Furthermore, representative samples were taken from the three colleges of the
345 university: College of Natural sciences, social sciences and language. In such manner, out
346 of the 11 departments found in these colleges (i.e. Amharic, English, Civic and Ethical
347 Education, Geography, History, Sport Sciences, Biology, Chemistry, Physics, and
348 Mathematics and Afan Oromo), 3 departments (i.e. Biology, Maths, Chemistry) from natural
349 sciences, and 4 departments (i.e. Amharic, Geography, History, Physics) from social
350 sciences and language colleges were chosen using lottery method. Once again, the number
351 of final respondents to be taken from each department was decided based on the number of
352 students in each department using proportional allocation technique.

353 **4.1.2 Data Collection Instruments**

354 Questionnaire was used as data collection instrument. Two types of items (questions) were
355 used in the questionnaire. While most of the items used in this study were prepared by the
356 researcher himself, some of the items were adapted from the works of other researchers. In
357 this regard, Teacher Sense of Efficacy Scale (TSES) developed by Tshannon-Moran and
358 Woolfolk-Hoy [2] was used to collect data about PGDT trainees' teacher self-efficacy belief.
359 The instrument consisted of 12 items that assess the degree to which trainees feel
360 efficacious about their capabilities to deal with issues related to three sub-scales: student
361 engagement (4 items), instructional strategies (4 items), and classroom management (4
362 items). The instrument was chosen for this study because it has been found to be reliable
363 and valid measurement in various educational and cultural contexts, appropriate to use for
364 both pre-service and practicing teachers (Henson et al, 2001)[53]. Adaptation was made on
365 the original 9 point scale items to be 5 point scale where 1= 'Nothing'; 2= 'Very little',
366 3='Some Influence', 4 = 'Quite a Bit', 5='A Great Deal'.

367 Furthermore, a 5-point Likert scale was used to measure the other variables of the study.
368 The Attitude Scale contained 10 items. In addition, 10 items were used to measure Teacher
369 Collaboration, 9 items were used to measure perceived principal support and 12 items to
370 measure perceived satisfaction of prospective PGDT graduates with in-campus training
371 delivery all measured in five point likert scale. The scale consisted of both favorable and
372 unfavorable statements. In the case of favorable statements strongly agree was scored 5,
373 agree was scored 4, undecided was scored 3, disagree was scored 2, and strongly disagree
374 was scored 1. The values were reversed for negatively worded statements. All the scales
375 were intentionally measured in 5 point scale because the literature suggests that 5 point
376 scales are better understandable to respondents; appear to be less confusing; increase
377 response rate and response quality. This goes along with the fact that respondents were
378 expected to read and answer a reasonably large number of items included in this study.
379 Furthermore, items focusing on socio-demographic and academic characteristics of trainees
380 were included.

381 So as to ensure validity of the items, the questionnaire was given for two teacher-educators
382 of Dilla University for their comments on content and construct validity of instruments. As a
383 result of the comments, certain amendments were made to some items. To check the
384 internal consistency of the instrument, a pilot study was conducted prior to its actual use in
385 the survey. As a result, each scale was tested for internal consistency using Cronbach alpha
386 coefficient. The scales in the questionnaire satisfied the criterion sufficiently. The Cronbach
387 alpha reliability coefficient of the teacher self-efficacy belief scale was found to be $\alpha=0.74$.
388 The Cronbach alpha reliability coefficient of the attitude scale was found to be $\alpha=0.96$.
389 Moreover, the reliability coefficients for Teacher Collaboration, perceived principal support

390 and satisfaction of with in-campus training delivery were found to be $\alpha=0.75$, $\alpha=0.73$ and
391 $\alpha=0.92$ respectively.

392 **4.1.3 Data Analysis Techniques**

393 The collected data were analyzed quantitatively using frequency, percentage, mean,
394 standard deviation, one way ANOVA, one sample t-test, Pearson's correlation coefficient
395 and multiple linear regressions. One way ANOVA was used to see if there is statistically
396 significant difference in efficacy belief of trainees in terms of their CGPA. One sample t-test
397 was used to check if statistically significant mean difference exists between the expected
398 and the actual level of efficacy belief of trainees. Correlation analysis was used to check the
399 type (Positive or Negative) and strength of relationship the dependent variable has with the
400 independent variables. Finally, multiple regression analysis was run to see the relative
401 impact as well as predictive value of each independent variable (Added). The data were
402 coded, analyzed and interpreted with the help of a Statistical Package for Social Sciences
403 (SPSS) software version 21.

404 **5. RESULTS AND DISCUSSION**

405

406 **5.1 Results**

407 **5.1.1 Descriptive results of Independent variables**

408

409 As depicted in table 1 below, PGDT trainees had moderately negative attitude towards their
410 profession with the overall mean score of $M=2.98$, $SD= 1.18$ which was below the expected
411 mean of 3. Regarding satisfaction with in-campus training delivery, the mean score was $M=$
412 2.93 , $SD= 1.12$. That is also slightly below the expected mean. This indicates that trainees
413 were not satisfied with the training practices. The overall result for the scale suggests that
414 instructors' use of instructional activities, immediate feedback and opportunities for reflective
415 teaching practice requires much improvement. The mean score for teacher collaboration is
416 2.88 with $SD=1.01$ while the score for the principal support scale was $M=3.25$ with $SD= 1.16$.
417 The result suggested that school principals are executing their responsibilities in helping
418 novice teachers, slightly above the expected average. Nevertheless, teachers' professional
419 collaboration was found to be below the expected mean.

420

421 **Table 1. Descriptive Summary of Continuous Independent Variables**

422

Variable	Mean	SD
Attitude	2.98	1.18
Satisfaction with in-campus training	2.93	1.12
Teacher Collaboration	2.88	1.01
Principals' support	3.25	1.16

423

424 **5.1.2 Level of Trainees' Teacher Efficacy Beliefs**

425 Teacher self-efficacy refers to a teacher's belief in his/her own abilities to produce intended
426 result on student learning. Table 3 below presents the results.

427
428
429

Table 2. Teacher Efficacy Beliefs of PGDT Trainees

Items	Mean	SD	T-Value
Efficacy in Classroom Management	2.73	1.13	$t = -2.481, df = 111, p = .015$
Efficacy in Student Engagement	2.94	.56	$t = -1.049, df = 111, p = .297$
Efficacy in Instructional Strategy	3.53	.5	$t = 11.141, df = 111, p < .01$
Overall Teaching Efficacy	3.07	1.13	$t = 1.286, df = 111, p = .201$

430

431 The findings (As put in table 2 above) indicated that trainees' average self-efficacy in
432 classroom management is $M=2.73, SD=1.13$. This indicated that trainees believed that they
433 were not capable of managing disruptive behavior in the classroom. The one sample t test
434 analysis also indicated statistically significant mean difference between the actual and the
435 expected mean ($t = -2.481, df = 111, p = .015$). In the second sub scale, efficacy in student
436 engagement, trainees actual mean score ($M = 2.94, SD = .56$) was below the expected mean.
437 Though the mean score difference with the expected mean was not statistically significant
438 ($t = -1.049, df = 111, p = .297$), their efficacy in this sub scale falls slightly below the option of
439 "some influence". Trainees' score was relatively better in the third dimension i.e. efficacy for
440 instructional strategy where the mean score was $M = 3.53$ with $SD = .50$. The result was
441 above the expected mean and statistically significant ($t = 11.141, df = 111, p < .01$).

442

443 **5.1.3 Gender Differences in Trainees' Teacher Efficacy**

444 Independent sample t-test was computed to see the relationship between the two variables.
445 Table 3 below shows the findings.

446

447 **Table 3. Independent sample t-test result of teacher self-efficacy according to gender**

	Gender	N	Mean	SD	Levene's Test	t	Df	Sig. (2-tailed)	
									F
OTE	Female	42	2.67	0.55	3.086	.082	-6.78	110	.000**
	Male	70	3.31	0.44					
ECM	Female	42	2.03	1.08	1.005	.318	-5.80	110	.000**
	Male	70	3.16	0.94					
ESE	Female	42	2.65	0.45	1.496	.224	-4.58	110	.000**
	Male	70	3.12	0.56					
EIS	Female	42	3.32	0.52	1.631	.204	-3.59	110	.001

Male 70 3.66 0.46

448 **Significant at 0.01 level.

449

450 Key: **OTE**= Overall Teacher Efficacy; **ECM**=Efficacy in Classroom Management; **ESE**=
 451 Efficacy in Student Engagement; **EIS**= Efficacy in Instructional Strategies.

452

453 As depicted in table 3 above, independent sample analysis revealed that there are
 454 significant gender differences in EIS ($t = -3.59, p = .01$), ESE ($t = -4.58, p < .01$), ECM ($t = -$
 455 $5.80, p < .01$), and OTE ($t = -6.78, p < .01$) with males scoring significantly higher than
 456 females. The result showed female trainees have low self-efficacy beliefs, compared to their
 457 counterparts.

458

459 **5.1.4. Content Cumulative Grade Point Average (CGPA) and Teacher self-efficacy**

460

461 Given that CGPA is generally believed to measure academic ability, the PGDT program
 462 utilizes as a major criterion for recruiting trainees. Table 4 below shows the relationship
 463 between CGPA and Teacher self-efficacy.

464

465 One way ANOVA was computed for the three sub scales and for the overall teacher self-
 466 efficacy belief to see if the mean differences were statistically significant in terms of trainees'
 467 CGPA. The results confirmed that the differences were not statistically significant. Overall
 468 Teacher Efficacy and efficacies for student engagement, instructional strategy and
 469 classroom management did not differ significantly among the five GPA categories (groups).
 470 ECE ($F(4, 107) = 1.390, p = .242$), EIS ($F(4, 107) = .410, p = .801$), and OTE ($F(4, 107) =$
 471 $2.022, p = .096$) were not statistically significant across the five GPA categories. Though, the
 472 ANOVA result for ESE seems significant ($F(4, 107) = 3.426, p = .011$) it did not satisfy
 473 Levene's test for homogeneity of variance.

474

475 **Table 4. Trainees' Efficacy beliefs in terms of CGPA of their Applied Degree**

476

		Sum of Squares	df	Mean Square	F	P
ECM	Between Groups	7.038	4	1.760	1.390	.242
	Within Groups	135.497	107	1.266		
	Total	142.535	111			
ESE	Between Groups	3.998	4	.999	3.426	.011
	Within Groups	31.216	107	.292		
	Total	35.214	111			
EIS	Between Groups	.427	4	.107	.410	.801

	Within Groups	27.839	107	.260		
	Total	28.266	111			
	Between Groups	2.583	4	.646	2.022	.096
OTE	Within Groups	34.174	107	.319		
	Total	36.758	111			

477 Key: **OTE**= Overall Teacher Efficacy; **ECM**=Efficacy in Classroom Management; **ESE**=
478 Efficacy in Student Engagement; **EIS**= Efficacy in Instructional Strategies.
479

480 **5.1.5 Relationship among Continuous Variables and Trainees' Self-efficacy**

481 Correlation analysis was computed to see the relationship between continuous independent
482 variables and trainees' efficacy levels. As depicted in table 5 below, there was statistically
483 significant positive relationship between attitude and teacher self-efficacy belief, $r=.929$, $p=$
484 $.01$. The result revealed that as the attitude of the trainees becomes increasingly positive,
485 their self-efficacy belief also improves. A strong positive correlation was also found between
486 satisfaction level of trainees with their in-campus training and their self-efficacy with $r = .793$,
487 $p < .01$. Hence, improvements in satisfaction with the quality of in-campus training were
488 strongly and positively correlated with increases in self-efficacy score. Moreover, strong
489 positive relationship was identified between teacher collaboration and self-efficacy ($r=0.702$,
490 $p < .01$), while a moderate yet positive relationship was identified between support from
491 principals and teacher self-efficacy beliefs ($r = .506$, $p < .05$). Surprisingly, negative yet
492 moderate correlation ($r = -.579$, $p < .01$) was found between years of teaching experience of
493 trainees before starting the PGDT training and teacher efficacy score.
494

495 **Table 5. Correlation analysis of Continuous Variables and Trainees' Teacher Efficacy**
496

Variables		1	2	3	4	5	6
1.Principal Support	Pearson Correlation	1					
	Sig. (2-tailed)						
2.Attitude	Pearson Correlation	.448**	1				
	Sig. (2-tailed)	.000					
3.Teaching Experience	Pearson Correlation	-.314**	-.579**	1			
	Sig. (2-tailed)	0.001	.000				

4. Teacher Collaboration	Pearson Correlation	.468**	.593**	-.438**	1	
	Sig. (2-tailed)	.000	.000	.000		
5. Training Satisfaction	Pearson Correlation	.324**	.573**	-.517**	.552**	1
	Sig. (2-tailed)	0.001	.000	.000	.000	
6. Overall Teacher Efficacy	Pearson Correlation	.506**	.929**	-.609**	.702**	.793** 1
	Sig. (2-tailed)	.000	.000	.000	.000	.000

** Correlation is significant at the 0.01 level (2-tailed).

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5.1.6 Predictors of Trainees' Self-efficacy

Multiple regression analysis was computed to identify the relative impact of the factors that influence PGDT trainees' teacher self-efficacy beliefs. Six predictors (i.e. Gender, principal support, Teacher Collaboration, attitude, satisfaction with in-campus training and teaching experience) were considered in this model. Using the enter method it was found that the six independent variables explain a significant amount of variance in self-efficacy level of trainees. The results indicated that the model was a significant predictor of teacher self-efficacy, $F(6, 105) = 194.34, p < .01$ (Edited). All necessary checkups were made to make sure that the data satisfies major assumptions such as normality, linearity and multicollinearity.

Table 6. Regression Analysis of Predictors of Trainees' Teacher Efficacy

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta(β)		
(Constant)	1.052	.114		9.257	.000
Gender	.115	.041	.097	2.824	.006**
Attitude	.333	.033	.573	10.129	.000***
Teacher Collaboration	.191	.036	.198	5.276	.000***
Principals Support	.051	.024	.068	2.079	.040**
Teaching Experience	-.034	.017	-.070	-1.995	.049**

In-campus Training	.096	.030	.146	3.201	.002**
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Dependent Variable: Overall Teaching Efficacy; N=112; R Square= 91.7;

Adjusted R² = 91.3 ; ***, **, * Significant at 0.01, 0.05 and 0.1 respectively

512 As clearly shown in table 6 above, the 6 independent variables were found to be significant
513 predictors of trainee's teacher self-efficacy. Gender ($\beta = .097, t = 2.824, p = .006$), attitude ($\beta =$
514 $.573, t = 10.129, p < .01$), teacher collaboration ($\beta = .198, t = 5.276, p < .01$), principal support
515 ($\beta = .068, t = 2.079, p = .040$) and satisfaction with in-campus training ($\beta = .146, t = 3.201,$
516 $p = .002$) were found as positive predictors of teaching efficacy of PGDT trainees.
517 Interestingly, teaching experience was found to negatively contribute to trainees teaching
518 efficacy belief ($\beta = -.070, t = -1.995, p = .049$).

519
520 The total variance in the dependent variable that is explained by the six independent
521 variables together as expressed in the R-square (R²) is 91.7%. When the relative influence
522 of each predictor variable is considered, trainees' attitude to the teaching profession
523 explained more than half of (53.2%) of the variance. The other five predictors together
524 explained 38.5% of trainees' self-efficacy; of which 13.9%, 11.6%, 5.3%, 4.3%, and 3.4% of
525 trainees' efficacy was predicted by teacher collaboration, in-campus training, gender,
526 teaching-experience and principal support respectively. The remaining 8.3% of the variance
527 in the trainees' self-efficacy beliefs was explained by other factors not included in this study.
528

529 5.2 Discussion

530 The purpose of this study was to examine the level of PGDT trainees' self-efficacy belief and
531 identify the factors that contribute to its development with particular reference to Dilla
532 University. Accordingly, the result in the overall efficacy scale indicated that PGDT trainees
533 were not prepared enough to the extent they can influence the behavior of their students and
534 influence the same to value learning irrespective external factors. This is more concerning
535 because the main reason behind the introduction of the PGDT program in Ethiopia was to
536 improve secondary school teachers' commitment to follow and support students [19]. This
537 result; however, suggested that PGDT falls short of achieving its ultimate goal in this regard.
538

539 The second research question was to identify the factors that affect PGDT trainee's efficacy
540 belief. The result revealed that, except content CGPA, all the other independent factors
541 included in the study significantly predicted trainee's self-efficacy belief. In this study, it was
542 found that female trainees were less efficacious than their counter parts. This is in harmony
543 with Klassen and Chiu [31] & Shaukat and Iqbal [51] who reported that male teachers held
544 stronger efficacy beliefs than females. Nevertheless, it was different from Yeo et al. [29] who
545 reported that male and female teachers did not differ significantly in their teacher efficacy.
546 When the context of this study was considered, the difference might be due to cultural
547 influences and/or due to female trainees' meager opportunities to see female models in the
548 university as well as in secondary schools.
549

550 Another variable considered in the study was Attitude. Needless to say, attitude towards a
551 profession significantly affects the effort a person exerts to tasks and activities subscribed
552 under that profession. In this study, the descriptive analysis showed that the attitude of
553 trainees is moderately negative. Thus, it is safe to conclude that the major reason trainees
554 joined the teaching profession is due to lack of other job alternatives. This is in concordance
555 with the findings of Koye [22] and Demis et al [23].

556 Interestingly, the study showed that there was no significant difference in efficacy beliefs of
557 trainees according to content CGPA. This contrasts with the findings of Isiksal and Cakiroglu

558 [52] who reported a positive relationship between mathematics teaching efficacy levels and
559 academic performance in university coursework. If CGPA truly measures knowledge of
560 subject matter, the result is also in disagreement with that of McCoy [34] who found
561 significant positive correlations between personal teaching efficacy and possession of
562 specialized mathematical knowledge among pre-service elementary school teachers. In this
563 study; however, the result might hint the unattractiveness of the teaching profession in
564 Ethiopia due to poor benefits and low social prestige. Hence, the disagreement between the
565 findings of this study and the above studies might be due to the particular role attitude of
566 PGDT trainees played in explaining more than half (53.2%) of the variation in their self-
567 efficacy. In other words, a trainee who joined the PGDT program only as a fallback career
568 will most likely exhibit low efficacy belief despite his super performance (i.e. high CGPA
569 score) in his applied degree (BA/BSc). For trainees' with lower CGPA in applied degrees, the
570 while the main cause might be attributed to their feeling of inadequacy in subject matter
571 knowledge; the attitude issue still stands as another reason for them too.

572 In this study, it was also found that efficacy was negatively predicted by teaching experience
573 before PGDT training. In fact, the literature on the relationship between teaching experience
574 and teacher efficacy seems cloudy. For instance, while Wolters and Daugherty [28]
575 suggested efficacy beliefs strengthen as teachers accumulate teaching experience; Page et
576 al [36] reported absence of such significant relationship. Alternatively, Tschannen-Moran and
577 Woolfolk Hoy [8] underscored that it is not merely teaching experience but satisfaction with
578 ones' own teaching performance that determines efficacy beliefs of both novice and
579 experienced teachers. In light of this study, it can be argued that the efficacy belief of PGDT
580 trainees of Dilla University was negatively predicted with their prior teaching experience
581 because in reality PGDT trainees of summer (*Kiremt*) modality in Dilla as well as in the other
582 Ethiopian universities mostly start their teaching job without having started at least one
583 semester of the PGDT program (a professional training espoused to produce qualified and
584 competent professional secondary school teachers). And, this situation of starting the
585 teaching job with no theoretical and practical understanding of psychological and
586 pedagogical principles most likely might have made PGDT trainees develop low self-efficacy
587 belief during the first year of their teaching career, may be due to distressing experiences.
588 Hence, how novice teachers interpret their performance is as important as the amount of
589 mastery experiences they have. While teaching competence within of the PGDT program is
590 rhetorically expressed as graduates Pedagogical Content Knowledge (PCK), the practice
591 shows secondary schools in Ethiopia are currently populated with novice teachers who are
592 not licensed with professional training (i.e. PGDT certificate).

593
594 In relation to this, Tschannen-Moran and Woolfolk Hoy [8] stated, once established, teacher
595 self-efficacy seems to be change-resistant and the individual is more likely to attend to
596 confirmatory experiences which further consolidate his/her initial efficacy. It follows that
597 trainees of Dilla University, though their years of experiences increase, it might be probable
598 that they were not satisfied with their actual teaching performances. As Tschannen-Moran
599 and Woolfolk-Hoy [8] underscored, it is the teacher's satisfaction with his/her performance,
600 not the amount of years he/she spends in 'teaching' that contributes to his/her efficacy
601 beliefs.

602
603 On the other hand, the findings indicated that trainees who were found to have high self-
604 efficacy were those who were satisfied with in-campus training delivery. This result was
605 compatible with Darling-Hammond, Chung, and Felow [53] as well as Knobloch and
606 Whittington [41] who confirmed that teachers who had more positive perceptions of their
607 initial teacher education program were more likely to be more efficacious in their actual
608 teaching responsibilities. In line with this, Erawan [60] also reported training effectiveness as
609 the strongest predictor of teacher self-efficacy among pre-service teachers.

610

611 Two school contextual factors namely teachers' professional collaboration in secondary
612 schools PGDT trainees work and the amount of support provided to them by school
613 principals played significant role in shaping their self-efficacy beliefs. This is because teacher
614 self-efficacy is context specific construct [55] and is shaped within a particular environment
615 [1]. In congruence with prior studies such as Guo et al. [43] and Tschannen-Moran and
616 Woolfolk [8], who reported that teachers who receive guidance from their colleagues feel
617 more efficacious, regardless of whether it is in the form of supervision, mentoring, or
618 interdisciplinary teams, the result in this study also confirmed that there was a positive and
619 strong relationship between the level of teachers' collaboration in the respective school of
620 PGDT trainees and their efficacy belief.

621
622 In this study, it was also found that there was a moderate and positive relationship between
623 teacher self-efficacy and support from principals. The findings were in agreement with
624 Tschannen-Moran and Hoy [8] and Dale [40] who concluded that if teachers enjoy the
625 principal's support, they are more likely to have stronger self-efficacy beliefs. The result
626 revealed that working environment and school leadership are important factors in the
627 development of trainees' self-efficacy.

628

629 **6. CONCLUSION**

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631 Based on the major findings of the study, the following conclusions were reached.

- 632 ▪ PGDT trainees have low efficacy beliefs in student engagement and classroom
633 management. They have moderate self-efficacy in instructional strategy. Their
634 overall efficacy level could not be taken as sufficient enough to impact their
635 classroom practices, persistence and commitment to the teaching profession and
636 hence academic achievements of their students to the expected level.
- 637
- 638 ▪ Compared to males, female have low self-efficacy beliefs in student engagement,
639 instructional strategy and classroom management as well as overall self-efficacy
640 beliefs.
- 641
- 642 ▪ There is no mean difference in trainees' self-efficacy scores of the three sub scales
643 and overall teaching efficacy based on CGPA of their applied degree. Thus, CGPA
644 has no predictive value in trainees' self-efficacy belief.
- 645
- 646 ▪ The level of PGDT trainees' teacher self-efficacy is largely determined by their
647 attitude to the profession. The fact that a large amount of variance was explained by
648 attitude suggests any attempt to improve self-efficacy belief of PGDT trainees; by
649 implication quality education in Ethiopian secondary schools, should begin with
650 improving the image of the teaching profession first.
- 651
- 652 ▪ It is well established that teachers' self-efficacy is strengthened or weakened by the
653 types of experiences encountered in a particular school climate [2]. The quality of
654 support by secondary school principals provided to PGDT graduates significantly
655 impacts their efficacy about their own teaching.
- 656
- 657 ▪ The quality of training delivery within initial teacher education program significantly
658 influences graduates' teacher self-efficacy. In this study, trainees with high self-
659 efficacy belief were those who were satisfied with in-campus training delivery.
660 Hence, teacher education program needs to offer trainees with authentic teaching
661 opportunities and opportunity to reflect upon their experiences so as to help good
662 foundation for development of high efficacy beliefs becomes solidified.
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- Mastery experiences are the most powerful source of efficacy beliefs because these kinds of experiences depend on individual's own experiences [1, 7]. In this study, the finding indicated that self-efficacy level of trainees who started the teaching career before joining PGDT training was lower than those who started teaching having attended PGDT training at least for one summer (*kiremt*). Trainees who start teaching without prior theoretical and practical exposure to particulars of the profession tend to develop low self-efficacy.
 - Teacher collaboration in secondary schools positively contributes to self-efficacy beliefs of trainees. This indicates that, as the level and quality of professional collaboration among secondary school teachers improves, it positively contributes to novice teachers' self-efficacy. This might be because in schools where teachers collaborate and help each other, novice teachers may feel free to learn from seasoned teachers of the school. Adding to the point, teachers' professional collaboration was stronger predictor even as compared to in-campus training. This coupled with the negative relationship of teaching experience before PGDT with teacher-efficacy belief hints a pre-service teacher education program which intends to produce highly efficacious teachers must work in close collaboration, even with more focus on key quality parameters located in secondary schools. In other words, concerted effort should be exerted to improve the organizational climate of secondary schools through strengthening teachers' professional collaboration, quality of instructional support by school principals, and building a learning culture. It should also be noted that producing efficacious teachers demands the coordination of concerned stakeholders and close communication among Universities, secondary schools and Regional Education Bureaus (REBs), Zonal Education Bureaus (ZEBs) and district (*Woreda*) Education Bureaus (WEBs).
 - It should be noted that only content knowledge and courses were not sufficient in teacher training and that the ideas, expectations and attitudes of teacher candidates should be determined at the stage of enrollment in the program and that how these evolved during teacher training should be analyzed.
 - Overall, it seems that while the TESO emphasized professional courses at the expense of subject matter knowledge, the practice of summer (*Kiremt*) modality PGDT implementation in the university seems to give an ad hoc position to professional courses and practicum experience. In this sense, the PGDT is just another equivalent of the TESO, merely different for its focus on the other side of the continuum.

703 **7. RECOMMENDATION**

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705 Based on the above listed conclusions, the following recommendations were forwarded:

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- PGDT graduates should be provided with follow up trainings through collaboration of the MoE, Regional Education Bureaus (REBs) and the University.
 - Course contents on classroom management, student engagement and other affective aspects of the profession should be emphasized during in-campus training.
 - The MoE, REBs and Universities need to further consolidate support programs such as mentoring and induction to support novice teachers' professional growth. Induction programs should provide participants with reflective learning opportunities that best emulate authentic classroom experiences.

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- The university in collaboration with Zonal, Woreda and REBs should assign mentors to summer PGDT trainees and mentors need to be selected based on standard. Their skill, attitude to the profession, and their commitment should be considered during the selection process. Their capacity should also be further developed through trainings.
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- REBs, ZEBs and WEBs should give emphasis to create a culture of collaboration and collegiality among teachers of secondary schools.
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- The assignment of secondary school principals needs to be based on their competences as a teacher and transformational leadership qualities. Those who are already in position should be given trainings on transformational leadership by the University in cooperation with REBs, ZEBs and WEBs.
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- To recruit, support and retain competent secondary school teachers, it is critical that regional, Zonal and woreda level education officials need to have a working knowledge of effective recruitment. Accordingly, the university in cooperation with REBs should offer trainings to stakeholders on the issue.
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- Due to shortage of secondary school teachers, most trainees of the summer modality start PGDT training only after they started the teaching career. Providing short term training before they start teaching may help them to start teaching with good knowledge.
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- So as to minimize the factors that adversely affect the satisfaction and attitude of PGDT trainees towards the program and/or the profession, the university needs to devise strategies to meet the expectations of trainees.
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- Teacher Educators should participate in the selection process of PGDT trainees through preparation of instruments that can help identify suitable candidates. The motivation and attitude, as well as competence of trainees should be determined during the selection process. To this effect close collaboration should be created between regional, zonal, woreda education offices and the University.
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- The University needs to work on increasing the number of female teacher educators. Equally important is building the capacity of female secondary school teachers who graduated from the PGDT program.

744 **COMPETING INTERESTS**

745 Authors have declared that no competing interests exist.

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749 **REFERENCES**

- 750
- 751 1. Tschannen-Moran M, Woolfolk-Hoy A, Hoy WK. Teacher efficacy. Its meaning and
752 measure. *Review of Educational Research*; 1998.68(2): 202–248.
 - 753 2. Tschannen-Moran M, Woolfolk-Hoy A. Teacher efficacy. Capturing an Elusive Construct.
754 *Teacher and Teacher Education*; 2001.17(7):783-805.
 - 755 3. Cantrell P, Young S, Moore A. Factors affecting science teaching efficacy of pre-Service
756 elementary teachers. *Journal of Science Teacher Education*. 2003; 14(3):177-192

- 757 4. Maguire K. The role of teacher efficacy in student academic achievement in
758 mathematics; 2011. [Available in Proquest dissertations and theses database.](#)
- 759 5. Pendergast D, Garvis S, Keogh J. Pre-service student-teacher self-efficacy beliefs: An
760 insight into the making of teachers. *Australian Journal of Teacher Education*;
761 2011.36(12): 46-57.
- 762 6. Bandura A. *Social foundations of thought and action: A social cognitive theory.*
763 Englewood Cliffs, NJ: Prentice-Hall; 1986.
- 764 7. Mulholland J, Wallace J. Teacher induction and elementary science teaching. *Enhancing*
765 *self-efficacy. Teaching and teacher education*; 2001. 17:243- 261.
- 766 8. Tschannen-Moran M, Woolfolk Hoy A. The differential antecedents of self-efficacy
767 beliefs of novice and experienced teachers. *Teaching and Teacher Education*; 2007.
768 23(6):944–956.
- 769 9. Cousins JB, Walker CA. Predictors of educators' valuing of systematic inquiry in schools.
770 *Canadian Journal of Program Evaluation.* 2000. Special Issue, 25–53.
- 771 10. Coladarci T. Teachers' sense of efficacy and commitment to Teaching. *Journal of*
772 *Experimental Education.*1992; 60(4):323-337.
- 773 11. Caprara GV, Barbaranelli C, Borgogni L, Steca P. Efficacy beliefs as determinants of
774 teachers' job satisfaction. *Journal of Educational psychology.*2003; 95(4): 821-832.
- 775 12. Gibson S, Dembo MH. Teacher efficacy: A construct validation. *Journal of educational*
776 *psychology*; 1984.76(4):569-582.
- 777 13. DeMesquita PB, Drake J. Educational reform and the self-efficacy beliefs of teachers
778 implementing non graded primary school programs. *Teaching and Teacher Education*;
779 1994. 10:291-302.
- 780 14. Fives H, Hamman D, Olivarez AB. Does burnout begin with student teaching? Analyzing
781 efficacy, burnout, and support during the student-teaching semester. *Teaching and*
782 *Teacher Education. An International Journal of Research and Studies*; 2007.23(6): 916–
783 934.
- 784 15. Guthrie JT, Wigfield A, VonSecker C. Effects of integrated instruction on motivation and
785 strategy use in reading. *Journal of Educational Psychology*; 2000.92(2): 331–341.
- 786 16. Bandura A. *Self-efficacy. The exercise of control.* New York, Freeman; 1997.
- 787 17. Derebssa DS. Tension between Traditional and Modern Teaching-Learning Approaches
788 in Ethiopian Primary Schools. *Journal of International Cooperation in Education*;
789 2006.9(1):123-140.
- 790 18. Ministry of Education of Ethiopia. *Education Sector Development Programme V (ESDP*
791 *V). Program Action Plan (2015/16 - 2019/20).* Addis Ababa, Ethiopia; 2015.
- 792 19. Ministry Of Education. *Postgraduate Diploma in Teaching (PGDT). Curriculum*
793 *framework for secondary school teacher education program in Ethiopia.* Addis Ababa,
794 Ethiopia; 2009.
- 795 20. Mohammed KH, Tadesse HA, Abdella YU, Wakgari TD. The Practices and challenges of
796 Postgraduate Diploma in teaching practicum implementation in Haramaya University
797 cluster, Ethiopia. *Middle Eastern & African Journal of Educational Research*; 2014.10:
798 25-43
- 799 21. Koye K, Yonas A. Practices and challenges of post-graduate diploma in teaching
800 programme. The case of Haramaya University, Ethiopia. *Ereflection journal*; 2013.
801 2(4):254-274
- 802 22. Koye K. Attitude of postgraduate diploma in teaching (PGDT) student teachers towards
803 teaching profession in Ethiopian University College of teacher education. *Middle Eastern*
804 *& African Journal of Educational Research*; 2014. 7: 44-57. .
- 805 23. Demis G, Haileselesie B, Dawit T. An exploration of student-teachers' views about the
806 practice of postgraduate diploma in teaching: English major prospective teachers in

- 807 Bahir Dar and Haromaya Universities, Ethiopia: International journal of Learning,
808 Teaching and Educational Research; 2015. 13(3):192-209.
- 809 24. Gorrell J, Capron E. Cognitive modeling and self-efficacy. Effects on pre-service
810 teachers' learning of teaching strategies. Journal of teacher education; 1990. 41(5):15-
811 22.
- 812 25. Friedman IA, Kass E. "Teacher Self-Efficacy: A Classroom-Organization
813 Conceptualization". Teaching and Teacher Education; 2002. 8: 675-686.
- 814 26. Woolfolk-Hoy A, Davis H. Teacher Self-Efficacy and Its Influence on the Achievement of
815 Adolescents. In: Pajares F, Urdan T, (Eds.). Self-Efficacy Beliefs of Adolescents (Pp.
816 117-137). Greenwich, CT: Information Age; 2006.
- 817 27. Woolfolk-Hoy AE, Weinstein CS. Student and Teacher Perspectives on Classroom
818 Management. In: Evertson CM, Weinstein CS, (Eds.). Handbook of Classroom
819 Management: Research, Practice, and Contemporary Issues. Pp. 189–219). Mahwah,
820 NJ: Lawrence Erlbaum; 2006.
- 821 28. Wolters CA, Daugherty SG. Goal structures and teachers' sense of efficacy. Their
822 relation and association to teaching experience and academic level. Journal of
823 Educational Psychology; 2007. 99(1):181–193.
- 824 29. Yeo LS, Ang RP, Chong WH, Huan VS, Quek CL. Teacher efficacy in the context of
825 teaching low achieving students. Current Psychology; 2008. 27(3): 192–204.
- 826 30. Riggs IM. Gender Differences in Elementary Science Teacher Self efficacy. Paper
827 Presented At the Annual Meeting of the American Educational Research Association
828 Chicago IL; 1991. 3-7.
- 829 31. Klassen RM, Chiu MM. Effects on teachers' self-efficacy and job satisfaction: Teacher
830 gender, years of experience, and job stress. Journal of Educational Psychology; 2010.
831 102(3):741–756.
- 832 32. Cheung, H. Y. The Measurement of Teacher Efficacy: Hong Kong Primary In-Service
833 Teachers. Journal of Education for Teaching; 2006. 32(4), 435–451.
- 834 33. Newton KJ, Leonard J, Evans BR, Eastburn JA. Preservice elementary teachers'
835 mathematics content knowledge and teacher efficacy. School Science and Mathematics;
836 2012. 112(5): 289–299.
- 837 34. Mccoy AC. Specialized mathematical content knowledge of preservice elementary
838 teachers. The effect of mathematics teacher efficacy; 2011. Available in Proquest
839 dissertations and theses database.
- 840 35. Howell DM. A Comparative Analysis of Self-Reported Teacher Self-Efficacy and Student
841 Performance In The Elementary Classroom; 2006.
- 842 36. Page CS, Pendergraft B, Wilson J. Examining Elementary Teachers' Sense of Efficacy
843 In Three Settings In The Southeast. Journal of Inquiry & Action in Education; 2014.
844 5(3):31–41.
- 845 37. Goddard RD, Goddard YL. A multilevel analysis of the relationship between teacher and
846 collective efficacy in urban schools. Teaching and Teacher Education; 2001.17:807-818.
- 847 38. Pajares F. Gender and perceived self-efficacy in self-regulated learning. Theory into
848 Practice; 2002. 41:116–128.
- 849 39. Bass BM. The Future of Leadership In Learning Organizations: The Journal Of
850 Leadership Studies; 2000.7:18-40.
- 851 40. Dale JC. The Correlation of the perceived leadership style of middle school principals to
852 teacher job satisfaction and efficacy; 2012. Available:
853 www.Digitalcommons.Liberty.Edu/Cgi/Viewcontent.Cgi? 55&Context=Doctoral
- 854 41. Knobloch NA, Whittington MS. Novice teachers' perceptions of support, teacher
855 preparation quality, and student teaching experience related to teacher efficacy. Journal
856 of vocational education research; 2002.27: 331–341.

- 857 42. Billingsley B, Carlson E, Klein S. The Working Conditions and Induction Support Of
858 Early Career Special Educators. *Exceptional Children*; 2004. 70: 333–347
- 859 43. Guo Y, Justice LM, Sawyer B, Tompkins V. Exploring factors related to preschool
860 teachers self-efficacy. *Teaching and teacher education*; 2011. 27:961-968.
- 861 44. Eraslan L., Çakici D. Pedagogical formation program students' attitudes towards
862 teaching profession, *Kastamonu Education Journal*; 2011.19(2), 4237-438.
- 863 45. Demirtas H, Comert M, Ozer, N. Pre-Service Teachers' Self-Efficacy Beliefs and
864 Attitudes toward Profession, *Education and Science*; 2011.36(159): 96-111.
- 865 46. Oguz A, Topkaya N. The Relationship between Secondary School Non thesis Graduate
866 Program Students' Teaching Self-Efficacy Beliefs And Their Attitudes Toward Teaching,
867 *Academic Sight*; 2008. (14): 1-20.
- 868 47. Denizoglu P. The assessment of the relation between self-efficacy belief levels, learning
869 styles of science teacher candidates towards science teaching and their attitudes
870 towards science teaching, Unpublished Master's Thesis, Cukurova University, Institute
871 of Social Sciences, Turkey;2008.
- 872 48. Best J, Kahn J. *Research in Education* (10th Ed). Sydney: Allyn & Bacon; 2006.
- 873 49. Cohen L, Manion L, Morrison K .*Research Methods in Education*. London: Routledge
874 Falmer; 2007.
- 875 50. Henson RK, Kogan LR, Vacha-Hasse T. A reliability generalization study of the teacher
876 efficacy scale and related instruments. *Educational and psychological measurement*;
877 2001. 61 :(3).
- 878 51. Shaukat S, Iqbal HM. Teacher self-efficacy as a function of student engagement,
879 instructional strategies and classroom management. *Pakistan Journal of Social and
880 Clinical Psychology*; 2012.10(2):82–85.
- 881 52. Isiksal M, Cakiroglu E. Teacher efficacy and academic performance. *Academic
882 exchange quarterly*; 2005. Winter: 28.
- 883 53. Darling-Hammond L, Chung R, Frelow F. Variation in teacher preparation: How well do
884 different pathways prepare teachers to teach? *Journal of Teacher Education*;
885 2002.53(4): 286-302.
- 886 54. Erawan P A. path analysis for factors affecting pre-service teachers' teaching efficacy.
887 *American journal of scientific research*. Euro Journals Publishing; 2011.47-58.
- 888 55. Dellinger AB, Bobbett JJ, Olivier DF, Ellett CD. Measuring teachers' self-efficacy beliefs:
889 Development and use of the TEBS-Self. *Teaching and Teacher Education*; 2008.24(3):
890 751–766.

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892

893 **DEFINITIONS, ACRONYMS, ABBREVIATIONS**

894 **Post Graduate Diploma in Teaching (PGDT):** A pre-service secondary school teacher
895 education program by which teacher candidates who have applied Degrees (BA/BSc) in
896 fields relevant to subjects of secondary schools join for a ten months professional training
897 before their deployment as a professional teacher.

898 **Overall Teacher self-efficacy (OTE):** the belief of PGDT trainees to influence on the
899 behaviors, academic achievement and learning intentions of students (Friedman & Kass,
900 2001).

901 **Efficacy in Classroom Management (ECM):** Trainees' belief in their capabilities to create
902 conducive atmosphere and maintain classroom order in ways that brings about positive
903 (intended) result on the behavior and performance of students.

904 **Efficacy in Instructional Strategies (EIS):** Trainees' belief in their capabilities to use
905 instructional strategies effectively in the classroom in ways that brings about positive
906 (intended) result on the behavior and performance of students.

907 **Efficacy in Student Engagement (ESE):** Trainees' belief in their capabilities to engage
 908 students in the classroom in ways that brings about positive (intended) result on the behavior
 909 and performance of students.

910 **MoE:** Ministry of Education of Ethiopia

911 **REBs:** Regional Education Bureaus

912 **ZEBS:** Zonal Education Bureaus

913 **WEBS:** *Woreda* (District level) Education Bureaus

914

APPENDIX (Added)

915

PGDT Trainees' Sense of Efficacy Scale

917 **Directions:** Please indicate your opinion about each of the questions below by putting
 918 a tick mark "✓" in any one of the alternatives in the columns on the right side, where the
 919 options range from : 1=Nothing; 2= Very Little 3=Some influence 4=
 920 Quite A Bit; 5= A great Deal.

921

Items	Options				
	1	2	3	4	5
1. How much can you do to control disruptive behavior in the classroom?					
2. How much can you do to motivate students who show low interest in school work?					
3. How much can you do to calm a student who is disruptive or noisy?					
4. How much can you do to help your student value learning?					
5. To what extent can you craft good questions for your students?					
6. How much can you do to get children to follow classroom rules?					
7. How much can you do to get students to believe they can do well in school work?					
8. How well can you establish a classroom management system with each group of students?					
9. To what extent can you use a variety of assessment strategies?					
10. To what extent can you provide an alternative explanation or example when students are confused?					
11. How much can you assist families in helping their children do well in school?					
12. How well can you implement alternative teaching strategies in your classroom?					