Determinants of Teachers' Time-on-Task in Ethiopian Schools

Belay Kibret*[1], Dejene Niguse [1], Yekoyealem Dessie[1], Abbi Lemma[2], Tadesse Regassa[2], Asnakew Tagele[3], Asnake Tarekegn[3], Abraham Tulu[4], Teketel Adane[4]

[1]*Addis Ababa University*, [2]*Jimma University*,
[3]*Bahirdar University*, [4]*Hawassa University*
***Corresponding Author:** belaytefera@yahoo.com*

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Abstract:

Recent World Bank data suggests that there is a learning poverty in the Low-Income Countries; of which Ethiopia stands at the center stage. Teachers' time on task is critical for student learning and achievement. Several research investigations have established a strong nexus between teacher instructional use and student learning outcomes. Yet, teachers' inefficient use of time on task has become a grave national concern in Ethiopia. This study has made a modest attempt to examine the role of selected proximal (personal, institutional, and environmental) factors that are believed to affect teachers' instructional time use. A quantitative research design was used to generate data where a questionnaire was administered to a total of 1,139 teachers (66% females) drawn from a sample of 343 primary schools from nearly all the regions of Ethiopia (except Tigray Region). Findings indicated that female teachers were more resilient to factors that impact teachers' time on task; that teachers with a qualification of bachelor's degree found it difficult to work in rural areas; that teachers with medium teaching experience (6-10) were more likely to get diverted from using their instructional time; that married teachers with family responsibilities tended to miss their teaching time more than their unmarried counterparts; that rural teachers were more readily wasting their instructional time; that instructional time was wasted while working to meet financialneeds, and generally that primary school teachers were negatively affected by factors external to the school and waste instructional time thereof. Furthermore, it was noted that training for teachers could improve their practice but not their instructional timemanagement skills and practices. Primary schools, which were ill-equipped with internal and external resources were repellent to their teachers. Finally, critical measures that would help to address the problems were suggested.

Keywords: *teacher absenteeism, instructional time, time-on-task, learning outcome, efficiency,*

Introduction

In the Ethiopian policy context, education remains the driver of national development, and teachers with the required teaching competency, professional interest, and physical and mental readiness are believed to be the major actors of the education system (MoE, 1994). To this effect, there has been a significant gain in quantitative expansion which compelled the system to ensure the quality of general education in the country. As there has been a felt need for quality of general education, the Ethiopian Ministry of Education has developed and implemented a series of General Education Quality Improvement Programs (GEQIP) in the past years. While Phase I and II of GEQIP focused on the objectives of the Ethiopian Education Sector Development

Programs, GEQIP-E aimed to support equity initiatives in addition to impacting the quality of General Education. Included in the result areas of GEQIP-E are improved internal efficiency, improved equity, improved quality, and system strengthening that equally involves improving teachers' work efficiency (MOE, 2021).

It seems evident that while schools are considered centers of learning, teachers' time utilization remains the decisive factor for improved quality of learning. Time as one of the most important educational resources affecting the attainment of learning objectives was studied from the early days (Bloom, 1974; Stallings, 1980). While time-on-task refers to the total time teachers spend on instruction, wasted instructional time is the total time teachers spend due to late class arrival, early class leaving, and off-task behavior during instruction (Beserra et al., 2019). Teacher absenteeism is often considered as a major obstacle to the effective and sustainable improvement of a country's education system (UWEZO, 2012). Studies conducted in different parts of the world indicate not only spatial (e.g. OECD, 2021b) and temporal variations in teaching time trends (OECD 2014) in statutory[1] teaching and actual[2] teaching time, but at the same time variations in the level of teachers' time on task where, for instance, teacher absenteeism ratios of the primary school teachers in Asian[3] and Latin American[4] countries (Lee et al., 2015) reported substantially higher absenteeism ratios than studies in some countries of the West[5] (Benhenda, 2022). Other studies have also shown that teacher inefficiency is a major barrier to effective and sustainable improvements of the education system (Griffith, 2017) particularly in many low- and middle-income countries (Guerrero et al., 2012) including those in the Eastern (Karamperidou et al., 2020), Southern (Karamperidou et al., 2020), Western (UNICEF, 2021) and Central (UNICEF, 2021) African regions.

In Ethiopia, it is estimated, as per the 2022/23 education abstract, that a total of 726,307 (87% females) general education teachers were deployed; of whom about 9.91% were preprimary, 70.6% were primary and 19.49% were secondary school teachers (MoE, 2023). Hence, it would be difficult to think of improving the quality of general education without improving teachers' use of instructional time. evidence indicates that teachers' classroom attendance rate remains the key planning element in the successive Education Sector Development Plans. For example, there was a plan to increase teachers' classroom attendance rate from 88% in 2014/15 to 96% in 2019/20 (MoE, 2021). Similarly, it was planned in the third program component of ESDP VI

[1] ***Statutory teaching time*** *is defined as the scheduled number of 60-minute hours per year that a full-time teacher teaches a group or class of students as set by policy (OECD, 2021a). In this international comparison, statutory teaching time excludes teachers' preparation time and periods of break time allocated formally between lessons. However, short breaks of ten minutes or less are included in the teaching time if the classroom teacher is responsible for the class during these breaks.*

[2] **Actual teaching time** *is the annual average number of hours that full-time teachers teach a group or a class of students, including overtime and absenteeism from school and classroom and reduced time of teaching at a total.*

[3]*Bangladesh, Pakistan, India and Indonesia*

[4]*Cambodia, Ecuador, Peru*

[5]*USA, Britain, Australia and France*

to improve school performance, functioning, and efficiency by translating available resources into learning outcomes (MoE, 2021). But little progress has been made to make the desired changes suggesting then that the problem persists. Some evidences suggest that teachers' school attrition and classroom absenteeism are among the key challenges that affect teachers' effectiveness in Ethiopia (MoE, 2017; MoE, 2018).

We may then need to examine the causal agents that precipitate this increasing pattern of teacher absenteeism in a little more systematic manner. Global and regional literature has amply documented that several factors operate hand in glove with disabling teacher school attendance and use of instructional time (e.g. Siddiqui, 2013; Guidorzi & Karamperidou, 2021; Karamperidou et al., 2020; UNICEF, 2021). A complex set of interlocking factors regularly interacting at different levels of the education system (Siddiqui, 2013) that determine teachers' operation and this array of factors needs to be systematically integrated in ways all plausible aspects of the environment are fully captured to explain the phenomenon of teacher absenteeism (Guidorzi & Karamperidou, 2021). In line with this, Guerrero and colleagues (2012) have conducted a review of the literature and suggested three sets of factors affecting teacher attendance (personal, institutional/school-level, and community variables).

***Personal factors*:** Teachers' incompetence (Behrstock & Coggshall, 2009; Karamperidou et al., 2020), lower qualifications and lack of success experiences compromising capacity, motivation, and attendance (UNICEF, 2021) and poor teachers' time management leading to sub-optimization of educational goals (Inegbedion et al., 2020) are critical among a long array of factors.

***Institutional factors*:** weak recruitment practice that allows inappropriate teachers to join the system or poor placement policies where teachers are assigned out-of-field to teach classes or levels for which they are not qualified (Behrstock & Coggshall, 2009). Other factors include insufficient or low-quality training depriving teachers of critical content knowledge and pedagogical skills (Karamperidou et al., 2020), lack of administrative support, education resources, teacher input regarding decision-making and conducive school climate (Markel & Hall, 2004), lack of accurate monitoring and efficient reporting of teachers' absences and effective sanctioning of their frequent absence (Karamperidou et al., 2020) and teachers' high workload (Chirimi, 2016; Assefa et al., 2021) which includes teachers' overall working hours (six hours per day) as well as the time spent on various work-related tasks (Orkin, 2013; OECD, 2015; Lee et al., 2015).

Social, cultural, and economic factors that are not usually under the control of teachers but directly related to teaching context include the following:

- Remuneration or reward as a psychological, social and economic dimension impacting staff motivation (Mukomana, 2021; UNESCO, 2020a) in many African countries where low pay results in disappointing performance (Mukomana, 2021) mainly in Eastern and Southern Africa where teachers are massively dissatisfied with their pay, which they consider inadequate to cover their basic needs (Karamperidou et al., 2020).

- Lack of an effective teacher career system that has a career path open to all teachers related to qualifications, professional competence, and other objective criteria besides formal reward or recognition for good performance (UNECO, 2015).
- External challenges include teachers' working conditions (culture of a school, physical condition, the structure of classrooms, and the responsibilities or expectations of teachers), community factors such as socioeconomic, health, and environmental conditions, and social and cultural responsibilities related to traditional values, cultural events and teachers' social roles that may contribute to teachers' absenteeism (Lee, et al., 2015; Bakotić & Babić in Shimlais, et al., 2021).
- Health, family, weather, transportation networks, and related poor local services are the most frequently mentioned reasons for absence of teachers from schools and reduced time on task in Eastern and Southern Africa (UNICEF, 2020b). Teachers' familial and social obligations are major motivations for low school attendance and lack of punctuality affects teachers' capacity to teach the required hours and up to proper standards, as it interferes with their sense of duty and reduces their intrinsic motivation to teach (UNICEF, 2021).
- political or ethnic violence, risk of physical attack because of misbehaving students frequently disrupting schools and classrooms (UNICEF, 2021).

While the literature on teachers' time on task and its determinants in Ethiopia is scarcely available, the existing meager studies indicate that teachers' inefficient use of time on task are among the key challenges affecting teachers' effectiveness in Ethiopia (MoE, 2017; Zike & Ayele, 2015; Berhanu, 2013). It was found that teacher absenteeism from schools in rural areas is higher than in those urban areas (Zike & Ayele, 2015). Several factors contribute to teacher absenteeism, including administrative issues within school management, job dissatisfaction, low pay rates, poor working conditions, and the low social status afforded to the teaching profession.

Researches by Abera (2013) and Abebe and Woldehanna (2013) highlight that these factors negatively impact teachers' efficient use of time in Ethiopian schools. They identified poor teacher incentives and compensation, inadequate management by principals, and the lack of proper teaching facilities and infrastructure as significant contributors. In Ethiopia, teachers' salary is very low, and the inflation rate is high. Though the salary scale of teachers is better than their civil service counterparts at the beginning stage of recruitment, it often starts levelling out after two years of service. Moreover, teachers perceive their status and values as very low and feel that they are unfairly treated by society at large. Assefa and colleagues (2021) reported that many secondary school teachers in Ethiopia are expected to play the roles of counselor and career advisor, apart from teaching their subjects and related activities such as lesson planning and teaching aids preparation, teaching, documenting portfolios, and many more.

Teachers in Ethiopia also work under difficult and demotivating conditions that affect the overall quality of education in the country (Herut, 2019, Mengistu, 2012; Assefa et al, 2021). For

example, inadequate benefit package, low social status accorded to them by the society, poor school condition or poor infrastructure and resource/facilities, poor administrative support, students' character and disciplinary problem, lack of opportunity for professional development were reported as working condition affecting teachers' activities in Ethiopian schools (Mengistu, 2012). The concern has been growing with widening gap between levels of teacher salaries and their cost of living (Yimam, 2019; Mukomana, 2021; Karamperidou et al., 2020; Shishigu, 2016; Assefa et al., 2021). This situation of low-income conditions of teachers has led to minimal attention to working responsibilities and duties that resulted in poor service quality. Similar report made by Assefa et al (2021) who conducted a study on Teachers' Working Conditions in Primary and Secondary Schools in Ethiopia. Some teachers divert working time and effort in obtaining basic needs.

While several interacting factors would play out the role, we need to specifically examine how far the more proximal personal, institutional, geographic, and social factors contribute to teacher absenteeism so that relevant actors would think of taking the necessary intervention to manage the problem. Therefore, the major objective of this study is to generate and collate empirical evidence on the various types and determinants of teacher absenteeism in Ethiopia to provide potential recommendations for improving teacher attendance rates. The paper attempts to identify barriers to improved teacher attendance and suggest ideas for policy intervention and enhanced practices. The study specifically seeks to understand how personal (sex, experience, qualification), academic and institutional (training, subject taught, class size, workload, and student's grade level), and geographic factors (regional variation, school location-urban-rural) affect teachers' effective utilization of instructional time (time on task).

Research Design

The study employed a quantitative research design to generate data from the selected respondents in phase 1 schools in all 10 regions and two city administrations.

Samples and sampling techniques

This study was conducted in primary schools selected from the 10[6] regional states and two city administrations using proportional and comprehensive sampling techniques for larger (50 or more) and for smaller (17 and below) population sizes. Table 1 presents the population size, samples considered, and the procedure of allocation.

Sample size determination: sample size was determined employing Yamane's (1967) formula suggesting that n= N/ 1+N (e^2), where 'n' is the sample size, N' is the population size, 'e' is the estimated sampling error. Hence, for a population of 1,843 schools at 95% degree of confidence or 0.05 sampling errors, the data obtained from about 343 schools can sufficiently represent the population. Accordingly, since the number of Phase I schools varies from region to region, proportional representative samples were taken for those with relatively larger populations (50

[6] Data was collected before the two additional regional states came into existence

or more) while comprehensive sampling was used for those with 17 or fewer to ensure sufficient representatives.

Concerning sampling teachers for the questionnaire, only teachers who teach mother tongue for grades 1 and 2, and English and Mathematics for grades 7 and 8 were selected. Hence, three teachers from each sampled school with a total of 1,029 teachers were initially planned to be considered for filling in the survey questionnaire. However, a greater number of teachers were included in the actual data collection as more than one teacher was found to teach mother tongue at Grades 1 & 2, as well as English and Mathematics for Grades 7 & 8. This made the total number of teachers completing the survey questionnaire to be 1209 (Table 1).

Table 1: *Sample number of schools, teachers, and principals involved in the study*

Region	Phase I School Population	Number of samples			Sampling techniques	No. of teachers
		Zones	Woredas	Schools		
Addis Ababa	11	4	4	4	Comprehensive	12
Afar	4	2	2	2	Comprehensive	5
Amhara	518	6	17	95	Proportional	462
Benishangul	11	2	2	4	Comprehensive	11
Dire Dawa	17	1	2	5	Comprehensive	15
Harari	17	1	2	5	Comprehensive	10
Gambela	2	1	1	2	Comprehensive	6
Oromia	757	7	24	134	Proportional	423
Sidama	220	1	7	41	Proportional	126
SNNPR	230	2	7	41	Proportional	115
Somali	56	2	6	10	Proportional	24
Total	1843	29	74	343	Proportional	1209

Data collection tool: The Questionnaire

A questionnaire developed earlier to study teachers' time on task in other Western, Central, Eastern and Southern African countries (UNICEF, 2020b; UNICEF, 2021) was adapted for data collection in this study. A panel of 32 experts from four different universities in Ethiopia widely represented from the various fields of education (educational leadership, curriculum and instruction, teacher professional development, educational psychology, educational measurement and evaluation, and special education) rated the content relevance of each item yielding an acceptable average consensus rating of 0.83. Then, a one-day consultative meeting was also held at Adama to improve content relevance and adapt the Questionnaire to the Ethiopian setting. This adapted questionnaire contained items focusing on teachers' background like region, location of school (urban/ rural, sex, subjects taught, qualification, duration of

teaching service, teaching load per week), and factors affecting time on task for teachers to rate if the factor affects them at a low, moderate or high level. Teachers were also asked to indicate the amount of time they spend on non-instructional tasks per week in a tabular form. Teachers were also requested at the end to give short suggestions on factors that enhance teachers' time concerning teacher monitoring, teacher training, teacher remuneration and career progression, teacher workload, class size and teachers' salary.

The questionnaire was first developed in English and then translated into Amharic and Afan Oromo and pilot-tested in two schools from Addis Ababa to check item clarity, admin procedures, and reliability. At the beginning of the administration, participants were instructed to ask for clarification on items that do not seem to send a clear message to them. They were also advised to check the clarity and simplicity of responding to the rating format. While many of the items were not found to be causing misunderstanding, some items whose respondents asked for clarification were taken note during administration and then modified later to improve clarity. Self-administration was also found to be working well. The reliability index of the of Questionnaire determined through Cronbach's Alpha was found to suggest that the Questionnaire had a strong coefficient of about 0.90 both in the Amharic and Afan Oromo versions of the overall scale. Furthermore, since the instrument was a Likert scale and the skewness and kurtosis of the distribution for all the items lay between -1.96 and +1.96, it was possible to take the data that is not significantly different from normality. This outcome shows that the variable is distributed approximately normally and allows using parametric tests. Therefore, the data analysis techniques used for this study were Percentage, Mean, Standard deviation, independent t-test, and One-way ANOVA. Before analyzing the data, all the assumptions of independent t-test, and One-way ANOVA were checked.

Findings[7]

As indicated earlier, the major purpose of this article is to examine how far personal, institutional, and geographic factors impact teachers' time on task in the Ethiopian context. Given the voluminous nature of the report, this article focused only on examining the impact of these factors on teachers' time on tasks and examining time on task per se was left for treatment in other articles already submitted for publication.

1. Personal Variables

A close analysis has been made to see if there are significant differences in teachers' perception about the specific factors based on personal attributes, geographical location and intuitional arrangements. Ascan be seen from the following sections, there is a mixed result whereby some factors being detrimentalwhile others not.

[7] The analysis summarized in this section is composed of over ten different and very long statistical tables. Hence, only major observations are presented in this section. Hence, in an event that readers are interested to get to now further details of the analysis, the tables as well as data collected, then, they are advised to contact anyone of the authors of the article.

Sex: Out of the 1,139 primary school teachers who participated in the study, 386 (33.9%) were females and 753 (66.1%) were males. An independent t-test was used to examine whether there is a statistically significant gender-based difference in teachers' perceptions about factors affecting teachers' time on task. The descriptive statistics and independent t-test for primary school teachers' perception (by gender) about factors affecting teachers' time on task has clearly shown that male teachers attributed more factors than female teachersas negatively affecting their perception of their time on task. More specifically, there is a statistically significant difference in the views of the two groups about all three factors, namely, personal, school-related, and benefit-related. The analysis shows that 11 of the 20 factors resulted in a statistically significant sex-based difference: low salary and benefit; not receiving salary on time; unconducive school environment; engagement in other activities for additional income; inappropriate students' behavior; engagement in additional administrative activities; security problem; inappropriate weather condition; lack of administrative support from school; low interest in the teaching profession, and unhealthy relationship with the school leadership; and inadequate teaching-learning facilities ($t = 3.276$; $t = 3.897$; $t = 3.897$; $t = 3.116$; $t = 3.272$; $t = 3.486$; $t = 2.594$; $t = 2.742$; $t = 2.384$; $t = 2.644$; $t = 2.579$; and 2.668 respectively at $p < 0.05$).

Male teachers perceive (more than female teachers do) the negativeeffect of all the twenty factors on their time on task. This is quite interesting as the two groups are operating in the same environment and with the same resource provision. One can also easily infer from this that female teachers are more stable than their male counterparts in primary school teaching-learning situations. On the other hand, such factors as lack of interest in the subject being taught, family obligations, involvement in extracurricular activities, insufficient preparation for a lesson, distance from the school, and fatigue/tiredness brought on by a heavy workload seem to have affected both male and female teachers equally as there was no significant difference seen statistically.

Qualification*:* The respondents' qualifications included a certificate (68.5%); a diploma (1.32%), and bachelor's degree (30.2%). ANOVA test used to examine whether there is a statistically significant qualification-based difference in the perception of primary school teachers about factors affecting their time on task indicates that there is no statistically significant qualification-based difference in the overall (aggregate) perception of teachers about factors affecting Teachers time on task, ToT ($F(2, 1133) = 1.952$, $p>0.5$); personal factor affecting ToT ($F(2, 1133) = 1.380$, $p>0.5$); and benefit factor affecting ToT ($F(2, 1133) = .946$, $p>0.5$). However, there is a statistically significant qualification-based difference in the school factor affecting ToT ($F(2, 1133) = 3.441$, $p<0.5$). Teachers' perceptions also differed, based on differences in qualification, for such factors as inadequate teaching-learning facilities ($F(2, 1133)= 3.105$ at $p < 0.05$); engagement in additional administrative activities ($F(2, 1133) = 3.162$ at $p < 0.05$); and unconducive school environment ($F(2, 1133) = 2.599$ at $p < 0.05$). In all these cases, teachers who hold bachelor's degrees perceived (more than the other groups) that the three factors affect their ToT.

Teaching experience*:* Teaching experience has been operationally defined as short, medium, and long: 1-5 years of service as low; 6-10 years of service as medium; and 11-40 years of service as long (ten years and above has been taken as a mark of long service as it indicates the duration when teachers of that service could claim pension should they decide to terminate service). of most of the respondents (93.6%) had short experience; 0.6% had medium experience; and the remaining 5.8% had long experience. ANOVA test used to examine whether there is statistically significant experience-based difference among the primary school teachers with regard to factors affecting their time on task shows that there is no statistically significant experience-based differences in the overall perception of teachers about factors affecting ToT, ($F(2, 1145) = 1.895$, $p>0.5$); personal factor, ($F(2, 1145) = 1.375$, $p>0.5$); school factor, ($F(2, 1145) = 1.853$, $p>0.5$); and benefit factor, ($F(2, 1145) = 2.105$, $p>0.5$). For all factors except three (namely, distance from the school, low interest in the teaching profession, and inappropriate student behavior) teachers with short, medium, and long experience had similar perceptions. Teachers with short experience felt more seriously that distance hurts their time on teaching than those with medium and long years of service ($F (2, 1145) = 3.637$, $p<0.5$). On the other hand, teachers with long experience had dwindling interest in the teaching profession and complained more about the inappropriate behavior of students. More generally, the analysis shows that teachers with medium and longer service do not consider many of the factors as detrimental thereby indicating that those with medium and longer service years are more stable.

Marital Status: Marital status was examined to see if it had an effect on teachers' time. Most of the respondents (78.3%) were married whereas 18.3% and 2.6% were single and divorced respectively. An independent t-test used to examine whether there is a statistically significant marital status-based difference in the perception of primary school teachers about factors affecting teachers' time on task. The ANOVA conducted to test how marital status relates to teachers' responses to each of the factors assumed to have an impact on teachers' time on task, indicates that there is no statistically significant marital status-based differences in the overall primary school teachers' perception of factors affecting ToT, ($F(2, 1135) = 2.442$, $p>0.5$); school factor, ($F(2, 1135) = 1.853$, $p>0.5$); and benefit factor, ($F(2, 1135) = 2.105$, $p>0.5$). There is a statistically significant marital status-based difference in personal factor, ($F (2, 1135) = 1.375$, $p>0.5$) with the highest rating by married teachers (Annex 3). The factors where a statistically significant marital status-based difference was observed include inadequate teaching-learning facilities, ($F(2, 1135)=5.363$ at $p < 0.05$ (highest for married teachers); unhealthy relationship with the school leadership, ($F(2, 1135)= 4.856$ at $p < 0.05$ (highest for married teachers); family responsibility, ($F(2, 1135) = 4.275$ at $p < 0.05$ (highest for married teachers); and inappropriate weather condition, ($F(2, 1135) = 4.676$ at $p < 0.05$ (highest for single teachers).

In general, the findings indicate that married teachers felt that issues like poor teaching-learning facilities, inappropriate relationship with the school administration, and family responsibilities constrain their teaching time on task whereas single teachers consider whether at workplace as a significant factor.

2. Institutional and Academic Factors

Training: The study also investigated the possible effect of the training provided since 2018 on continuous classroom assessment (CCA) as part of the training by a GEQUIP project. A little over three-quarters (77.1%) of the participants attended the training whereas the remaining (22.9%) of the teachers did not. An independent t-test was used to examine whether there is a statistically significant training-based difference in perception of teachers about factors affecting their time on task. The findings show that, overall, primary school teachers' responses to factors impacting time-on-task as well as personal factors, school factors, and benefit factor did not differ statistically between teachers who participated in training and those who did not, ($t(1129) = .693$, $p>0.05$; $t(1129) = .357$, $p>0.05$; $t(1129) = .368$, $p>0.05$; and $t(1129) = 1.165$, $p>0.05$ respectively). The only exception is on a factor related to the impact of weather on teachers' time on task, where a significant difference was observed, ($t(1129) = 2.229$, $p < 0.05$). Teachers who took part in the training felt more concerned than those who did not with the impact of inappropriate weather as affecting their ToT.

Subject Taught: Close to a third (32.6%) of the respondents taught Mathematics; 33.9 taught English, and the remaining 33.5% taught Mother tongue. The ANOVA test was used to examine whether there is a statistically significant subject-based difference in the perception of primary school teachers about factors affecting teachers' time on tasks. Analysis of results indicates that there is a statistically significant subject-based difference in the overall primary school subject teachers' perception about factors affecting ToT, ($F(2, 1141) = 3.340$, $p>0.5$), and school factor affecting ToT ($F(2, 1141) = 10.104$, $p>0.5$). Nevertheless, there is no significant difference in personal factor, ($F(2, 1141) = .385$, $p>0.5$) and benefit factor, ($F(2, 1141) = 2.163$, $p>0.5$). English teachers are found to have more concern than teachers of other subjects about the impact of factors that affect ToT. Factors, where a statistically significant subject-based difference is observed, include low salary and benefit, ($F(2, 1141) = 4.304$ at $p < 0.05$; (highest score for mathematics teachers); inappropriate students behavior, ($F(2, 1141) = 4.666$ at $p < 0.05$; (highest score for English teachers); inadequate teaching-learning facilities, ($F(2, 1141) = 5.284$ at $p < 0.05$; (highest in English teacher response); inappropriate weather condition ($F(2, 1141) = 3.753$ at $p < 0.05$; (highest score for mathematics teachers); and engagement in additional administrative activities, ($F(2, 1141) = 7.471$ at $p < 0.05$; (highest score for mathematics teachers); engagement in other activities for additional income (highest score for mathematics teachers); and unconducive school environment (highest score for mathematics teachers).

Class Size: A class size has been operationalized here as small, ideal or large. A class size below the standard, which is 50 students per class, is considered small, a class size of 50 students considered ideal, and a class size of more than 50 students is considered large. Accordingly, close to half (48.6%) of the respondents teach in small classes, 6.4% of the teachers teach in ideal classes, and 44.8% in large classes. An ANOVA test was used to examine whether there is a statistically significant class size-based difference among the primary school teachers' perception about factors affecting their time on task. The descriptive statistics and ANOVA for primary school teachers' perception of factors affecting teachers' time on task by class size indicate that there is no statistically significant class size-based difference in the overall

perception of primary school teachers about factors affecting their ToT, ($F(2, 1146) = 0.155$, $p>0.5$) as well as a personal factor, ($F(2, 1146) = 0.491$, $p>0.5$), school factor, ($F(2, 1146) = 0.061$, $p>0.5$), and benefit factor, ($F(2, 1146) = 0.061$, $p>0.5$). More interestingly, none of the factors produced a statistically significant class size-based difference in teachers' time on task (evidenced by the fact that $p>0.5$ for all factors). One can thus conclude that class size had no effect on the perception of teachers about their time on task.

Teaching load: Teachers' workload was also classified into three categories: underload, ideal load, and overload. The ideal or the standard load is known to be 30 periods per week; a load of less than 30 periods per week has been classified as underload; and 31 or more periods per week as overload. Most of the respondents (91.8%) had underload; 7.1% had a teaching load which is ideal; and the remaining 1.04% had teaching load which is over and above the standard. The ANOVA test is used to examine whether there is statistically significant teaching load-based difference in perception of teachers about the factors affecting teachers' time on tasks. Here the workload included teachers' participation in administrative responsibilities and frequently planned meetings in the schools. The analysis of quantitative data indicates, that there is a statistically significant load-based difference in the aggregate perception of primary school teachers on factors affecting ToT, ($F(2, 1144) = 3.679$, $p<0.5$) as well as a personal factor, ($F(2, 1144) = 3.691$, $p<0.5$); and school factor, ($F(2, 1144) = 4.671$, $p<0.5$), but no difference based on benefit factor, ($F(2, 1144) = 1.038$, $p>0.5$). What is more, none of the factors could generate a statistically significant load-based difference in teachers perception about the factors affecting ToT, except the three personal factors: not interested in their subject they teach, ($F(2, 1144) = 3.135$ at $p < 0.05$); low interest in the teaching profession, ($F(2, 1144) = 5.117$ at $p < 0.05$); and engagement in other social responsibilities out of school ($F(2, 1144) = 5.823$ at $p < 0.05$). In all cases, the scores are found to be the highest for teachers who carried the highest workload (Annex 7).

3. Geographical Factors

Geography/Region: Addis Ababa, Afar, Amhara, Benishangul Gumuz, Dire Dawa, Harari, Gambela, Oromia, Sidama, SNNPR, and Somali were the nine regions and two city administrations that made up the study's sample. Since the sample size for Addis Ababa, Afar, Benishangul, Dire Dawa, Harari, Gambela, and Somali were very small as compared to that of Amhara, Oromia, Sidama, and SNNPR, it was found to be quite difficult to compare using inferential statistics. Hence descriptive statistics was used for comparison of all regions whereas a one-way ANOVA test was used for comparing regions with a larger sample size. In other words, a one-way ANOVA test was used to examine whether there is a statistically significant region-based difference in teachers' perception of the factors affecting teachers' time on task in the case of four regions with a larger sample.

The descriptive statistics indicates that lack of administrative support from school had a significant impact on teachers' time on task in Gambela; unconducive school environment had a significant impact on teachers' time on task in Afar and Gambela; inadequate teaching-learning facilities in Addis Ababa, Benishangul, and Gambela; inappropriate students' behavior

in Addis Ababa, Afar, Benishangul, Dire Dawa, Hareri and Gambela; inappropriate weather condition in Afar, Benishangul, Hareri, and Gambela; distance from the school in Addis Ababa, Afar, Benishangul, Dire Dawa, Hareri and Gambela; low salary and benefit(almost everywhere); not receiving salary on time in Afar, Hareri, Gambela, and SNNPR are the major factors affecting their time on task.

The ANOVA results for Oromiya, Sidama, SNNPR and Amhara indicate that there is no statistically significant region-based variation in the aggregate response of primary school teachers regarding their perception about factors affecting time-on-task, ($F(3, 1065) = .599$, $p > 0.05$); personal factor affecting ToT ($F(3, 1065) = 1.995$, $p > 0.05$); and benefit factor affecting ToT ($F(3, 1065) = 2.549$, $p > 0.05$). However,there is a significant difference in school factor, ($F(3, 1065) = 4.488$, $p < 0.05$) (with more scores observed in Oromiya compared to the other three regions). It was also observed that the inability to receive salaries on time had a significant impact on teachers' time on tasks in SNNPR (compared with other regions), ($F(3, 1065) = 17.299$, $p<0.5$). The study also reveals a significant regional difference in themanner in which primary school teachers felt about such issues as engagement in other activities for additional income, ($F(3, 1065) = 3.329$, $p<0.5$); and Distance from the school, ($F(3, 1065) = 10.480$, $p<0.5$) (respondents from Sidama presented these factors as the most problematic). There was also a statistically significant difference between regions concerning the impact of inadequate preparationfor the lesson, ($F(3, 1065) = 3.254$, $p<0.5$) (Oromiya and Sidama had the highest score); and engagementin in-service training, ($F(3, 1065) = 3.470$, $p<0.5$) (Sidama had the highest scores).

Besides, there is a statistically significant regional difference about unhealthy relationships with the school leadership; unconducive school environment, inadequate teaching-learning facilities, and fatigue/tiredness caused by heavy workload. Respondents from Oromiya felt that the inappropriate relationship with the school leadership, ($F(3, 1065) = 3.248$, $p<0.5$); unconducive school environment, ($F(3, 1065) = 3.580$, $p<0.5$); fatigue/tiredness caused by a heavy workload, ($F(3, 1065) = 2.837$, $p<0.5$); and inadequate teaching-learning facilities ($F(3, 1065) = 8.242$, $p<0.5$) resulted in a negative impact on their time on task. On the other hand, in almost all Regions, teachers felt that the low salary is the major problem affecting their time on task.

Geography/ Specific Location: A little more than one-third (36.1%) of the sample was drawn from urban schools whereas the remaining 63.9% of the respondents were from rural schools. An independent t-test was used to examine whether there is statistically significant urban/rural-based difference in teachers' perception of factors affecting their time on tasks. All the assumptions of independence, normality of the data, and homogeneity of variances were met. Table 5 provides descriptive statistics and independent t- test results for primary school teachers' responses on the factors affecting teachers' time on task, by urban/rural location. Analysis of data reveals that, on average, there is a statistically significant urban/rural-based differencein the way teachers perceive the impact of the various factors on their time on task, ($t(1142) = - 2.401$, $p < 0.05$); for school factor ($t(1142) = -2.288$, $p < 0.05$); and for benefit factor ($t(1142) = -5.329$, $p < 0.05$). However, there is no significant difference for personal factors

($t(1142) = .348$, $p > 0.05$). This indicates that the specific location of schools has a significant impact on their time on tasks, with teachers in rural schools having felt more concerned than those in urban schools about the negative impacts of the factors listed on their time on tasks.

When analyzed separately and more closely, teachers in urban and rural areas attach a different degree of importance to some factors. For instance, teachers from rural schools attach more importance to the following factors as negatively affecting their time on task: low pay and benefits, ($t(1142) = -5.013$, $p < 0.05$); not receiving pay on time, ($t(1142) = -5.510$, $p < 0.05$); distance from the school, $t(1142) = -5.090$, $p< 0.05$); and inadequate teaching-learning facilities, ($t(1142) = -3.219$, $p < 0.05$). The findings thus indicate that teachers working in rural schools feel burdened more with the low pay scale, the late payment of salaries, distance to school, and lack of suitable teaching-learning facilities than teachers working in urban schools.

Besides, teachers in rural schools felt that factors like lack of administrative support from school, ($t(1142)= -2.104$, $p < 0.05$); security problem; ($t(1142) = 2.743$, $p < 0.05$); and unconducive school environment ($t(1142) = -3.101$, $p < 0.05$) are hampering their efforts to use their teaching time more effectively. For the rest of the factors, the urban and rural primary school teachers are found to have similar perceptions as judged by the results of the independent t-test and p-value.

Discussion

This part of the study discusses the results on the general theme of understanding factors affecting teachers' efficient utilization of instructional time in the identified subjects and grade levels and the extent to which these factors affect ToT. The discussion is organized around three thematic areas, namely, the extent to which the identified factors affect ToT, the existence of statistically significant differences in the factors affecting teachers' time on task for personal variables such as gender, teaching experience, qualification, and marital status; and the existence of statistically significant differences in the factors affecting teachers' time on task concerning geographical and institutional variables such as regional variation, school location(urban-rural), class size, workload, training provided, and nature of the subject taught.

To begin with, the study shows that the factors, –classified into three constructs—personal factor, school factor and benefit factor—affect teachers time on task to a reasonable degree with different levels of impact. It was learned that the personal factor takes the lead in impacting teachers' time on task followed by the school factor while the benefit factor falls a little below the remaining factors. The study also shows that specific variables within each factor had different impacts on teachers' time on tasks. For example, within personal factors, it was found that unhealthy relationships with school leadership and engagement in other social responsibilities out of school strongly affected teaching time on task while within the personal factor, engagement in other activities for additional income and salary and benefit are found to have impacted teachers' time on task strongly. Finally, within the school factor, inadequate teaching-learning facilities, an unconducive school environment; not receiving salary on time; fatigue/tiredness caused by heavy workload; and inappropriate students' behavior. The impact

of the other factors (more than two thirds of them) on teachers' time on tasks is therefore known to be quite moderate.

This general finding is consistent with the common findings of studies conducted in both regional and local policy contexts. The latter studies make it clear that teachers waste a good deal of their teaching time, which among other things, is reflected in the dwindling quality of education from time to time. There could be variations in the degree and drivers of such common factors negatively affecting teachers' time on task. The common theme, however, is that teachers are wasting their instructional time for different reasons and at different levels of incidents. For example, a World Bank study confirms that the sub-Saharan African school's system is characterized by a learning poverty rate (which stands at 87%) which is attributed to teachers' inefficient time on task (World Bank, 2019).

Secondly, here, we discuss the existence of statistically significant differences in the factors affecting teachers' time on task concerning personal variables such as gender, teaching experience, qualification, and marital status in addition to the general factors mentioned earlier. The study result showed that male primary school teachers are found to be more readily pulled out of their instruction duty than their female counterparts. It was found that negative impacts of low salary and benefits; not receiving salary on time, unconducive school environment; engagement in other activities for additional income; inappropriate student behavior; inappropriate weather conditions; lack of administrative support from school; unhealthy relationship with school leadership; inadequate teaching-learning facilities, to mention the few distracters, are perceived to affect male teachers' time on task more severely. These negative factors, though affect both female and male teachers, the male respondents are found to be more vulnerable to the common time wasters than female counterparts as the female teachers are resilient to these personal challenges. This finding hints at the possibility of recruiting and employing more female teachers for the primary schools. This could be seen as an important addition to the body of knowledge on ToT as it has not been fairly covered in the literature.

With regards to academic qualification, the study result shows that academic qualification has got similar effect on teachers' time on task in general terms along the three levels (Certificate, College Diploma, and Bachelor). But teachers with a bachelor's degree qualification are found to be more sensitive about unconducive school environment; and shortage of teaching-learning facilities than teachers with other qualifications. Besides, bachelor's degree holders have reported that their engagement in additional administrative activities to have affected their time on task as compared to other teachers with the qualification of Certificate and college Diploma. Better qualified among primary school teachers, it is noteworthy that bachelor's degree holders seek out better and more resources including their teaching time spared from administrative duties.

Concerning teachers' teaching experience, the study results show that teachers with medium teaching experience (6-10 years) are more affected by such factors as engagement in additional administrative activities; unhealthy relationships with school leadership; family responsibility;

engagement in other social responsibilities outside the school; engagement in additional income generating activities; and security problems. Whereas teachers with low service years are found to be affected by factors such as not receiving salary on time, and distance from the school. On the other hand, teachers with longer service years are found to be less affected by personal factors. This indicates that teachers with medium teaching experience could face the professional dilemma of attending schools or attending family responsibilities, looking for more income, and taking care of their families. Junior teachers are sensitive about survival issues like timely payment of their salaries. Highly experienced teachers are rarely affected by those personal factors and remain stable in their jobs. This reminds us that school systems need to assign teaching force with mixed experience as young teachers could be more energetic but lack experience; the more seniors could have developed more wisdom but may not be as energetic as the young ones. The teachers with medium-sized experience could be people on the move with the opportunities to go to other private schools or part-time employment due to their experience and family demands.

Finally, regarding marital status, the study found that marital status is not a factor affecting teachers' time on task. However, some married teachers have complained about inadequate teaching-learning facilities; unhealthy relationships with school leadership; family responsibilities, and inappropriate weather as compared to teachers who are either single or divorced.

Thirdly, the pattern in which institutional and geographic factors, like regional location, school location (urban-rural), class size, workload, and training provided, and nature of the subject affect teachers' time on task was considered in this study. In general terms, the study showed that there is no regional variation in teachers' time utilization issues. This is to say that in almost all study areas institutional and geographic factors have affected teachers' time on task. Irrespective of which region the teachers work, they complained about low salary and benefits; lack of administrative support from the school; inadequate preparation for the lesson; unhealthy relationship with school leadership; inappropriate student behavior, inappropriate weather conditions, and distance from school. As these common time wasters are prevalent across all regions, it seems instructive to work on teachers' benefits packages; improve school governance and offer additional training on student handling and lesson preparation.

More specifically, in this part of the report, the effect of school location, class size, workload, training provided, and nature of the subject taught in the schools on teachers' time on task is discussed in that order. To begin with, the study showed that school location has posed different challenges for teachers to utilize their instructional time optimally. For example, rural primary school teachers complain that the location of their school affected their time on task compared with urban school teachers. Specifically, concerning low salary and benefits, not receiving salary on time, distance from the school, inadequate teaching-learning facilities, lack of administrative support from the school, security issues, and an unconducive school environment were found to be the common wasters of teachers' instructional time for rural primary school teachers as compared to their urban counterparts. This finding is consistent with the findings

reported by UNICEF (2020b) that took Eastern and Southern Africa and conducted research on Teachers' Time to Teach (TTT). This finding makes it clear that rural schools, like many other social organizations, face challenges in terms of external infrastructure like transportation and other utilities, and internal infrastructure alike. This reminds us that our school systems should be provided with basic resources as much as conditions allow. This also calls for policy implementers to set out and stick to basic standards for opening schools in rural areas so that the schools can be habitable to teachers and their students as well. It is public knowledge that some schools are organized under tree shades despite the standards set for primary schools in Ethiopia.

Concerning the effect of training provided to teachers on their optimal utilization of instructional time, the study shows that there is no statistically significant difference between those teachers who took and those who did not take the training. This finding stands in contradiction with the findings of other studies. For example, studies by UNICEF (2020b), Khan et al. (2016), and Inegbedion, et al., (2020) state that relevant training on time management can help teachers manage their instructional time better. It is important to note that training per se does not serve the purpose (as could be the case in Ethiopia) and training on instructional management could help Ethiopian teachers under consideration.

In relation to the effect of subjects taught on teachers' time utilization, the study shows that teachers' time on tasks is affected by the subjects they teach. Of the three school subjects under consideration, while English teachers have complained about student behavior, inadequate teaching learning facilities, Math teachers were worried more about low salary and benefit, inappropriate weather condition, and engagement in additional administrative activities. Mother tongue teachers complained about none. As regards class size and teachers teaching workload, the study shows that teachers' time on tasks is not affected by these institutional factors. However, it was reported that unnecessary non-academic activities such as regular school-wide meetings reported to have taken a good part of teachers' time away from instruction. This finding is congruent with the work of UNICEF (2021) where it is argued that non-instructional teachers' tasks could take away teachers' time that should be used otherwise to focus on actual teaching-learning activities. This makes it clear that such meetings be held at a reasonable frequency and beyond school hours. This requires school leaders to develop their skills in time management.

From an administration perspective, this report takes up teacher monitoring, teachers' remuneration and career progression, student-related issues, and external challenges. Teachers complain that lack of monitoring and appreciation of their use of instructional time is limited. This finding is consistent with the work of Karamperidou and colleagues (2020) where they have studied teacher attendance and time-on-task in Eastern and Southern Africa and reported that in many countries, measures designed to monitor teacher school absences and time-on-task are not enforced regularly or consistently, thus allowing teacher absenteeism in various ways. This gives teachers the impression that serious class attendance is accorded less attention from the school leadership. This reminds us that it is not only teachers but also school leaders who need hands-on skills in time management.

To teachers' remuneration and career progression, the study shows that teachers' time on tasks is profoundly affected by their engagement in other income-generating activities. They engage in these activities at the expense of prime instruction time which leads to the learning poverty of their students. Similarly, studies conducted in Eastern and Southern Africa attest that teachers in the region are still massively dissatisfied with their pay, which they consider inadequate to cover their basic needs (Karamperidou et al., 2020). This can be considered as the major motivation for teachers to look for other sources of income to support themselves and their families. They do so at the expense of instructional time in the context of poor monitoring of teachers' time utilization by school leadership. To make things worse, teachers' career paths and development are not only slow but also rarely satisfy their aspirations to this date.

Student-related issues, in a similar vein, affect the teachers' instructional time utilization, as confirmed by the study. Students' lack of interest, which manifests itself in late coming and misbehaving during the instruction remains one of the major time wasters for the primary school teachers. This calls for seeking parental support on top of arranging training for teachers and school leaders on student handling skills.

Finally, external challenges such as home school distance, lack of habitable shelter close to the school, and security issues remain to be the major external challenges affecting teachers' time on tasks. This finding echoes the findings reported by UNICEF (2020b) wherein it was reported that inappropriate weather, poor transportation networks, and security threats were the most frequent reasons for the absence of teachers from school in eight countries of Eastern and Southern Africa.

Conclusions and Recommendations

Conclusions

Based on the analysis and subsequent discussion, the following conclusions can be drawn:

1. Female teachers are more resilient to factors that impact teachers' time on task better than their male counterparts.
2. Teachers with bachelor's degree qualifications found it difficult to work in rural areas characterized by issues of transportation, lack of habitable shelter, and ill-equipped primary schools in Ethiopia.
3. Teachers with medium teaching experience (6-10) are more likely to get diverted from using their instructional time than teachers with low and longer years of teaching experience.
4. Married teachers with family responsibilities tend to miss their teaching time more than their counterparts without family responsibilities.
5. Rural primary school teachers more readily waste their instructional time than their urbancounterparts.
6. Primary school teachers waste instructional time in search of options of meeting their financialneeds.
7. Primary school teachers are negatively affected by factors external to the school and wasteinstructional time.

8. General training for teachers could improve their practice but not their instructional timemanagement skills and practices.
9. Primary schools, ill-equipped with internal and external resources, are repellent to their teachers.

General Recommendations

In view of the discussion and the conclusions drawn, the following recommendations are forwarded:

1. It is advisable that future primary school teachers' recruitment and deployment consider offering female teachers better quotas for they are more resilient to the common instructional wasters and their natural parental care for the young pupils in primary schools.
2. It is suggested that married primary school teachers be offered the means for extra support like daycare for their children so that they can focus more on their teaching duties than wastingtime caring for their kids. The experience can be drawn from other sectors and public offices that have already offered day care services in office buildings.
3. It seems reasonable to suggest that teachers are offered remunerations commensurate with their contribution to the nation in general and the educational sector in particular. This does not necessarily mean an increase in salary and financial payouts, but it is possible to think of other benefits packages such as housing, free medical services, transportation, financial loans, and educational opportunities to mention only a few.
4. It is suggested that teachers and school leaders be offered capacity-building training on time management, human relations skills working under pressure, and community studies.
5. It is suggested that teachers with varying teaching experience should be deployed in primary schools to maximize teaching efficiency in the primary schools.
6. It is advisable to observe and meet the minimum standard for establishing and running primaryschools in Ethiopia. In connection with this, it is advisable to revise the standard for establishing primary schools in rural areas wherein it is possible to include additional facilities for teachers such as shelter, health service, and security personnel as conditions allow.

Teacher Training as Solutions

Teachers' qualifications, experience, and initial and continuous professional development are sensitive and decisive aspects of their capacity, motivation, and attendance (UNICEF, 2021). To help them use available time, schools should be provided with qualified teachers or should be helped to update teachers' professional skills on time utilization in general and on time-on-task in particular. Such training that could be provided in two ways, preservice and in-service, affects teacher attendance in two ways. Insufficient or low-quality training deprives teachers of critical content knowledge and pedagogical skills, which affects their classroom attendance and time on tasks. At the same time, as most (in-service) training takes place during the school year and can last several days, it also contributes to school and classroom absenteeism (Karamperidou et al., 2020).

Access to training on time utilization and time management helps teachers to develop a clear sense of purpose, structure priorities, overcome negative behavior patterns, and leverage practical strategies, tools, and techniques to develop better time management skills. Poor teachers' time management leads to the sub-optimization of educational goals (Inegbedion, et al., 2020). As indicated by Khan, et al (2016), time management training on flexibility, available time, allocated time, engaged time, academic learning time, pacing, and transition time are necessary for teachers. The inclusion of time management skills in teacher training programs is important to improve teachers' managerial and administrational activities. Such pieces of training that have strong practical components increase the likelihood that teachers are well equipped to perform effectively in the classroom and that they achieve effective curriculum coverage (Karamperidou, *et al.,* 2020). Introducing peer learning workshops (as in Guinea) at the school level could also help teachers share experiences and find solutions to common pedagogical problems related to-time-on task (UNICEF, 2020).

Mitigate External Influences

To mitigate the external challenges, strengthening inter-sectoral collaboration to address factors beyond the education system that affect teacher attendance and time on task are imperative. For instance, as reported by Karamperidou and colleagues. (2020), in Rwanda, the Ministry of Education in partnership with the Ministry of Local Government is engaged in construction of houses for teachers to increase their attendance and time-on-task. It is also believed that collaboration between health institutions/sectors and schools help to address inadequate health care and prevention programs, thereby increasing teachers' attendance and time-on-task. Working with the community to alleviate conflicts and violence that reduces teachers' presence in the workplace is necessary (Karamperidou, et al., 2020). This means working with community (including parents' irreplaceable involvement in education of their children) to prevent conflict instigating settings and the threat of violence that restrict teachers' commitment to spending sufficient time on task could be a promising option.

Future Research

This study is a national study that covered all regional states (except Tigray and South West) and the two city administrations and bears several contributions already shown above. Despite its vital contributions, the findings of the present study, however, have to be interpreted with the following limitations in mind: First, though teachers' TOT may vary across the school calendar year (at the beginning, middle, and final year) and thus some studies suggest measuring teachers' TOT along this line, the present study took a one-time measurement of teachers' TOT at around the closing time of the school calendar year. Second, the study examined the effect of the CCA training on teachers' ToT by comparing trained and untrained teachers. However, as both trained and untrained teachers are working together in the same schools, the effect of contamination/diffusion in the form of sharing ideas and discussion about the training material was not fully controlled in the study. Third, the study generated data about factors affecting teachers' time on task only through questionnaires administered to teachers; generating data from other stakeholders (principals, students, parents, and education officers at different levels) and through a qualitative approach would have given more sound conclusions.

Hence, future research needs to be conducted in this area employing a more comprehensive approach to generate data: representing all the phases of the school calendar year (at the beginning, middle, and final year), from all other critical stakeholders in addition to teachers (principals, students, parents, and education officers at different levels), through mixed designs to also give space to qualitative approach and by controlling the extraneous source of variance like contamination of intervention by, for example, taking untrained teachers from schools where trained teachers will not be available.

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