Contextualization of Theory and Practices of Teachers' Effective Professional Development Features in Primary Schools of Oromia Regional State, Ethiopia

Girma Moti Geletu[1*#], Dawit Mekonnen[1†] and Geberew Tulu Mekonnen[2‡]

[1]*Curriculum and Instruction, Addis Ababa University, Ethiopia.*
[2]*Higher Education and Management, University of Tasmania, Australia.*

Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

Original Research Article

ABSTRACT

Aims: The main purpose of the study was to evaluate contextualization of theory and practices of teachers' effective professional development features in primary schools in Ethiopia.
Methodolody: Concurrent triangulation mixed method design was employed in the study. Questionnaires, interviews, focus group discussion, observation, and document examination were used to collect the data. A total of 615 participants took part in the study. The quantitative data were analyzed by using means, standard deviation, Pearson correlation, one-way-ANOVA, and multiple regression. The textual and contextual qualitative data were analyzed using thematic analysis. Both quantitative and qualitative data were interpreted and concurrently triangulated.
Results: Teachers did not incorporate and implement professional development critical features in

#PhD Candidate
†Associate Professor
‡Assistant Professor

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Corresponding author: E-mail: girmam2015@gmail.com;

continuous professional development (CPD) plans and activities. The prevailed effects from these professional development features were [content-focus, R^2 =.105, active learning, R^2 = .072, coherence (R^2=.043, collective participation, R^2=.037, and sustained duration, R^2=.014]. The cumulative outcomes of effectiveness of CPD practices added to multiple regression (R^2=.271) accounted for 27.1% to cause teachers' improve classroom instruction though professional dynamics predict that professional development practice is effective when it causes teachers improve professional practices. Teachers' participation in CPD activities, learning potential from CPD and application of new knowledge and pedagogical skills in the classroom were rated (M1=17.82, M2 = 15.74 & M3 = 14.79) by teachers and mentors and principals respectively. There was no statistically significant difference at p >.05 level in mean scores [F (2, 535) = 2.052, p = .135].

Conclusion: The findings of the study have implications for teachers in terms of planning and implementing specific class content and reflection activities in order to gain appropriate professional competences. Teachers need to upgrade their skills as they were not performing well in the classroom.

1. INTRODUCTION

Teacher's continuous professional development (CPD) is an indispensable component of a comprehensive teaching and learning system that supports students to develop the competencies they need to attain [1, 2, 3]. Furthermore, professional development can make the schools more appealing and relevant for the school entities and create equal opportunities to improve professional practices for all teachers [4]. This is the direct result of professional development policy that advocates a need for schools and teachers to be accountable to implement instruction that will lead to students' success [5]. Thus, teachers' professional development practices focus on executions of useful critical features [1, 6, 5, 7]. However, Sims and Fletcher-Wood [8] criticized that the dependence on specific features of professional development programs characterizes interventions as effective or not is logically unsound since all core features contribute to the success of the program. Yet, the executions of innovations that lack authentic evidence diminish teachers' interests and professional learning success [9]. Equally important to note that the lack of valuing desirable affective dispositions of teaching profession as a career [10] adversely affects teachers' professionalism and executions of CPD practices.

Successful professional development practices include networking, collaborative and active learning opportunities such as observation, reflection, receiving feedback and analyzing the contexts of learning [2, 6]. A team of professional development practice will stay together as long as the members have a mutual learning goal [11]. Professional development is used as the means for teachers to know how and what student has learned, what factors impede the learning and pedagogical approaches fitting to teaching students through managing fragile contexts in which instructional process takes place [12, 13, 14]. Teachers' participation in collaborative learning, reflective inquiries, induction, lesson studies and material development assist improvements of professional competencies required for classroom practices [15,8]. Thus, teachers' actively learning efforts contribute new knowledge and skills [16] to make effective instructional practices, [17] confirmed that,

Professional development is about teachers learning, learning how to learn and transforming their knowledge into practices for the benefits of students' growth. Teachers' professional learning is a complex process which requires cognitive and emotional involvement of teachers individually and collectively, the capacity and willingness to examine where each one stands in terms of convictions, beliefs and enactments of appropriate alternatives for improvements (p. 10).

The success of professional development program depends on three intersecting contexts such as the participant level (the learner and provider), the type of contexts (targeted knowledge, skills and dispositions), organization and facilitation of educational process [5, 16]. However, a professional development program that works in one context may not work in another [18]. These intersecting contexts are related to the 'who, what and how' of teachers'
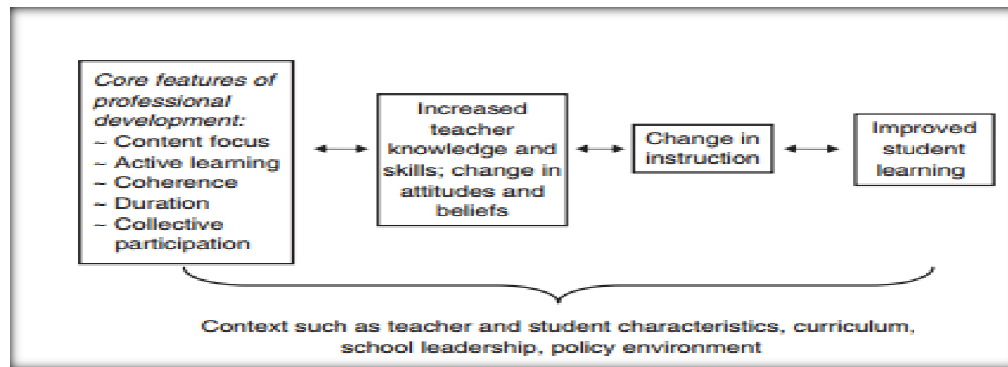
Fig. 1. Desimone's (2009) [6] Teacher Effective Professional Development Features

effective PD practices. Moreover, Desimone and Garet [5] further proposed that professional development has more tremendous success when connected to teachers' specific lessons through reflections and constructive feedback system.

Lastly, to evaluate the development of primary schools teachers professional competencies from CPD practices by using effective professional development features [2,6,5]. Thus, the conceptual framework used for this study is teachers' effective professional development features. The implementation of teachers' effective professional development features improves teachers' instructional practices in the classrooms. Accordingly, Darling-Hammond et al. [2]; Desimone [6]; Desimone and Garet [5] reached to the same consensus with the five effective teachers' professional development features developed by Desimone [6]. These include (1) content-focus, (2) active learning offering opportunities for teachers to observe, receive feedback, analyze and reflect, (3) coherence; contents, goals and activities that are consistent with school curriculum and goals, the needs of students and school, district and state reforms and policies, (4) sustained duration; professional development activities continuing throughout the school year and include 20 hours or more of contact time, and (5) collective participation; groups of teachers from the same grade build teachers' competencies of the 21st century and interactive professional learning practices.

2. CONTEXT OF THE STUDY

The 21st century schooling depends on education policies supported by teachers' participation in policy making and collaborative career long CPD

practices [19,20,21]. Teachers stand as one concrete model and instructional engines in the midst of curriculum change and its actual practices in the classrooms [22]. However, expecting successful students' learning outcomes from teachers alone is an in grave danger albeit they take the largest part in improving classroom instruction. The inclination of professional learning in Ethiopian community contradicts with the basic principles of teachers' effective professional development which stated that it is practice-embedded and an ongoing process but not a one-shot-off workshop. The observations and informal reflections made by the researcher with some practitioners like teachers, mentors, principals,cluster resource center supervisors and teacher development program experts initiated him to examine professional dilemmas associated with the development of basic professional competencies of teachers to improve classroom practices. Likewise, Moti [23] discussed that teachers have difficulties to identify core areas of professional activities and lack of interest in experiential learning. More specifically, teachers' perceptions and willingness to participate in CPD activities are vital factors that affect for the effectiveness of the program at country level [15].

Accordingly, the CPD policy framework [24] document was proposed for teachers with a clear structure and rationale to implement CPD through four consecutive cyclical phases. These are need diagnosis, planning, doing and evaluation stages for at least 60 hours per a year keeping a record of it in learning and assessment portfolios. The policy framework and practical toolkit are prepared to monitor CPD interventions targeted at improving teachers' practices in the classrooms. Nevertheless, some understandings about CPD policy framework and the initiations

made to implement it, and inconsistent successes achieved were documented at the ministry of education level. Yet, none of them was executed to improve professional competencies of teachers at school level.

Thus, based on the identified and discussed gaps between CPD policy and practices from the local studies carried out in different corners of the country, one can primarily learn and share a lot of experiences. However, the gaps are summarize by signifying that the local studies didn't examine how to contextualize the theory and practices of teachers effective professional development features based on professional standards and performance indicators to improve teachers classroom practices. Therefore, the researcher was motivated to undertake an empirical study on contextualization of theory and the practices of professional development features in CPD intervention. Accordingly, the main objective of the study was to evaluate contextualization of theory and practices of teachers' professional development features in primary schools.

3. RESEARCH QUESTIONS

This section presents basic research questions raised and answered in the study. These are :

1. To what extents do the implementations of professional development critical features help teachers improve their classroom instruction?
   a. How well are structural features of teachers such as different activities, collective participation, reflections, feedback and sustained duration of time addressed?
   b. How well are learning opportunities such as content-focus, active learning of teachers and coherence of prior knowledge with new activities practised?
2. How effective are CPD practices in terms of teachers' perceptions, participation, learning new knowledge and skills, and their use in the classrooms?

4. RESEARCH METHODS AND MATERIALS

4.1 Research Design

A concurrent triangulation mixed-method design [25] was chosen to investigate the perception and practice of teachers' professional development. Furthermore, the study's practicality and the researchers' motives influenced the design that was chosen. The selection was based on four important criteria that influence mixed methods. These are timing, weighting, mixing and theorizing procedures [25]. Therefore, the researcher employed four procedures: design of objectives, basic research questions, data collection instruments, data collection, and data analyses processes.

4.2 Sources of Data

The data were collected from both primary and secondary sources to get adequate pieces of evidence with respect to the study. Accordingly, the researcher identified four primary sources of data to examine the relevance and effectiveness of primary schools teachers' CPD policy and its actual practices. Teachers, coaches and mentors, principals, cluster supervisors, CPD committees, schools' CPD coordinators and experts of schools at woredas, zones, region and Ministry of Education (MoE) levels, and parents selected from parent-teacher-association (PTA) members. Besides, the secondary sources of data were CPD annual and action plans, practical toolkit, portfolios and action research documents.

4.3 Sample Sizes and Sampling Techniques

The sample size of each target population was determined, believing that the ideal sample size is large enough to be selected economically in terms of both time and complexity and small enough to be manageable and specific for analysis [25]. The sample size for a probability sampling process depends on population size but also the confidence level and confidence interval. Thus, four key factors in the sampling process have been judged. These are sample size, its representatives and parameters of samples, access to get the samples and sampling strategy to be used [26]. Unlikely, in non-probability sampling, the central purpose of the study governs the selection of participants in that each type of sample seeks to represent itself.

The researcher selected Oromia regional state by using convenience sampling technique on the basis of its appropriateness for the researcher and possibility in terms of access to reasonable data collection activities ahead of the seriousness of teachers' CPD practice problems.

Table 1. Sample frame units and samples sizes of the main study

SN	Categories of Profession	Sample frame units	Samples	Sampling technique
		N	**n**	
1	Principals	90	84	Availability sampling
2	Mentors/experienced teachers	255	96	Simple random sampling
3	Primary schools subject teachers	5977	370	Stratified sampling
4	Schools' CPD coordinators	30	7	Purposive sampling
5	CPD committee members	210	7 com.(38)	Purposive sampling
6	Cluster supervisors	45	7	Purposive sampling
7	TDP experts	7	7	Availability sampling
8	Zonal TDP experts	2	2	Availability sampling
9	Regional education TDP experts	2	2	Availability sampling
10	MoE TDP experts	2	2	Availability sampling
	Total	6620	615	

These are ease of communication and understanding in the mother tongue language with primary schools teachers, mentors, CPD coordinators and committees, principals, cluster supervisors and experts at different hierarchies during data collection. Accordingly, two zones such as North Shewa and West Arsi zones were selected by using purposive sampling technique.

Table 1 shows that 615 respondents were selected from 6620 sample frame units using different non-probability and probability sampling techniques and participated in the study. Hence,550 participants (84 principals, 96 mentors and 370 teachers) were responded to questionnaires. In addition, 27 participants (7 schools' CPD coordinators, 7 CRC supervisors, 13 teacher development (TDP) experts) were interviewed, and 7 CPD committees (38 members) were engaged in focus group discussion.

4.4 Data Collection Methods

The multiple data collecting instruments used in this study were questionnaires, interviews, focus group discussions observations, and document examinations. Regarding this, suggested that employing multiple data collection tools help the researcher to strengthen inadequacies and ensure triangulation.

4.5 Pilot Study

The pilot study was conducted mainly to get insights for establishing appropriate design and procedures for the main study. Pertaining to this, it is very important to establish the internal consistencies such as validity and reliability of

the items in the tools for meaningful data collection process of the study [26]. Then, validity of the instruments was checked by expert reviewers, and the reliability of the instruments was calculated and found to be α = .865). Then, improvements were made on few items of questionnaires and made ready for final data collection.

4.6 Methods of Data Analyses

The quantitative data were coded, tabulated, presented, and analyzed using descriptive and inferential statistics, and the qualitative data were narrated thematically. Thus, descriptive statistics and inferential statistics were designed to make assumptions about the characteristics of the wider population [27]. Accordingly, descriptive statistics such as the average mean was used to check the normal distribution of data, and the standard deviation measures the spread of data about the mean value. Thus, it is useful in comparing sets of data, which may have the same mean but a different range. Multiple regression analysis and a one-way-ANOVA are used to check the mean differences among respondents.

5. RESULTS AND DISCUSSION

5.1 Contextualization of Effective Professional Development Features

The professional development critical features of teachers upon which the program rests include five elements: content-focus, active learning, coherence, collective participation, and sustained duration. Accordingly, in s multiple regression analysis; the associations between the five

predictor variables and criterion variables have been estimated using Pearson correlation coefficient (r). Similarly, the correlations among predictor variables themselves have been computed to check for the multi-collinearity assumption. Thus, Table 2 shows that content-focus, active learning, coherence, collective participation and sustained duration correlated positively from low to high, and significantly related with teachers' instructional improvement [r =.324, r = .268, r =.207, r=.192, r =.118, $p >$ .05] respectively. Accordingly, Tabachnick & Fidell, [28] suggested that including two independent variables with the absolute value of a bivariate correlation of .800 or more in the same analysis violates the multi-collinearity assumption. In this study, the maximum correlation is .324 which is less than .800. Therefore, all variables were retained as they are for further use in the study.

For ease of computation therefore, all criterion and predictive variables have been symbolized as: X_1 = content-focus, X_2 = active learning, X_3 = coherence, X_4= collective participation, X_5 = sustained duration Y = teachers' instruction improvement.

It is important to detect the combined effects of predictor variables on criterion variables using a multiple regression model. Multiple regression analysis was utilized to determine the contribution of each predictive variable; content-focus, active learning, coherence, collective participation, sustained duration to the improvement of teachers' instructional practices). The regression model used for the analysis was $\acute{Y} = a + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_{4 +} b_5x_5$, Where; a = constant, b_1 = regression coefficient of content-focus (x_1), b_2 = regression coefficient of active learning (x_2), b_3= regression coefficient of coherence (x_3), b_4 = regression coefficient of collective participation (x_4), and b_5 = regression coefficient of sustained duration (x_5).

Table 3 shows the regression equation; Y (teachers' instruction improvement) = 13.010 + .085x_1 + .131x_2 + .065x_3 + .049x_4+.026x_5 indicated that all predictor variables in the study explained 27.10% of the total variances in the criterion variable (Y). The F- test shows that it is statistically significant at [$F_{(5, 544)}$ = 46.274, p <. 05).

Table 2. A summary of relationships between predictive and criterion variables

Variables	x_1	x_2	x_3	x_4	x_5	Y
x_1	1					
x_2	.268**	1				
sig.	.000					
x_3	207**	.136**	1			
sig.	.000	.006				
x_4	.192**	.067**	.108**	1		
sig.	.000	.071	.051			
x_5	.118**	.034**	.085**	.689**	1	
sig.	.000	.016	.040	.044		
Y	.324**	.268**	.207**	.198**	. 118**	1
Sig.	.000	.000	.000	.000	.000	

*** Correlation is significant at the .05 level*

Table 3. A summary of multiple regression on professional development critical features

Predictive variables	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. error	Beta		
Constant	13.010	1.035		12.574	.000
Content-focus (x_1)	.085	.011	.170	7.727	.000
Active learning (x_2)	.131	.020	.120	6.550	.000
Coherence (x_3)	.065	.020	.106	3.238	.002
Collective participation (x_4)	.049	.014	.087	3.500	.001
Sustained duration(x_5)	.026	.009	.068	2.889	.107

* Significant at α =.05; R = .520F (5,544) = 46.274 p = .000, R^2 = .270, Adjusted R^2 = .269

Table 4. A summary of stepwise multiple regression for addition of variables

N	Predictive variables	R	R^2	ΔR^2	Adjusted R^2	B	Beta weights	F
1	Content-focus(x_1)	.324	.105	.105	.103	.128	.324	111.003**
2	Content focus (x_1) Active learning (x_2)	.268	.072	.072	.070	.070 .102	.268 .207	83.168**
3	Content-focus(x_1) Active learning(x_2) Coherence(x_3)	.207	.043	.043	.041	.053 .130 .063	.207 .192 .110	59.818**
4	Content-focus (x_1) Active learning (x_2) Coherence (x_3) Collective participation (x_4)	.192	.037	.037	.035	.026 .110 .120 .072	.192 .111 .102 .092	52.927**
5	Content-focus (x_1) Active learning (x_2) Coherence (x_3) Collective participation(x_4) Sustained time(x_5)	.118	.014	.014	.012	.068 .052 .044 .057 .025	.118 .890 .481 .052 .014	46.274**
	All Variables Entered	.520	.270	.270	.269			

* Significant at the p .05 level

Multiple correlation (R) = .520, R^2 = .270, Constant = 12.250, Multiple Linear Regression F value (5,544) = 46.274 when all variances added to the regression model. Regression Equation; Y' = 12.250 + .128x_1 + .110x_2 + .072x_3 +.057x_4 +.025x_5

The measure of the relative contribution of each predictor variable (shown under Beta column) revealed that the coefficients of all variables are statistically significant at p.05 level, indicating that the variables are the major contributors to the regression equation. Each predictable variable has possessed the maximum Beta coefficient (x_1 = .170, x_2 = .120, x_3 =.106, x_4 =.087, x_5=.068, p <.05). They positively predict instructional improvement (Y) as rated by the three groups of respondents. Based on the statistical significance of the variables in predicting the improvements of instruction, stepwise regression analysis was computed to check the changes in the proportion of explained variances in CPD practices.

Table 4 shows that the stepwise regression analysis confirmed that all the predictor variables were retained in the equation as essential contributors to the variation in Y (improvement of teachers' instruction). Table 4 shows that the proportion of variance in the CPD practices accounted by content-focus (x_1) was 10.50%, and statistically significant at [F (1, 548) = 111.003, p <.05]. This is relatively the most explaining variable. When active learning (x_2) was entered in the regression model, the explained variance was raised by 7.20% and reached 17.70 % and significant at [F (2,547) =

83.168, p <.05]. The coherence (x_3) accounted for 4.3% of the explained variance and reached 22% and was significant at [F (3, 546) = 59.818, p <.05], Then, collective participation in professional learning entered the regression and accounted for 3.70 % of the explained variable and reached 25.70 and significant [F(4,545 = 52.927, p <.05]. Finally, in the next step, sustained duration (x_5) accounted for 1.40% of the explained variable and was significant [F (5,544= 46.274, p <.05]. Thus, the four variables in combination accounted for about 27.10% of the proportion of outcome variances. Therefore, all variables are significant to determine the improvement of teachers' classroom instruction.

Although the variables that were included in the equation of stepwise regression differ in their proportion to explain the variance in the criterion variable, they are significantly important to improve the prediction when used in combination [F (5, 545) = 46.274, p <.05] rather. Thus, the actual contributions of critical features of professional development to teachers' classroom improvement is R2 = 0.271 (27.10 %) of the total variances accounted for. Thus, the summary of the stepwise regression analysis results confirmed that all predictor variables content-focus (R^2 =.105), active learning (R^2 =.072), coherence (R^2 =.043), collective participation (R^2

=.037) and sustained duration (R^2=.014) positively correlated to teachers' classroom improvement.

Likewise, one of the interviewees justified the efforts of teachers and factors that affected the implementations of critical features of such as content-focus, active learning, coherence, collective participation and sustained duration in their CPD activities as,

> I think there are initiations to improve classroom instruction through school-based CPD practices. But, I think the basic problems are associated with waiting one another and giving less attention to proposed CPD activities. These factors created a lack of common understandings and concerns about the science and principles of professional development. The learning groups are not in a position to gain new knowledge and develop concrete skills and attitudes to nurture CPD practices. Thus, the policy documents were not implemented on the basis of specific content, active learning, coherence, collective participation and effective usage of duration or 60 hours/a year. If these professional development features has been implemented properly, best performing practitioners in CPD are identified and encouraged, and those not participated in the program at all would have been corrected (IP24, 07/3/2020).

In the same manner, the other participant pointed demonstrated that about the commitments and responsibilities of individual stakeholders of CPD policy into practice as,

> I sometimes think the lack of professional commitment and responsibilities adversely affected the participation of teachers, principals and supervisors in their CPD activities. Also, professional commitment and responsibilities at personal and professional levels hinder teachers' capacities to make critical reflections to improve their classroom practices. Thus, I think without willingness and commitment, it is difficult for teachers to work on specific contents of the lesson through active learning and collaborative participation of teachers at the department or school level to construct new knowledge and acquire skills from CPD activities on the specific lesson (IP14, 18/2/2020).

The third participant critically argued about the application of utility of professional competencies (knowledge, skills and beliefs), which is developed from collaborative and individualized CPD practices in their classroom setting as,

> I am sure that teachers do not believe in the knowledge they gain and skills they acquire from CPD practices because the tasks are related to managerial and routine duties based on school needs rather than personal teacher needs related to professional practices in their specific content lessons. Besides, in our context, the organization of CPD practice is not departmental wise. Therefore, teachers do not make experiential learning through collaborative discussion and critical friend classroom observation within the department in schools and between schools to improve their knowledge, diverse methods of teaching and classroom management skills (IP15,12/3/2020).

Similarly, the other interviewee summarized the implementations of structural and opportunities of teachers' learning from CPD practices as,

> I believe that some teachers are not responsible to participate in CPD activities as something professionally support them rather than considering it as political affiliation that tires them and lack of refreshment and other professional benefits. As the result, some teachers are partially participating while few are not totally participating in CPD activities. Hence, I think the CPD activities are not coherent to their prior knowledge and skills because most of the time, they are planning CPD on the assigned needs of schools rather than personal teacher needs. Thus, CPD activities fail to cause changes in teachers' classroom instruction and students learning outcomes (IP24, 12/3/2020).

Moreover, some members of the FGP3 team discussed important issues related to executions of the critical features of professional development activities as follows. Accordingly,

> A deputy principal, 'H' began raising his ideas by saying that I am sorry to ask such questions as a leader but I am not clear with contents of CPD practices. Who will select the topic, what will be the topic? Why to select that topic? These core issues are not briefly discussed in the CPD framework. The framework focuses on the importance of CPD practices for teachers rather. However, according to my school, some teachers focus

on their specific subject matter, and I don't have information about the majority of teachers…… In addition, teacher 'J' extended her view that we are planning CPD on the bases of prioritized school needs. It may include students' absenteeism, latecomers, academic achievement, and gender issues….. The other teacher 'L' clearly specified that no one cares about the quality of activities to be included in CPD because as of my school, there are no monitoring, follow-ups and evaluation strategies that support collegiality learning. I think that there might be lack of coherence to our prior professional competencies. Likewise, she extended her discussion by saying that CPD practices lack collective participation of teachers who teach similar subjects in sustained duration, 60 hours/ a year (Date: 09/3/2020).

Although CPD practices strongly influence teachers' classroom practices, teachers experienced CPD activities as an externally exposed demand for conformity and compliance. The practitioners including teachers were incapable to exercise the responsibility in the construction of new knowledge and skills. By contrast, Desimone and Garet [5] confirm that PD has greater success when it is directly connected to teachers' lessons (content-focus) followed by active learning [29]. Besides, the practices of collective participation through dialogues and actions is described in CPD of teachers as the cure of all 'diseases' in schools [18] in sustained duration of time. However, the learned knowledge and skills were not assimilated in teachers' classroom practices. This finding contradicts with CPD activity as a process of learning how to put knowledge into practices through engagement in practices.

The quantitative and qualitative findings overshadowed the implementations of critical professional development features in line with new knowledge constructed and skills developed by implication classroom instruction improvements. Therefore, Kennedy [30]

suggested that the important condition for effectiveness of PD practice depends on its valuable content than duration of the program though it is questioned by Darling-Hammond et al. [2] who ascertained that the five key elements are very critical and their contributions are relative to each other; if one is altered the effectiveness of CPD practices will be altered. The finding of this study confirms that all critical elements affect CPD practices and the efficacy of teachers' practices in the classrooms. Therefore, high-quality professional development provides teachers with (1) active learning opportunities, including engaging in exploration, reflections and discussion; (2) contexts for collective participation and collegiality sharing; (3) constructive and non-prescriptive feedback, and (4) sustained follow-up supports after program completion [31, 2].

5.2 Dynamics Related to CPD Participants

The data collected about dynamics related to school-based CPD participants focus on teachers' willingness and reactions to participate in CPD activities, teachers' efforts of learning from CPD practices, and application of new knowledge learned and skills acquired in classroom practices. To evaluate the status of these dynamics, average means and standard deviation are used. Moreover, a one-way ANOVA is used to find out the possible variations of means among teachers, mentors and principals as presented below.

Table 5 shows that the mean scores of all respondents' lies below the expected average mean though the mean of teachers is relatively higher than those of mentors and principals. This indicates that their satisfaction on the willingness of teachers, learning potential from CPD and utilization of new knowledge and skills to improve their instructional process is found to be minimal. A one-way-ANOVA further produced a statistically significant difference between the mean scores of groups of respondents, as demonstrated below.

Table 5. Means and std. dev. of dynamics related to cpd participants

Variable	Groups	N	Mean	Std. deviation
Teachers reactions and willingness to learn from CPD and use of new competencies in the classrooms	Teachers	366	17.82	1.768
	Mentors	90	15.74	2.781
	Principals	81	14.79	1.672
	Total	537	16.210	1. 923

Maximum expected mean = 30

Table 6. One-way-ANOVA on teachers' participation in CPD activities

Sources of variations	Sum of squares	DF	Mean Square	F	Sig.
Between Groups	165.949	2	82.975	2.052	.135
Within Groups	21630.970	535	40.432		
Total	21796.919	537			

* Significant at the p .05 level

Table 6 shows that there is no statistically significant difference at *p*>.05 level in mean scores of the three groups of respondents [F (2, 535) = 2.052, p = .135]. Therefore, respondents feel unfavorable with teachers' willingness to participate in CPD activities, learning potential from CPD and applying new knowledge and concrete skills in classroom instruction.

The participants discussed the efforts of teachers learning from CPD and the use of new knowledge and skills acquired from CPD activities in professional practices in the classroom as,

> I understand that some teachers are learning from CPD activities whether the anticipated activities are related to their specific lessons or additional reflective activities such as action research, classroom observation, and supervisory conferences at the department level or school level. However, the qualities of their learning have not been evaluated by concerned bodies. It is difficult to estimate how much teachers are learning from their CPD activities. On top of this, there is no monitoring, control and follow-ups whether teachers are using their new professional competencies in their instructional planning, implementation and assessment (IP8, 20/2/2020).

Moreover, another interview participant discussed about the effectiveness of CPD practices as,

> I believe that if we were able to learn from each other through recognizing professional needs and planning CPD at the department level, we would develop the knowledge and skills required for classroom instructional process. However, due to wrong perceptions of practitioners, the program was not frequently implemented, and sufficient competencies were not recorded. Even, no one has the capacity and experience to evaluate the newly developed and updated professional competencies. Thus, there is no single evidence that shows whether the

developed professional competencies were effectively used by teachers in the classrooms or not. Yet, the professional learning outcomes were not recycled in the improvements of educational practices (IP8, 08/3/2020).

From both qualitative findings and quantitative results, one can conclude that teachers were not properly implementing processional development features in their professional learning. New professional competencies such as knowledge and skills were not effectively utilized in classrooms. Therefore, students' learning outcomes is not reasonably improved from time to time.

6. CONCLUSIONS

As it attracts attention to the success of teachers' specific lessons, the implementation of critical features of teachers' professional development plays fundamental roles in improving teachers' classroom practices. However, in the Ethiopian context, CPD policy and practices have not given due attention to the inclusions of critical elements of CPD such as content-focus, active learning, coherence, collective participation and sustained duration. As a result, the impacts of CPD practices to cause changes in teachers' classroom instruction are insignificant. Thus, executions of CPD activities were less aligned with the critical features of teachers' professional development such as content-focused, active learning, coherence of knowledge, collective participation and sustainable duration.

Moreover, the success of CPD practices is strongly influenced by the status of participants such as the learner and provider and targeted professional competencies learned from CPD activities. However, participants' reactions against CPD practices challenged its importance by assuming that it is something politically intended to make teachers busy. Likely, teachers were not actively learning from CPD practices, and there is no evidence justifies that they use new knowledge and skills in classroom instruction. Still, organizational and expert

support provided to teachers CPD practices are important in realizing the program. It is equally important to note that popular and successful leadership's capacity draws attention to the change of policy into actions, improve instructional process and adequacy of resources to accelerate teachers' professional competencies.

Nevertheless, most educational leaders were less motivated and less committed to create conducive learning environments like adjusting workshops and CPD meetings to evaluate individualized follow-ups, coaching, mentoring, reflections and feedback systems. The dialogues and actions were the missing examples from primary schools, although collegiality is described in CPD of teachers as solutions to educational problems in schools. Therefore, teachers were unable to grow into learning groups at the departmental level due to a lack of creative thinking skills on the benefits of CPD practices in terms of working together to develop professional competencies.

ETHICAL APPROVAL

Ethical approval for this study was obtained from the concerned bodies in Ethiopia. Before distributing the instruments to the participants for data collection, a permission was sought from Oromia Education Bureau.

CONSENT

The participants of the study were informed about the purposes of the research at the beginning of data collection processes. Informed consent was also obtained from all the participants of the study. Participation in the study was voluntary, and confidentiality maintained at all time.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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