Assessment of primary and middle schools' learning of post-1994 instructional reforms: The organizational learning perspective

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Abstract

Using Organizational Learning (OL) as a theoretical lens, this study examined the perceived level of OL in primary and middle schools in the Amhara Regional State, Ethiopia. To this end, a descriptive survey design involving 785 teachers selected from 48 primary schools was used. Data was collected using standard questionnaires and analyzed using various statistical tools. The results showed that target schools had a mean that is slightly above average in learning the instructional reforms, but the magnitude varies with school level, and level of implementation of continuous professional development. Regarding, learning agency, team learning and school-level learning were found higher than learning at personal agency. However, most teacher and school-level variables did not result in significant variation in school as LO probably due to the deep-rooted tradition of top-down reforms. From the results, it is understood that OL in primary schools, especially in Level III schools, is taking root through collective agency, but some fundamental constructs and features of LO were overlooked. This calls for the need to align the schools' standardization guidelines to the constructs and features of LO. Moreover, it sounds well to revisit the long-held top-down tradition of introducing reforms.

Introduction

Reforms that aim to improve teaching and learning are well-trusted in improving students' learning and thereby quality of education (Clarke, 2022; Dimmock, 1999; Fullan, 2011; Hattie, 2003 & 2009). As a result, improving the quality of teachers' classroom practice overwhelm the focus of many reform initiatives (Alene & Prasadh, 2018; Guskey, 2002). Most importantly, according to Fullan (2014), focusing on instruction is the most crucial aspect of education reform, as teacher quality is simply a stand-in for effective teaching.

But shreds of evidence show that instructional reforms which are centrally initiated by policymakers are falling short of changing schools (Bascia & Hargreaves, 2000; Darling-Hammond, 2012; Fullan, 2011). Multiple factors may account for the failure, but in this paper,

we argue that what went on in schools in institutionalizing these reforms might significantly contribute to the failure. This assertion is based on our knowledge of organizational learning in a school setting, which is proven to be effective for schools (Leithwood et al., 1995) particularly in changing teachers' instructional practice. This is well argued by Sparks in (Guskey, 2000, p. ix) that "everyone who affects student learning must be learning …all the time, if schools are to successfully teach all students to high standards.''

Researchers who studied educational reforms in various countries suggest rethinking professional development (PD) in school systems (e.g. Darling Hammond, 2012; Hargreaves, 2000; Fullan, 2007) vis-à-vis the organizational learning perspective. Consequently, concepts like 'learning communities', 'professional learning community', and 'community of practice' are common phrases coined by these and other scholars who studied instructional reforms (McLaughlin & Talbert, 2006; Stoll & Louis, 2007). In particular, innovative PD schemes by the above-mentioned phrases are well linked to the implementation of constructivist instructional reforms because of the fact that effective teacher PD is a key to improving the implementation of these reforms (Cho et al., 2021).

Since then, School as a Learning Organization (SLO) becomes a bottom-up innovative approach to implementing constructivist reforms from the top (Robertson et al., 1999). PD guided by SLO, unlike the old ways of school-based PD schemes, results in a long-lasting change in schools' classroom practice which is based on critical evaluation of values and assumptions known in the status quo (Rait, cited in Scribner et al., 1999).

The post-1994 instructional reforms in Ethiopia are based on the constructivist-learning theory (MOE, 2009a, 2009b; MOE, 2013), and especially the social constructivist one (MOE, 2013). According to the OL theory, schools are expected to learn such reforms in the workplace via school-based PD and other similar programs. In line with this, since 2009, the Federal Ministry of Education endorsed a school-based Continuous Professional Development (CPD), which provides a relative freedom to schools in the selection of learning contents.

Constructivist concepts like student-centered learning, continuous assessment, action research, and reflective practice, which are collectively named in this study as post-1994 instructional reforms, have dominated the contents of the CPD (MOE, 2009a). The purpose of this survey was, therefore, to assess schools' learning of these instructional reforms in selected primary and middle schools of the Amhara regional state of Ethiopia from the organizational learning perspective.

Problem Statement

In the 1990s, Africa experienced a wave of educational reforms (Altinyelken, 2010; Chisholm & Leyendecker, 2008; Eger, 2016), and a great deal of these reforms were related to pedagogy (Dimmock, 1999; Eger, 2016). Despite their unfamiliarity within African culture (Tabulawa, 2013), these reform ideas aimed to enhance the quality of education by changing the traditional pedagogical methods common in Africa, which have been criticized by reformers as authoritarian, teacher-dominated, and lecture-driven (Altinyelken, 2010; Tabulawa, 2013).

The international development agencies through their funds were the main actors for introducing these reforms (Dahlstrom & Lemma, 2008; Tabulawa, 2013). While instructional reforms introduced in some spots of developed nations have success stories; wave of reforms

in the third world countries, especially in sub-Saharan Africa, have generally failed to penetrate into the classroom (Altinyelken, 2010; Nordstrum, 2015; Tabulawa, 2013). Country profiles developed for Sub-Saharan African countries by the Vrije Universiteit, Amsterdam, indicate the prevalence of 'traditional pedagogies' (Ottevanger et al., 2006). Thus, 'chalk and talk' teaching strategies, largely aimed at verbal recall of factual information and definitions are characterizing pedagogies in Africa (Ottevanger et al., 2006). In particular, current classroom practice in East African countries has been reported to be exactly alike to the way of practicing it 30 or more years ago (Cunningham, 2018).

The rhetoric reality gap that prevails in other parts of Africa also seems a reality in Ethiopia. Post-1994 education policy and its directives like the Teacher Education System Overhaul (TESO) endorsed child-centered education, continuous assessment, action research, and reflective practice as statutory classroom practices (MOE, 2003). Yet, according to reports from the MOE, donor agencies such as the USAID and UNESCO, and local researchers (Melese et al., 2009; Serbessa, 2006; Worku, 2017), these aspirations remained rhetoric. The Government often ascribes the failure to teachers' lack of commitment and pedagogical knowledge and skills (MOE & ESC, 2017). Contrarily, teachers have a counter narration attributing the failure to administrative problems like workload, lack of incentives, poor working conditions, and policies untailored to the context (MOE & ESC, 2017). This creates a cycle of problems, where projection has been the inherent phenomenon.

The findings from local research are also at odds with the aspirations of the 1994 Education and Training Policy of Ethiopia and its directives in the sense that failure stories overwhelm success stories (see Arya, 2017; Belayneh, 2012; Hindeya & Endawoke, 2013; Melese, et al., 2009).

Thus, the scholarly discourse established towards education quality in general and practice of constructivist pedagogical reforms in particular seldom show success stories. Rather, it makes clear that the gap between the rhetoric and the reality is getting wider across the education ladder. Especially, the situation in primary and middle schools is more serious (Semela, 2014) and problematic (Serbessa, 2006).

The regional governments in collaboration with the Federal government of Ethiopia tried to reverse the situation by upgrading primary school teachers, allocating significant portion of the GDP for education sector, improving school facilities, prescribing more initiatives over initiatives, and revising the curricula. And yet, these efforts have not yielded the results anticipated in the policy and policy directives (MOE & ESC, 2017).

In the literature, scholars argue that organizations, including schools, are only as good as their learning ability (Argyris & Schon, 1978; Law & Chuan, 2015; Senge, 2012; Wellman, 2009). However, it seems that much is devoted not to how schools as agency of learning have learned instructional reforms in their own context but rather, on compliance. That is, exploring the status of implementing the post-1994 instructional reforms and investigating the challenges that hinder the implementation dominated the research discourse. A notable exception is a large-scale survey carried out by Geleta and Tafesse (2017, p.34) who reported ''low favorable characteristics for [schools to] transform into a learning organization''. In addition, a full-fledged Ph.D. work has been conducted by Shega (2017) who studied how leadership enhances or discourages teachers' commitment to OL in public and private secondary schools. Despite these generic efforts, all seem to fall short of delimiting specific contents of learning.

Thus, paucity of local research works examining schools as learning organizations (SLO) vis-à-vis instructional reforms convinced the researchers to delve into the issue. Consequently, this study was guided by the following basic research questions: (1) To what extent do primary schools build into a learning organization in learning the post-1994 instructional reforms? (2) What is the magnitude of learning practiced by learning agencies (individual teachers, teams, and the school as an organization)? (3) What school and teacher-related variables explain schools' learning of the post-1994 instructional reforms?

Conceptual Framework

According to OL theorists (Fullan, 2007; Huber, 1991; Knapp, 2008; Murray, 2002; Senge, 1990, 2012), learning becomes a prerequisite for organizations, including schools, to survive in an environment of rapid change. The outcomes of organizational learning are, however, presented in the literature in terms of either cognition (Huber, 1991; Kolb, 1984; Walsh & Ungson, 1991), behaviour (Argyris & Schon, 1978; Nevis et al, 1995) or combined (Fiol & Lyles, 1985; Senge, 2012, 1990). This study positioned that OL in a school context is a change in both cognition or thinking and behavior (action) since real learning in Learning Organizations (LOs) involves change in both thinking and action (Senge, 2012).

Huber (1991), who viewed OL as a change in thinking, argued that LOs apply knowledge management by searching, storing, interpreting, and disseminating knowledge which can continuously improve the way organizations perform. Consequently, a school built into a learning organization could actively search for information that helps to improve instructional practice, store the information in organizational memory sites, interpret the information to make meaning out of the information, and disseminate the information within the school community to improve practice. Those who viewed OL as a change in performing routines (behavior) claim that LOs display unique characteristics that are not common in bureaucratic organizations. Kools and Stoll (2016) who studied OL in a school context after an extensive literature review synthesized unique features that characterize a learning school. They noted that learning schools develop and share a vision that centers on the learning of all students; create and support continuous learning opportunities for all staff; promote team learning and collaboration among staff; and establish a culture of inquiry, innovation and exploration. Moreover, a learning school establishes embedded systems for collecting and exchanging knowledge and learning; learning with and from the external environment and larger learning system; and model and grow to learn leadership. The outcomes manifested in terms of cognition and behavior should be displayed on three agencies of OL, namely, person, team, and school level (Collinson et al., 2006).

In Ethiopia, the education and training directives since 1994 aspire to shift teachers' classroom practice into constructivist orientation (MOE, 2009a, 2009b; MOE, 2013), and especially social constructivism (MOE, 2013). Organizational Learning in school setting is thought as a bottom-up innovative approach to implement constructivist reforms from the top (Robertson et al., 1999), and hence, OL is chosen as a theoretical lens to assess schools' learning of instructional reforms which are meant to improve teachers' classroom practice vis-à-vis the post-1994 instructional reforms. In this study, a learning school is conceptualized as a school that demonstrates both the constructs and characteristics of a learning organization with respect to instructional reforms like continuous assessment, active learning, action

research, and reflective practice. In this paper, these concepts are collectively named as the post-1994 instructional reforms.

Methods

Research Approach and Design

The purpose of this study was to assess primary and middle schools' learning of post-1994 instructional reforms using organizational learning theory as a theoretical lens. To attain this purpose, a quantitative research approach involving a cross-sectional survey design was employed.

Sampling

The study was conducted in the Amhara National Regional State, the second most populous state in Ethiopia. According to the reports of the Central Statistical Agency (2022), it constitutes 25.65% of the country's population. The state is divided into 15 administrative zones, with a total of 8, 902 public primary schools (MoE, 2021). Of this number, 3,823 of them found in the four administrative zones (Waghmira, North Wollo, South Wollo, and South Gondar) were completely destroyed during data collection due to the two-years war fought in northern Ethiopia (MOE, 2021). Thus, the study targeted the remaining 11 administrative zones that were relatively free from the aforementioned crisis. Consequently, three zones (out of 11), namely North Shawa, East Gojjam, and South Gondar, were randomly selected.

The focus of this study was post-1994 instructional reforms; consequently, only schools that have been experiencing those reforms beginning from 1994 were included. Participant schools were 48 public primary and middle schools in the mentioned three administrative zones. These schools were selected using proportional quota sampling method. Accordingly, the sample size was set to make proportional to the total number of schools in each zone. Of these schools, 43% were from East Gojjam while 34.4% and 22.5% of them were from North Shawa and South Gondar respectively.

Data Gathering Methods

Field data were collected using standard questionnaires developed to measure constructs (SLO-T) and characteristics (SLO-A) of schools built as learning organizations (SLO). The instrument which measures constructs of schools as LO has 19 items categorized into four sub-scales measuring knowledge acquisition (8), dissemination (4), interpretation (2), and memory (5).

The 'learning school characteristics' questionnaire, on the other hand, has a total of 33 items scaled into seven categories, namely developing a shared vision centered on the learning of all students (3 items), creating and supporting continuous professional learning for all staff (6 items), promoting team learning and collaboration among all staff (4 items), establishing a culture of inquiry, exploration and innovation (5 items), embedding systems for collecting and exchanging knowledge and learning (5 items), Learning with and from the external environment (5 items), and Modelling and growing learning leadership (5 items). In both

batteries, there are items which are set to measure learning by learning agencies (individual, team, and organization), and the items were tailored to instruction.

Table 1

Psychometric Properties of the Scales and Sub-scales

Scale/Subscale	Cronbach Alpha
Construct Measure	
Knowledge acquisition	0.84
Dissemination	0.76
Interpretation	0.70
Memory	0.80
Sub-scale Aggregate	0.92
Characteristics Measure	
Developing a shared vision centered on the learning of all students	0.80
Creating and supporting continuous professional learning for all staff	0.85
Promoting team learning and collaboration among all staff	0.81
Establishing a culture of inquiry, exploration and innovation	0.83
Embedding systems for collecting and exchanging knowledge and learning	0.81
Learning with and from the external environment	0.75
Modelling and growing learning leadership	0.85
Sub-scale Aggregate	0.96

The questionnaires were first translated into *Amharic language* (a mother tongue dominantly spoken in the regional state) and then these versions were translated back to English by English language expert. Then, the two versions (original English versions and the questionnaires translated from Amharic versions) were checked for equivalence by two language experts. Finally, revisions were made on the Amharic versions based on the comments on the congruency of the original and translated English versions.

The field data were collected in person between April and May, 2022, and altogether 785 teachers completed the questionnaires. The data was collected after obtaining consent from the research participants. The participants were assured that the data would be kept confidential during data presentation and reporting.

Data Analysis

The survey data were analyzed quantitatively using descriptive and inferential techniques. Accordingly, percentage, frequency count, and mean were used for the descriptive analysis. Besides, independent samples t-test, one-way ANOVA, and multiple regression were used to infer about the population. The unit of analysis in this study was the school itself. This by no means exclude the school communities since "a study of a house, is inevitably also a study of the persons who live in it (Bachelard, cited in Whitehead & McNiff, 2006, p.38).

Results

This section presents the findings from the field study under three themes: background information about sample units, the level of OL at the school, team, and individual levels, and analysis of variations.

Background Information

Teacher Characteristics

In this study, a total of 785 teachers have participated. Table 2 presents their characteristics in terms of biodata, location, and other teacher-related variables.

Table 2

Summary of Teacher Characteristics

Variable	Category	N	%
Sex	Male	395	50.3
	Female	390	497
Location	North Shawa	270	34.4
	East Gojjam	338	43.1
	South Gondar	177	22.5
Career Ladder	Beginner Teacher	9	1.1
	Middle Teacher	57	7.3
	Teacher	131	16.7
	High Teacher	165	21.0
	Principal Teacher	404	51.5
	High Principal Teacher	19	2.4
Teaching Experience	<5 years	53	6.8
	5-10 years	194	24.7
	11-15 years	190	24.2
	>15 years	348	44.3
Qualification	10+1/12+1	28	3.6
	10+3/12+2	597	76.1
	Bachelor's Degree	151	19.2
	Others	9	1.1
Department	Language	214	27.3
	Mathematics	135	17.2
	Natural sciences	177	22.5
	Social sciences	107	13.6
	Aesthetics	95	12.1
	Generalist	24	3.1
	Missing	33	4.2
	Total	785	100

Source. Field data.

Table 2 above presents the characteristics of the participant teachers. Accordingly, the share of male and female teachers who participated in the study was almost equal. Regarding location, the percentage of teachers from North Shawa, East Gojjam, and South Gondar constituted 34.4%, 43.1%, and 22.1% respectively.

As far as their career ladder is concerned, the majority of participant teachers were promoted to High Teacher (21%) or Principal Teacher (51.5%) ranks implying that they have been experiencing almost all the post-1994 instructional reforms. The share of participant teachers who reached the Teacher career ladder constituted 16.7% of the respondents. However, respondents in other lower ladders like Beginner Teacher (1.1%), Middle Teacher (7.3%) or higher ladders like High Principal Teacher (2.4%) were found lesser than the share of participant teachers in the other career ladder categories. This has implications to participant teachers' teaching experience since upgrading through the career ladders was practically based on years of teaching experience.

Qualification wise, the majority of teachers (76.1%) had diploma in teaching either in the 12+2 or 10+3 programs while 19.2% of the teachers had Bachelor's Degrees. The remaining teachers had either certificate in teaching (in the 10+1 or 12+1 programs) or joined the teaching profession without receiving any formal professional training.

Concerning the hosting departments, the majority (27.3%) of the participants were from the language department (Mother Tongue & English) and the next higher share (22.5%) was from Natural Sciences. Teachers from the Mathematics department accounted for 17.2% of the respondents, whereas, teachers from Social Sciences (Civics & Social Studies) and Aesthetics (Visual Arts, Music & Physical Education) account for 13.6% and 12.1% respectively.

School Characteristics

Schools in Ethiopia, according to the school standard document endorsed by the Ministry of Education (MOE, 2014), are ranked under four categories, namely Below Standard (Level I), Beginner (Level II), Already Functioning (Level III), and Above Standard (Level IV). According to this standard, the weights allotted to input, process, and output components are 25%, 35% and 40% respectively. Table 3 shows the characteristics of the sample schools.

Table 3

Summary of School-Related Variables

Variable	Category	N	%
Number of Schools	North Shawa	17	35.4
	East Gojjam	13	27.1
	South Gondar	18	37.5
School Level	Level I	0	0
	Level II	29	60.4
	Level III	19	39.6
	Level IV	0	0
Level of CPD Implementation	Very high	49	6.2
	High	135	17.2
	Average	466	59.4
	Low	93	11.8
	Very low	42	5.4

Source. Field survey conducted between April and May 2022.

As can be seen from Table 3, no school in the region was labelled under Level IV and Level I. Accordingly, while about 40% of the schools surveyed were under Level III (already functioning), the remaining 60% were under Level II (beginner) schools.

These sample schools, alike in other schools, have been practicing in CPD programs since it is a requirement for every teacher. But, the result presented in Table 3 shows that the level of CPD implementation in the schools was perceived to be average or below as reported by 75% of the teachers.

Status of Practicing Organizational Learning in the Schools

Organizational learning in schools may take place at varying levels. It could happen at low, medium, or high level depending on different variables. The results presented in Table 4 and Table 5 show the perceived level of practicing OL per LO dimensions.

Table 4

Level of Practicing Organizational Learning by School Levels (Thinking Dimension)

Dimension	Sub-scales	Beginner (N=465)		Already Functioning (N=320)		Total (N=785)	
		Mean	SD	Mean	SD	Mean	SD
Thinking	Interpretation	3.57	1.02	3.80	0.91	3.66	0.98
	Dissemination	3.32	0.92	3.59	0.80	3.43	0.88
	Memory	3.25	0.89	3.56	0.79	3.38	0.86
	Knowledge Acquisition	3.17	0.79	3.42	0.72	3.28	0.77
	Average	3.33	0.91	3.59	0.81	3.44	0.87

Table 4 presents the schools' status in practicing the constructs of a learning organization features of a learning organization in the thinking dimension, which was slightly above average (M=3.44). The mean values for Level II and Level III schools were 3.33 and 3.59 respectively. As indicated in the same table, the sub-dimension of thinking followed a similar pattern across the school levels. Schools had higher mean values in knowledge interpretation and lower mean values in knowledge acquisition compared to other constructs of the LO. The mean values for knowledge dissemination and memory (storage) fell in between these two sub-dimensions, with a consistent pattern across school levels.

With regard to SLO characteristics, learning schools, according to Stoll and Kools, (2017) possess seven features unique to SLO. Table 5 presents level of SLO in the action dimension.

Table 5

Level of Practicing Organizational Learning by School Levels (Action Dimension)

Action Sub-scales	Beginner (N=465)		Already Functioning (N=320)		Total (N=785)	
	Mean	SD	Mean	SD	Mean	SD
DSV	3.65	0.96	3.94	0.78	3.77	0.90
CSPL	3.44	0.88	3.71	0.73	3.55	0.83
PTLC	3.38	0.98	3.65	0.76	3.49	0.90
MGLL	3.31	0.88	3.45	0.85	3.37	0.87
ESCEKL	3.24	0.89	3.47	0.76	3.34	0.85
ECIEI	3.20	0.90	3.47	0.79	3.31	0.86
LwfE	3.00	0.80	3.26	0.82	3.11	0.82
Average	3.32	0.87	3.57	0.76	3.42	0.84
Grand Average	3.33	0.89	3.58	0.79	3.43	0.86

The results on Table 5 show developing a shared vision (DSV) which centers on learning, creating, and supporting continuous professional learning (CSPL), and promoting team learning and collaboration (PTLC), were the three top SLO characteristics about which surveyed schools reportedly had high mean values. However, the mean score was found higher in Level III schools than in Level II schools.

On the other hand, schools had lower mean scores in the characteristics like embedding systems for collecting and exchanging knowledge and learning (ESCEKL), establishing a culture of inquiry, exploration and innovation (ECIEI), and learning with and from the external environment (LwfE) in the same order, with a similar pattern in Level III and Level II schools. The model and grow learning leadership (MGLL) had a moderate mean value (M =3.37).

Overall, the schools participated in the survey were found to be slightly above average level (M =3.38). The results also indicate that there was slight mean variation between Level II (M =3.33) and Level III (M=3.43) schools.

SLO by Learning Agencies

Organizational learning in schools takes place at organization (school), team, and individual levels. These levels are collectively termed as learning agencies in OL literature. Figure 1 shows the level of OL by these learning agencies as perceived by teachers.

Figure 1

Organizational Learning by Agency: Mean Comparison
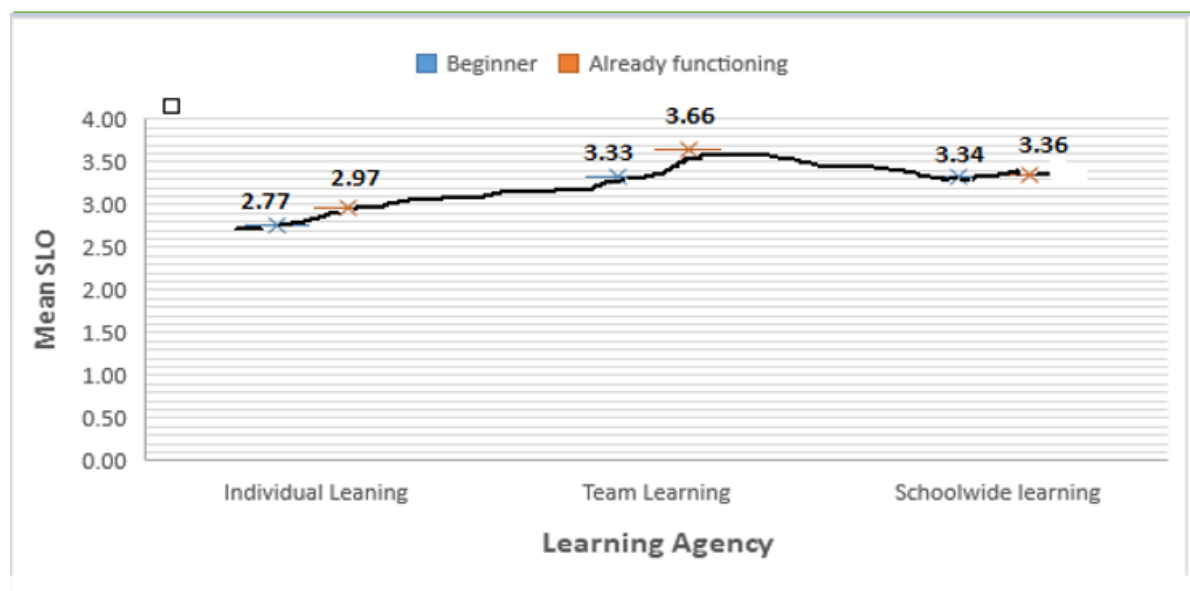
Source. Field data synthesized by the researcher.

The results presented in Figure 1 indicates that a relatively high level of learning takes place at a team level followed by a school level learning. The mean level learning at individual level, however, was found to be the lowest in both the action and thinking dimensions compared to the learning that took place at the team and school levels. Moreover, learning at individual, team, and school levels was found lower in Level II schools than in Level III schools. The mean value of learning for action dimension of SLO was also found higher than the thinking dimension in both Level II and Level III schools.

Table 6

Mean Learning of Post-1994 Instructional Reforms by Individual Agency

Items	Level II	Level III	Grand Mean
I share to others the school's vision of being a learning community and I am committed to it.	2.65	2.83	2.74
I am aware of the teachers with the specific abilities and professional experience to assist me when an opportunity or problem arises on how to do with instruction.	2.57	2.95	2.76
I am interested to access to the school's databases to obtain knowledge about teaching and learning.	2.71	2.87	2.79

Items	Level II	Level III	Grand Mean
I often analyze and use multiple sources of data for feedback, including ICT, to inform my classroom practice.	2.61	3.15	2.88
I feel comfortable turning to other teachers for consultation and advice regarding classroom practice.	2.57	3.21	2.89
I often engage in identifying the priorities for my own professional learning.	2.77	3.03	2.90

As can be seen from Table 6, the mean scores for some specific items was below average (<3.0). For instance, teachers seldom disseminate and commit to the school's vision of being a learning school. They also lacked the knowledge about other teachers in their school with specific professional experience from whom to obtain professional assistance. Not only in seeking assistance from experienced teachers, but also in accessing the school's database; individual teachers seem interested to acquire knowledge about classroom practice from neither experienced teachers nor the school's database. This implies learning by personal agency, and especially, information seeking and dissemination was at a low stage.

With regard to the action dimension, teachers, especially in Level II schools, at the individual level rarely take actions to learn new way of exercising their classroom practice as required by the post-1994 instructional reforms. This could be observed from the mean scores (Table 6) which are below average as measured in a five-point Likert scale.

Variability in SLO

Inferential tests were run to check whether or not the practice of OL show a statistical difference with difference in the variables of interest. Consequently, as shown in Tables 7 and 8, only school level and perceived level of CPD implementation yielded statistically significant variation in OL practice.

Table 7

Independent Samples t-test by School Level

Dimension	School Level	N	Mean	SD	df	t	Sig. (2-tailed)
Thinking	Level II	465	3.33	.78	783	-4.789	.000
	Level III	320	3.59	.69			
Action	Level II	465	3.32	.77	783	-4.734	.000
	Level III	320	3.57	.65			
Aggregate	Level II	465	3.32	.75	783	-4.962	.000
	Level III	320	3.58	.64			

The result presented in Table 7 show that the mean differences (at df=783, α=0.05, two tailed test) yielded in a statistically significant variation between beginner and already functioning schools. This implies that Level III schools practiced OL better than Level II schools with respect to learning the post-1994 instructional reforms.

Table 8

Analysis of Variance by Perceived Level of CPD Implementation

Dimension	Comparison	SS	df	MS	F	Sig.
Thinking	Between Groups	27.542	4	6.885	12.554	.000
	Within Groups	427.815	780	.548		
	Total	455.357	784			
Action	Between Groups	30.883	4	7.721	15.443	.000
	Within Groups	389.951	780	.500		
	Total	420.834	784			
Grand Mean	Between Groups	28.724	4	7.181	14.912	.000
	Within Groups	375.631	780	.482		
	Total	404.355	784			

Note. SS= Sum of Squares, MS= Mean Squares

As indicated in Table 8, SLO differs statistically with perceived level of CPD implementation. To be specific, schools which claimed better CPD implementation had higher SLO mean than schools that had lower level of CPD implementation. This is because the F-values (12.55 & 15.44) at df 4 and 780 (two tailed test) were statistically significant. The post-Hoc analysis (Tukey HSD) showed that the variability occurred between schools that practiced CPD at low or very low level and those that practiced CPD at an average or above average levels. The other school and teacher related variables did not yield any significant variability in practicing OL.

Variables related to learning agencies are reported to affect or not affect organizational learning in schools. The regression analysis presented in Table 9 showed the predictor variables to SLO.

Table 9

Multiple Regression Analysis

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	1.325	.240		5.509	.000
School level	.236	.051	.163	4.630	.000
Teachers' career ladder	.026	.040	.038	.650	.516
Teaching experience	.031	.042	.043	.724	.469
Qualification	.131	.052	.088	2.501	.013
Subject taught	.006	.017	.013	.372	.710
School Cycle	.077	.041	.067	1.875	.061
Level of CPD implementation	.232	.029	.280	7.980	.000

The results presented in Table 9 show that school level, CPD implementation, and educational qualification contributed significantly to the variability in SLO. Specifically, the results reveal that for each unit increase in the school level, CPD implementation, and educational qualification, the SLO is expected to increase by 0.236, 0.232, and 0.131 units respectively. This implies that much of the variability in SLO was accounted for the variations in school level and CPD implementation.

The t-statistics and the p-values also showed that the variability accounted for these variables were statistically significant. However, the regression analysis revealed school and teacher level variables altogether accounted only for 12.6 percent of the variances in SLO (R^2=0.126). Other variables like school cycle, career ladder, teaching experience, and subject matter taught little predicted practice in SLO.

Discussion

The results of the present study provide valuable insights into the topic of OL in primary and middle schools and have important implications for endorsing instructional reforms. They also have implications for re-visiting teachers' role while initiating instructional reforms. Hence, in this section, results are discussed in line with the research question of the study.

Level of Organizational Learning in the Schools

The schools surveyed show certain characteristics of a learning organization in both thinking and action dimensions since the mean SLO score was found to be slightly above average (M=3.38). The mean for the action dimension (M=3.42) was found almost equal to the rating in the thinking dimension (M=3.44). But, in some sub-scales of the thinking and action dimension, the results show varying mean scores. For instance, the schools were found relatively better in developing shared vision (M=3.77) and in interpreting the knowledge acquired (M=3.66).

The practice of stating school visions began in Ethiopia since 2007 following the launching of the school improvement program. Since then, schools have been required to set clear vision, and this vision has to be set in collaboration, and be shared with stakeholders. The relatively high mean score shows that the practice of both developing and communicating visions with the school community and stakeholders seem promising since it is a powerful motivator of OL in school systems (Kools & Stoll, 2016; Kurland et al., 2010). However, since previous studies conducted in the regional state (Gebresellasie, et al., 2011; Melesse, 2016; Mohammed, 2011) reported contradictory findings, this result has to be complimented with further studies. Moreover, in-depth study is needed to check whether or not this shared vision is further operationalized into concrete personal and collective learning on post-1994 instructional reforms.

A high mean score was also observed in interpreting the acquired knowledge in the schools. This result, however, contradicts with findings from a previous qualitative study, which reported limited freedom of schools in interpreting post-1994 instructional prescriptions from the top (Tadesse & Kenea, 2022).

Whereas, the level of learning in some characteristics of a LO like establishing a culture of inquiry, exploration and innovation (M=3.31), and in learning with and from the external

environment (M=3.11) was found low. In the same vein, the success in knowledge acquisition was found lower (M=3.28).

Freedom to interpret knowledge, inquiry, exploration and innovation, and learning with and from the external environment require double loop learning (Argyris & Schon, 1978) and explorative learning (March, 1991). These constructs and features of LO may also result in unlearning and reframing knowledge; and this demands a school environment where individuals and teams are encouraged to take up the challenge of experimenting with new way of doing (Coopey & Burgoyne, 2002). In Ethiopia, studies showed that there has been a deep-rooted tradition of prescribing educational reforms following a top-down approach (Tadesse et al., 2022). Consequently, instructional reforms endorsed by the government since 1994 have been all what schools know from the very beginning.

The low mean score in knowledge acquisition might, therefore, be an indication of absence of other knowledge acquisition strategies except the congenital one, which is the combination of the knowledge of post-1994 instructional reforms inherited at the schools' inception and the additional knowledge acquired from the neighboring schools established prior to its birth. Other strategies of acquiring organizational knowledge like experimental learning, vicarious learning (analysis of other competent schools' practice), and grafting (scanning and embedding knowledge of a new staff member) seem either overlooked or wrongly applied to install the prescriptions into the school system with absolute fidelity. The reservations in using other strategies of acquiring organizational knowledge may lead to reluctance to take actions towards creating a LO. The low mean values observed in action dimension of a LO like establishing a culture of inquiry, exploration and innovation (M=3.31) and learning with and from the external environment (M=3.11) could be typical features to confirm absence of freedom to use other forms of knowledge search or acquisition (Huber, 1991; Kools & Stoll, 2016).

This shows the lack of freedom for schools to give contextual meaning, and for teachers to give own meanings for those instructional reforms with respect to the subject they teach, experience they accumulated, and students they teach. Rather, what is interpreted is the knowledge acquired from prolonged tradition of prescribed instructional reforms, which is the same as what is stored and disseminated. This may make workplace learning superficial dominated by top-down flow of instructional knowledge and superficial professional learning (Coopey & Burgoyne, 2002). Whereas, the bottom-up learning line both at school level and in the education hierarchy as a whole doesn't seem dominant since the orthodox instructional knowledge worth of learning is the knowledge prescribed from the top. In OL literature, however, voice of teachers in education policy affairs was found strongly and significantly correlated with these features and constructs of OL (Marks & Louis, 1999). Jack et al. (2003) also reported schools seldom make changes from what they have been doing in the past, when power is concentrated in the hands of education authorities. And that makes them exercise their role routinely with very few signs of OL.

Thus, unless this reform tradition is challenged, double-loop and higher level OL could be inhibited (Coopey & Burgoyne, 2002; Argyris & Schon, 1978), and OL in schools may likely be limited to at most what March (1991) called exploitative learning, learning organizational routines in a stable environment. This implies exploration learning which

provides a platform for new knowledge construction for improving existing practices in a more radical way (Zhang & Wong, 2018) would either be overlooked or missing.

Acting Learning Agencies in the Schools

OL in school setting, alike in corporate organizations, operate at individual, team, and organizational level. In this study, the level of learning by each learning agency has been surveyed by using the SLOQ. The results show that team was the agency with the highest level of organizational learning followed by the school one. Whereas, OL at individual level was found the least and below average. This result is supported by scores from the licensing exam which is individually administered for teachers and school leaders to certify them for acquiring professional competencies. The share of primary and middle school teachers who passed the licensing exam and got licensed at the national level was as low as 23 percent (MOE, 2021).

The variation between school categories also appears similar across the learning agencies with the highest difference between Level II and Level III schools for team learning agency. According to Senge (1990), teams more than individuals are the fundamental learning units for organizational performance. As Senge further posited, if teams that make up the organization are not learning agencies; the organization can't learn. Contrary to Senge's view, Sallán, et al. (2022) argues that learning must occur at the level of the person, the group and the organization itself before one can speak of a learning organization.

Individuals that learn create learning organizations (Marsick & Neaman, cited in Jack et al., 2003). Hence, the low mean score for personal agency indicates absence of experimentation and self-reflection on one's own practice, limited learning from what others are doing, and reluctance in the course of carrying out daily activities (Lohman & Smaller, cited in Sallán et al., 2022). Consequently, limited learning by personal agency may have a negative consequence on other learning agencies (team and organization) since it is a fundamental knowledge that is shared by teams and then by schools as organizations (Collinson et al., 2006, p.109). In fact, most learning by personal agency is tacit, self-directed, and non-institutionalized (Sallán et al., 2022), and hence needs further investigation using qualitative methods to explain the results from this survey.

School and Teacher-related Variables to SLO

The school standard guideline (MOE, 2014) endorsed a school grading criteria which is in fact similar to the traditional letter grading system. The decision is based on schools' performance in input (25%), process (35%), and output (40%) elements of school effectiveness. Accordingly, schools which received performance assessment score below 50% are categorized as 'below standard or Level I' schools, between 50 and 69.9% Level II schools', 70 to 84.9% Level III schools', and schools that score 85% or above are above standard or Level IV schools.' The results of this survey revealed that Level III schools had significantly outscored Level II schools in SLO measures (in both SLO dimensions), which is promising to install a learning culture in the future. The variation implies that the process element of the school standard guideline endorsed by the ministry has incorporated some elements of a learning organization. Specifically, the process element has criteria on teaching and learning, curriculum, assessment, monitoring and evaluation, and partnership between stakeholders

(MOE, 2014). Out of the 61 indicators set to measure school performance in process quality, 26.13% seem directly linked to constructs or characteristics of a learning organization, which is a good beginning for establishing a full-fledged organizational culture to undertake embedded learning.

Moreover, there was a statistically significant variation between Level II and Level III schools as a result of perceived CPD implementation in the sense that schools which reported a better level of CPD implementation had greater mean SLO. In fact, professional development which is tailored to and contributes to developing professional habits and norms of team work and experimentation (Little, in Wilson & Berne, 1999), could result in a learning school which is characterized by availability of continuous lifelong learning that shapes both thinking and way of doing (Collinson et al., 2006; Guskey, 2002). On the other hand, the level of SLO was not promising in schools where low CPD implementation prevails. Poor CPD is characterized in the literature in terms of seasonal workshops, mass trainings from outside and intermittent off-job trainings (Wilson & Berne, 1999; Gyamtso et al., 2017). Instead, organizational learning, one which is embedded in the school system, works best for context-bound learning and growth (Fullan, 2007; Senge et al., 2012). However, further qualitative study needs to be conducted to confirm the promising level of SLO reported in Level III schools and in schools where CPD implementation has been reported exemplary in order to explore more on how this OL is taking place in Level II and Level III schools. Overall, school level and CPD implementation were the variables which accounted for the variances in SLO.

Surprisingly, all school and teacher level variables jointly accounted only 12% of the variances in SLO, which leads to the conclusion that variables other than school level, CPD, teacher qualification, experience, career ladder, and subject matter taught might have accounted for the variation in organizational learning. This is uncommon since these variables especially career ladder and qualification are positively associated to a learning school in the literature (Ho, Lee & Teng, 2016; Jack et al., 2002). For instance, according to Jack et al. (2002), OL is inhibited or facilitated by gender, teaching experience, and teacher qualification. Similar studies also reported the role of veteran teachers in promoting creation of professional communities in a learning school. On the contrary, schools staffed by novice teachers complicate creation of professional communities using OL (Scribner et al., 1999). The contrasting results from the present study might be explained in terms of the leadership role played by education authorities in the hierarchy since leadership is reported to be the highest predictor of OL in school context (Fullan, 2007; Jack et al., 2002; Leithwood et al., 1998; Shega, 2017; Silins et al, 2002) although this result has to be supported by further qualitative studies.

Conclusion and Recommendations

The purpose of this study was to assess the perceived level of Organizational Learning in selected primary and middle schools functioning in three administrative Zones of the Amhara regional state. The results show that the state of SLO with respect to learning the post-1994-instructional reforms was above average. Moreover, teams and schools as organization appeared acting learning agencies through which learning post-1994 instructional reforms were practiced. Nevertheless, personal agency, though it is thought to be a building block for other

agencies, was found the least functioning agency in learning the reforms like continuous assessment, active learning, action research, and reflective practice. Moreover, the results show that the variability accounted for teacher and school-level variables was not significant (12%).

The results of the present study imply that primary and middle schools in the Amhara regional state were struggling to grow into a learning organization, and the progress seems more promising in Level III schools than in Level II schools. This progress, however, is limited in few constructs and characteristics of a learning organization. Revising the schools' standard guideline which is currently in use by the Federal Ministry of Education in line with the constructs and characteristics of a LO could catalyze the progress towards a learning school.

With respect to learning the post-1994 instructional reforms, in addition to revising the criteria of the school standard currently in use by the Ministry of Education, rethinking the reforming approach from top-down to at least the blended approach appears timely. This could empower schools and teachers to provide context-relevant meaning and to buy-in the structural and program reforms introduced to catalyze implementation and institutionalization of the instructional reform ideas.

Collective learning appears the living learning agency with respect to learning the instructional reforms followed by school-wide learning. Nonetheless, learning by personal agency lacked the qualities possessed by a lifelong learner. This might be due to the fact that the school system overlooked personal growth and learning in professional development programs in favor of collective growth. Thus, since personal learning is the building block for both collective and school-wide learning, learning by personal agency should get fair representation in workplace learning programs and teacher performance appraisals as well.

Limitations of the Study

Although this study provides valuable insights into the topic, the conclusions may not be generalized to primary and middle schools established in the post-1994 period. This is due to the fact that the study targeted only schools that have been experiencing those reforms from the very beginning i.e., starting from 1994. Moreover, the sampled zones might not adequately represent the whole region. Consequently, further research need to delve more into the issue, and especially on how schools in the regional state are learning post-1994 instructional reforms and what factors facilitate or hinder schools in their stride towards a learning organization.

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