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Factors Affecting Collegial Coaching Implementation in Schools of Sodo Town and Sodo Zuria District of Wolaita Zone in Ethiopia

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Authors' contributions

This work was carried out in collaboration between all authors. Author AK designed the study, wrote the protocol, managed the literature searches, supervised the data collection, performed statistical analysis, managed the analyses of the study, and wrote the first draft of the manuscript. Authors MT and BK assisted and supervised author AK in all the processes, edited the manuscript. All authors read and approved the final manuscript.

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ABSTRACT

The study was conducted in Sodo Town and Sodo Zuria District schools of Wolaita Zone to identify factors affecting effective implementation of collegial coaching in schools. Six primary schools such as Shola Kuto, Waja Kero, Waraza Gerera and Ofa Gandaba from Sodo Zuria District and Abiyot Chora and Ligaba in Sodo Town were purposively selected taking into account their rich teaching learning experiences. About 85 teachers (48 male and 37 female) out of 263 teachers were selected

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using simple random sampling technique. Both primary and secondary data sources were used to generate quantitative data types. Primary data were gathered from teachers through structured questionnaire using interview schedule. The collected data were analyzed by using descriptive statistics (percentage, frequencies, mean and standard deviation) and inferential statistics such as chi-square test, crosstab, correlation and binary logit model. Crosstab analysis, correlation analysis and binary logit model results showed that effective implementation of collegial coaching in schools was affected by lack of trust among teachers and between teachers and school administrators, unwillingness of teachers to work in collegiality, management style applied in schools and lack of effective communication and interpersonal relationship. The study recommends a holistic approach which includes providing training for teachers on collegial coaching practices, developing trust, communication and interpersonal skills, allocating time and resources for collegial practices, supervising classroom teaching and giving nonjudgmental feedbacks.

Keywords: Achievement; coaching, colleague; collegial coaching; collegiality, Wolaita.

1. INTRODUCTION

Teachers can motivate and produce skilled students by using good teaching methods. A number of teaching methods such as individual, mentoring, coaching, peer coaching, among others have been studied to measure their effectiveness in improving teachers' teaching practices and hence enhance student performance [1,2,3]. In recent years, there has been a significant shift in teacher teaching methods towards a more reflective and collaborative approach to improve teachers' teaching practices, and hence student performance [4]. One of the collaborative teaching approaches is collegial coaching which is meant not only to bringing about new ways of thinking, but also to helping people to be reflective, self-empowered, creative and open to learning. This implies that collegial coaching is used to promote a culture of collaboration, refinement and sharing of professional knowledge and skills, and professionalism among teachers [3]. According to [5] collegial coaching is a partnership between teachers in a nonjudgmental environment built around a collaborative and reflective dialogue. Collegial coaching is a process in which two or more professional colleagues work together for a specific, predetermined purpose in order to improve teaching performance [6].

Collegial coaching is increasingly identified as a key aspect in teachers' professional growth. Thus, educational reformers have recommended placing more attention on the collegial relations of teachers for the purposes of professional growth [7]. Effective professional growth must be collaborative, involving the sharing of knowledge among teacher communities rather than

concerning individual teachers [8]. Empirical findings indicate that regular opportunities for interaction with colleagues are essential in creating professional school cultures [9]. A community of collaboration is important not only in terms of support, but also as a crucial source of generating ideas and criticism [10]. [7] examined prominent forms of collegial relations such as assistance, sharing and joint work. Joint work is a strong version of collegiality that shifts teaching from the individualistic to the collective, breaking down the barriers of privacy and leading towards new kinds of teaching [11]. Professional development activities must provide regular and frequent opportunities for both individual and collegial reflection on classroom and institutional practice [12].

Realizing the fact that collegiality is one of the conditions for utilizing economics of scale, the government of Ethiopia formulated a one to five collaborative approach for improving teaching learning practices. In addition, the socio-cultural set up of the country encourages collaborative atmosphere in the day to day activities of the schools. However, there is scant information regarding factors affecting effective implementation of collegial coaching in schools of Wolaita Zone. There is also no study conducted in relation to the collegial coaching approach in schools to complement the ongoing government policy on collaborative teaching. As a result, empirical literature was dominated with mentoring, coaching and peer coaching and there is no evidence available on collegial coaching in Ethiopian school context. Therefore the purpose of the study is to identify factors that affect effective implementation of collegial coaching in schools in Wolaita Zone.

2. METHODOLOGY

2.1 Description of the Study

Among 12 districts and 3 registered towns of Wolaita Zone, the study was conducted in Sodo Town and Sodo Zuria District. Sodo Town is the capital city of Wolaita Zone and consists of 12 primary schools. The town has a total of 343 teachers of which 225 (65.5%) were male and 118 (34.5%) were female. Sodo Zuria District surrounds Sodo Town and consists of 43 primary schools. The district has a total of 662 teachers of which 409 (61.7%) were male and 253 (38.3%) were female. Within the town and the district, six primary schools namely Shola Kuto, Waja Kero, Ofa Gandeba and Waraza Gerera from Sodo zuriya district and Abiyot Chora and Ligaba from Sodo Town were selected as the study schools (Fig. 1).

2.2 Sample Size Determination and Sampling Techniques

Teachers were selected from six primary schools using probability proportional to teacher size in schools. This enabled to select female teachers proportional to their size in the schools. Finally, teachers were selected from each school by using simple random sampling techniques. As a

result, 9 teachers from *Shola Kuto*, 10 teachers from *Waja Kero*, 9 teachers from *Ofa Gandeba*, 5 teachers from *Waraza Gerera*, 20 teachers from *Abiyot Chora* and 32 teachers from *Ligaba* primary schools were selected and included in the study (Table 1).

2.3 Data Types and Sources

Quantitative data types were used in the study under investigation. In order to generate these data types, both secondary and primary data sources were used. Secondary sources include reports of line ministries, national policies, zonal and district reports, among others. Primary data sources include teachers.

2.4 Data Collection Methods

Data collection methods included face to face interview schedule with teachers. For this, a structured questionnaire was used. The questionnaire was pre-tested with a few teachers to ensure its validity and reliability. About eight questionnaire test items were dropped after pre-test because they were found to be redundant. Accordingly, the final questionnaire was used to gather information that helped to achieve the study objective.

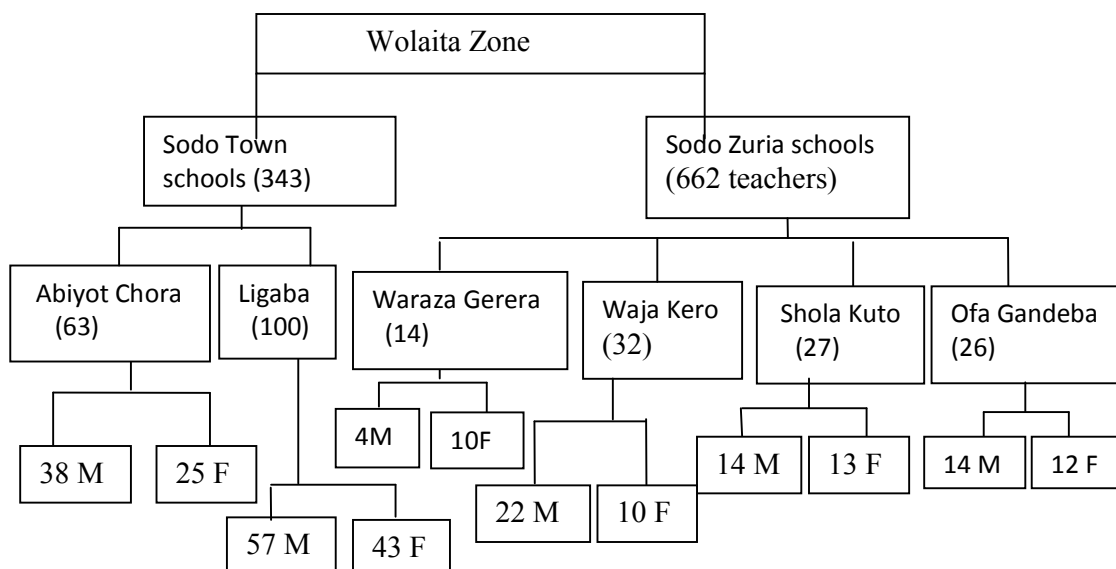


Fig. 1. The structure of study area, schools and number of teachers
M=Male and F=Female

Table 1. Sample size determination and sampling techniques

No	School name	Teachers (total)		Sampled teachers		Total
		Male	Female	Male	Female	
1	Shola Kuto	14	13	5	4	9
2	Waja Keko	22	11	7	3	10
3	Ofa Gandaba	14	12	5	4	9
4	Waraza Gerera	4	10	1	4	5
5	Abiyot Chora	38	25	12	8	20
6	Ligaba	57	43	18	14	32
Total		149	114	48	37	85

2.5 Data Analysis Methods

Both descriptive and inferential data analysis methods were used to analyze the data sourced. The relationship between the dependent and explanatory (independent) variables was analyzed using crosstab and correlation analysis and inferential statistics especially a binary logit model. The reason why a binary logit model was selected over the other models is because it has some advantage over the others in the analysis of dichotomous outcome variables. The logit and probit models are comparable; the main difference is that the logit function has slightly flatter tails, that is, the normal curve under the logit function approaches the axes more quickly than the probit function. Ignoring minor differences, [13] and Pindyck and [14] point out that the probit and logit model are quite similar. They usually generate predicted probabilities that are almost identical. However, the logit model is preferred over the probit as it is simpler in estimation than the probit model. It is believed and accepted that the logit model produces statistically sound results, the independent variable and dependent variable do not have to be normally distributed, and the logit model provides results which can be easily interpreted. It is a useful way of describing the relationship between one or more independent variables and a binary response variable, expressed as a probability that has only two values. Therefore, binary logit model was used to analyze factors affecting effective implementation of collegial coaching in primary schools.

Specification of binary logit model as specified by [13] is given as follows

$$P_i = F(Z_i) \tag{1}$$

$$Z_i = \beta_0 + \sum_i^m \beta_j X_{ji} = \log\left(\frac{p}{1-p}\right) X_i + \dots + \beta_i X_n \tag{2}$$

Where, P_i is the probability that a teacher believes that there is effective implementation of collegial coaching in primary schools, the binary variable, $P_i = 1$ for existence of effective implementation of collegial coaching in primary schools and $P_i = 0$, for non existence of effective implementation of collegial coaching in primary schools. Z_i is estimated variable for the i^{th} observation; F is the functional relationship between P_i and Z_i . $i = 1, 2, 3...m$ are observation on variables and m with the sample size of 85. X_{ji} is the j^{th} independent variable for i^{th} observation = 1, 2...n. β_j is a parameter, $j = 1, 2...n$ where n is the total number of independent variables (13). The logit model assumes the underlying index; Z_i is a random variable that predicts the probability of teachers choosing effective implementation of collegial coaching.

$$P_i = \frac{1}{1+e^{-z_i}} \tag{3}$$

$$1 - P_i = \frac{1}{1+e^{z_i}} \tag{4}$$

If P_i is the probability of choosing effective implementation of collegial coaching in primary schools, when $(1-P_i)$ is otherwise. If the disturbance term U_i is taken into account, then the logit model becomes

$$Z_i = \beta_0 + \sum_{i=1}^m \beta_i x_i + U_i \tag{5}$$

2.6 Hypothesizing the Variables

2.6.1 Dependent variable

The dependent variable in this study was a dummy variable (binary), which takes the value zero or one depending on the responses of teachers on the existence of either effective implementation of collegial coaching in primary schools or not. Thus the variable was created from teachers' responses in which the variable takes the value 1 if there is effective implementation of collegial coaching in schools and 0 otherwise.

2.6.2 Explanatory or Independent variables

These are explanatory variables that were included in the model which have both continuous and categorical nature. They are derived either from literature review or from own experience about the real situation of the study area. These are

Teaching experiences of a teacher (Exp)

Teaching experiences of a teacher shows the real situation of life time teaching learning experiences that a teacher acquired over the years. It is believed that as teaching experiences of teacher increases, the exposure the teacher has and the knowledge he/she acquires also advance [15]. The variable is a continuous explanatory variable measured in years of teaching experiences. Therefore, the variable is hypothesized to affect effective implementation of collegial coaching in primary schools positively.

Gender of a teacher (Gender)

This is a dummy explanatory variable which takes the value 1 if a teacher is male and 0 otherwise. As female teachers have household chores and reproductive responsibility which may be an additional duty to school activities as compared with male counterparts, they may be well engaged in collegial coaching than male teachers. The reality in the study areas shows that female teachers as they are having additional jobs, they get collaborative support from other teachers in school activities such as lesson plan and exam preparation, teaching in classrooms, etc. As a result, there is a culture of collaboration, sharing knowledge and skills and shouldering female teachers' burden while assisting them in school activities. Therefore being a female teacher is hypothesized to affect effective implementation of collegial coaching in primary schools positively.

Trust among teachers and between teachers and principals in schools (Trust)

Trust is a voluntary act of faith and confidence that a teacher will be fair, dependable, honest, competent, and nonthreatening [7]. The creation of trust within a school is critical because it influences useful learning and a concern for others' interest, competence, openness, and dependability. Trust must permeate the school for teachers to collaborate and take charge of

their own professional growth. As a result, teachers usually choose a partner whom they trust and with whom they have a comfortable working relationship. This is a categorical explanatory variable that takes the value 1 if agree and 0 if disagree for the statement. Thus the variable is hypothesized to affect effective implementation of collegial coaching positively, if trust exists among and between school teachers and principals.

Education level of teachers (Edu)

As teachers advance in their academic careers, they may be exposed to theoretical knowledge better than those who are less educated. The advancement in academic career may also give teachers better opportunities to interact with other teachers and share real life teaching learning experiences. Taking this into consideration, the variable has a categorical nature having the values 1 for degree and 0 for diploma and others. Thus the variable is hypothesized to affect effective implementation of collegial coaching in primary schools positively.

District level education bureau training (EduTrain)

In-service and on the job trainings are very important tools to uplift teachers' teaching skills and motivation to be engaged in collaborative activities. If the objective of any education bureau staff is to achieve improved teachers' teaching performance, training they arrange and provide to school level staff will be very crucial in improving teaching activities. Taking this into consideration, the variable is categorical in nature having values 1 for receiving training and 0 for not receiving training. Therefore, the variable is hypothesized to affect effective implementation of collegial coaching in primary schools positively.

Teachers' willingness (Willingness)

Many empirical findings point out that development activity are more successful when beneficiaries voluntarily participate in the activities. For instance, [16] reported that unwillingness of the teachers to engage in the collegial coaching process is one of the factors affecting implementation of collegial coaching in school. Teachers who believe they will make a difference are more likely to see collegial coaching as an opportunity to expand and

consolidate their teaching techniques. Thus, the variable is categorized as 1 for strong and 0 for weak. The variable is therefore hypothesized to affect effective implementation of collegial coaching in primary schools positively.

School level training (SchoolTrain)

In-service and on the job training are very important tools to uplift teachers teaching skills and motivation to be engaged in collaborative activities. If the objective of any school is to enhance student academic achievement, improving teachers' teaching performance through providing resources and training, and creating conducive environment will be very crucial in stepping up teachers' performance. The variable is categorical in nature having values 1 for receiving training and 0 for not receiving training. Therefore, the variable is hypothesized to affect effective implementation of collegial coaching in primary schools positively.

Management style (Mgt)

A number of management styles can be adopted to motivate employees and make the business profitable. In public institutions like schools, the types of management style applied determine the outcomes of the employees. In some schools, it is common to see that the school administration spends more time working closely with teachers in order to win their support. In such a management style, there is understanding among members. In some other schools, an autocratic management style is practiced where the school administration makes decisions unilaterally, and without much regard for teachers. As a result, decisions will reflect the opinions and personality of the principal. In this study the variable takes the value 1 if democratic management style is practiced in a school and 0 if management style is autocratic and others. Thus the application of democratic management style is hypothesized to affect effective implementation of collegial coaching in school positively.

Effective communication and interpersonal skills (Com)

Teachers must have well honed communication and interpersonal skills essential to motivate and inspire others. Colleague teachers must be able to observe and understand strengths, identify strategies for engaging others, offer effective

criticism, provide useful feedback and effectively provide a variety of technical assistance or coaching techniques including modeling, joint lesson planning, co-teaching, formal observation, informal conversations, etc [17]. The variable is a categorical variable which takes the value 1 for agreeing and 0 for disagreeing with the statement 'there is an effective communication between teachers and among teachers and principals in schools'. Therefore, the variable is hypothesized to affect effective implementation of collegial coaching positively if there is existence of strong communication and interpersonal relationship among teachers and between teachers and principals in schools.

Time availability (Time)

Time is required for collaborative planning and execution of collaborative school activities. Many teachers are engaged in covering the portion required with allocated time and thus a lack of time for teacher's participation in collegial coaching is one of the factors hindering implementation of collegial coaching. [18] points out that the availability of time is an important factor that is necessary to ensure implementation of collegial coaching. This function provides an opportunity for teachers' time to observe, share, and reflect on a strategy and to resolve any concerns. Time must be made available during the school day for teachers to observe and reflect. Collegial coaching conducted on the fringe of a school day will never become an integral part of the school [7]. The variable takes the value 0 if there is no available time to be engaged in collegial coaching and 1 if there is time for collaboration in school activities. Thus availability of time is hypothesized to affect effective implementation of collegial coaching in schools positively.

School location (location)

School location is vital for collegial coaching implementation. Schools may be accessed in town or in rural areas. Taking into consideration town and rural areas, most of the teachers in town are likely to invest their free time in private activities generating additional income; thus, they may not implement collegial coaching effectively. But, most of the teachers in rural areas are likely to show interest in investing their time into collegial coaching. Schools in the town were represented by 1 whereas schools in the rural areas were represented by 0. The town schools are hypothesized to affect effective

implementation of collegial coaching practices negatively.

willingness to participate, management style, and communication and interpersonal relationships that existed in the schools.

3. RESULTS AND DISCUSSION

3.1 Socio-demographic Characteristics of Teachers

Table 2 provides socio-demographic characteristics of teachers included in the study. About 37.65% of teachers were female and the remaining 62.4% were male. About 72.9% of teachers had a diploma, 11.8% had a bachelor degree and the rest 15.3% had certificates from Teacher Training Institutes. This shows that the highest proportion of teachers interviewed had diplomas, implying that they have intermediate knowledge and skills. About 84.7% of teachers were married, 14.1% were single and the remaining 1.2% were divorced. The mean age and teaching experiences of teachers was 48.38 and 25.58, respectively. This implies that age and teaching experiences of teachers have no difference in making effective implementation of collegial coaching practices among schools.

There is a positive and significant relationship between effective implementation of collegial coaching in schools and the level of trust that existed among teachers and between teachers and the school administration. The Pearson chi square result revealed that the two variables were significantly related at 1% significant level. Thus out of the total 75% of teachers who said there is ineffective implementation of collegial coaching in schools, 62% disagreed with the statement that there is trust among teachers and between teachers and school administration. The implication is that if there is strong trust between teachers and school administration and among teachers, there will be effective implementation of collegial coaching as there will be free exchange of ideas, knowledge and information.

3.2 Factors affecting Effective Implementation of Collegial Coaching

3.2.1 Crosstab analysis

Crosstab analysis result between effective implementation of collegial coaching in schools and independent variables indicates that only four variables out of thirteen variables were found to significantly affect effective implementation of collegial coaching in schools (Table 3). These were the level of trust, teachers'

There was positive and significant relationship between effective implementation of collegial coaching and teachers' willingness to implementation collegial coaching in schools. The Pearson chi square result indicates that there was a strong relationship between effective implementation of collegial coaching and teachers' willingness to work with colleagues to improve their teaching performance. Out of 75% of teachers who replied that there is ineffective implementation of collegial coaching, 33% believed that teachers' willingness to work collegially affected effective implementation of collegial coaching in schools. Thus teachers' willingness is at the heart of effective implementation of collegial coaching in schools.

Table 2. Socio-demographic characteristics of teachers

Variable		Frequency	Percent	Mean	Std. Dev.
Gender	Female	32	37.65	-	-
	Male	52	62.4	-	-
Education	Diploma	62	72.9	-	-
	Degree	10	11.8	-	-
	Others	13	15.3	-	-
	Married	72	84.7	-	-
Marital status	Single	12	14.1	-	-
	Divorced	1	1.2	-	-
Age	-	-	-	48.38	11.31
Experience	-	-	-	25.58	11.56
N		85	100		

Table 3. Crosstab analysis between collegial coaching implementation and explanatory variables

Variable		Implementation			Pearson chi square	Sig (2-tailed)
		No (%)	Yes (%)	Total (%)		
Gender	Female	25(39)	7(33)	32(38)	.221	.638
	Male	39(61)	14(67)	53(62)		
Education	Diploma	47(75)	15(72)	62(73)	.171	.679
	Degree	7(11)	3(14)	10(12)		
	Others	10(14)	3(14)	13(15)		
Trust	Disagree	40(62)	4(19)	44(52)	11.957**	.001
	Agree	24(38)	17(81)	41(48)		
Willingness	Very weak	18(28)	2(9)	20(24)	10.441**	.001
	Weak	17(26)	1(5)	18(21)		
	Strong	21(33)	9(43)	30(35)		
	Very strong	8(13)	9(43)	17(20)		
District training	Training	31(48)	8(38)	39(45)	.681	.409
	Not training	33(52)	13(62)	46(54)		
Mgt	Democrat	40(63)	17(81)	57(67)	4.110*	.043
	Autocrat	24(37)	4(19)	28(33)		
Time	No	42(66)	12(57)	54(64)	.491	.483
	Yes	22(34)	9(43)	31(36)		
Schooltrain	Training	16(25)	9(43)	25(29)	2.429	.119
	Not training	48(75)	12(57)	60(71)		
Communication	Disagree	29(45)	4(19)	33(39)	4.593*	.032
	Agree	35(55)	17(81)	52(61)		
Location	Rural	23(36)	10(48)	33(39)	.908	.341
	Town	41(64)	11(52)	52(61)		
Total		64(75)	21(25)	85		

**; *. Crosstab is significant at the 0.01 and 0.05 level (2-tailed), respectively

The Pearson chi square result indicates that there is a positive and significant relationship at 5% significance level between effective implementation of collegial coaching and management styles of schools. Out of 75% of teachers who said that there is ineffective implementation of collegial coaching in schools, 63% replied that democratic management style is being applied in schools. This implies that the type of management style that is being applied in schools can determine the school's approach either to implement collegial coaching to improve teachers' teaching practices or not.

Among teachers who said there is ineffective implementation of collegial coaching in schools, 55% agreed that there is no strong culture of communication among teachers and teachers and between teachers and the school administration. The Pearson chi square result indicates that the variable has a significant relationship with implementation of collegial coaching at 5% significant level. The implication is that strong culture of communication and good interpersonal relationship among teachers and between teachers and school administration enhances effective implementation of collegial coaching in schools.

3.2.2 Correlation analysis

Correlation analysis reveals that only four explanatory variables positively and significantly correlate to effective implementation of collegial coaching (dependant variable) in schools. These variables were trust, willingness, management style, and communication and interpersonal relationship (Table 4).

Trust

Pearson correlation analysis shows that trust is positively and significantly correlated to effective implementation of collegial coaching at $r=0.375$ and $p=0.000$. This positive effect of trust specifies that collegial coaching implementation can be effectively practiced as trust exists among teachers and between teachers and school principals. The existence of trust among partners is very important in order to share ideas openly. If teachers trust each other, they can share ideas and skills and make discussion on issues related to teaching learning practices faithfully. Trust may be diminished by negative practices of individuals such as, inferiority complex, defaming teachers and terrorizing colleagues rather than

encouraging them. Thus, this study elaborates that the existence of trust among teachers is vital for effective implementation of collegial coaching at school. [7] points out that collegial coaching requires the ultimate trust in sharing, observing, and reflecting. Findings of this study coincide with [7] who suggests that teachers should choose a partner whom they trust and with whom they have a comfortable working relationship. [7] argues that trustworthiness includes a concern for others' interest, competence, openness, and dependability. Thus trust is important and it should be built among teachers. The results of this study are also in line with [7] who states that the creation of trust within a school is critical because it influences useful learning.

Useful learning can take place between teachers and principals. Principals may have cordial interactions with teachers; they may collaborate with teachers and lead them in the right direction. In this regard, principals are crucial in stepping up performance among teachers and students. As a result, trust is not only needed among teachers but also between teachers and principals for effective implementation of collegial coaching. Therefore trust should exist among teachers and principals to effective implementation of collegial coaching.

Willingness

Pearson correlation analysis reveals that teachers' efficacy and willingness to participate in collegial coaching positively and significantly correlated to effective implementation of collegial coaching in schools at $r=0.350$ and $p=0.001$. This positive correlation implies that willingness of colleague teachers to engage in collegial coaching can have a great impact on effective implementation of collegial coaching. Collegial coaching implementation could be effective in schools when colleagues are strongly willing and stimulated to practice it. But teachers may be unwilling and inefficient in collegial coaching practices due to different factors such as trust. As shown on the correlation analysis, the main factors of teachers' unwillingness in collegial coaching are trust and school location. The analysis also shows that teachers' willingness positively and significantly correlated to trust at $r=0.442$ and $p=0.000$. This shows trust in school is needed in order to increase willingness of teachers to help implement collegial coaching in school.

Location

School location is positively correlated and significant at $r=0.508$ and $p=0.000$ to experience while school location is negatively and significantly correlated to willingness at $r=-0.328$ and $p=0.002$. This indicates that teachers in rural areas are more efficient and willing to implement collegial coaching than teachers in urban centers. Because of inadequate remuneration, teachers in urban centers may engage themselves in extra income generating activities such as trading or part-time teaching. But, in most cases rural school teachers mostly spend their time together since they usually live near the school premises. Thus, teachers were more willing to implement collegial coaching and the practice is more effective in rural schools than in town schools. However, this study implies that willingness of colleagues is needed for effective implementation of collegial coaching in schools. This observation is in line with [16] which argues that unwillingness of teachers to engage in the collegial coaching is one of the factors that affect effective implementation of collegial coaching.

Mgt

Pearson correlation analysis shows that management style is positively and significantly correlated to collegial coaching at $r=0.220$ and $p=0.043$. This indicates that collegial coaching could be effectively implemented when democratic management style is applied at school. This finding supports [19] who states that school principals can enhance collegial coaching by providing resources, structuring coaching colleagues, acknowledging coaching practices, and devoting staff meetings to coaching.

The Pearson correlation analysis shows that management style is positively and significantly correlated to trust at $r= 0.507$ and $p=0.000$. This shows that school management style is democratic as trust exists at school. A school principal may have a good chance of interaction or network with teachers by encouraging them in their team work, and allocating resources or teaching materials to them. This can help develop collegiality among teachers and between teachers and the principal as well as it develops trust and communication among them. This study shows that collegial coaching is implemented effectively where democratic management style is applied and this confirm [20] observation that environments that give positive support to

collegial coaching among teachers can sustain the implementation of innovative practices.

The Pearson correlation analysis reveals that management style is positively and significantly correlated to communication among school principal and teachers at $r=0.627$ and $p=0.000$. This explains that management style of the school could be good where communication culture exist. This finding relates to [21] who states that school principals can encourage learning communities by supporting talk among colleagues along with increased self-reflection and analysis on the part of individual teachers. An effective coaching colleague must strive to create opportunities for more teacher talk through observing each other's teach and engaging in extending discussions.

Communication

Pearson correlation analysis demonstrates that effective communication and interpersonal skills correlate positively and significantly to collegial coaching at $r=0.232$ and $p=0.032$. This indicates that collegial coaching practices are effectively implemented at school where strong communication culture is customized among teachers and between teachers and principals. This finding coincides with [22] who indicates that teachers must have well honed communication and interpersonal skills essential to motivate and inspire others. The observation indicated in this study is line with [23] who specify that colleagues must be able to observe and understand strengths, identify strategies for engaging others, offer effective criticism, provide useful feedback and effectively provide a variety of technical assistance/coaching techniques including modeling, joint lesson planning, co-teaching, formal observation, informal conversations, etc.

Correlation analysis result also shows that effective communication and interpersonal skills is positively and significantly correlated to experiences of the teacher, age of the teacher, trust between school principal and teachers and management style at 5%, 5%, 1% and 1%, respectively. This implies that communication is realized more at school as experience, age, trust and management style advances. Thus, experiences, age, trust and management are crucial for effective implementation of collegial coaching practices.

3.3 Binary Logit Estimation Result

The result of binary logit model estimation of the probability of teachers' agreement on the existence of effective implementation of collegial coaching in schools is given in Table 5. The overall goodness of fit for the binary logit model parameter estimates is assessed. As given in the log likelihood ratio test explained about 75% of the overall joint significance of the independent variables in explaining the variations in teachers' choice. The model chi-square test applying appropriate degrees of freedom indicate that the overall goodness of fit of the logit model is statistically significant at a probability of less than 1%. This shows that jointly the explanatory variables included in the logit model regression explain the variations in teachers' choices. Second, the Cox and Snell R^2 and Nagelkerke R^2 indicate that the independent variables included in the regression explained about 20.8% and 30.9% significant proportion of the variations in the choices.

Out of the ten independent variables hypothesized to affect effective implementation of collegial coaching in schools, only one variable statistically affected the dependent variable. It is teachers' efficacy and willingness to work together with colleagues in the schools.

Teachers' Willingness

Many teachers responded that teacher' willingness to collaborate in collegial coaching in schools was weak. This is also clearly revealed in the binary model result as this significantly and positively affected effective implementation of collegial coaching in schools. The expected coefficient of teachers' willingness was statistically significant at 5%. This implies that 95% of collegial coaching practices could be affected by teachers' willingness and 5% affected by other factors. As indicted in logit regression, there is also a positive correlation between teachers' willingness and effective implementation of collegial coaching. This implies that the probability of having effective implementation of collegial coaching in schools increases, as teachers' willingness gets stronger and stronger. According to [6], commitment to professional relationship between colleagues takes the work of common experiences to deeper levels of collaboration.

Table 4. Correlation analysis between variables

	1	2	3	4	5	6	7	8	9	10	11	12	13
1. Impl	1												
2. Gender	.051	1											
3. Exp	.071	.478**	1										
4. Age	.071	.469**	.955**	1									
5. Edu	.045	.058	-.107	-.090	1								
6. Trust	.375**	.167	.115	.114	.013	1							
7. Willing	.350**	.083	-.113	-.105	.035	.442**	1						
8. Edutrain	-.090	.179	.087	.080	.103	-.038	.068	1					
9. Schooltrain	.169	.129	.192	.185	.005	.152	.217*	.079	1				
10. Location	-.103	.128	.508**	.510**	-.084	-.101	-.328**	.249*	.090	1			
11. Mgt	.220	.098	.113	.099	.058	.507**	.083	-.113	.075	-.021	1		
12. Time	.076	.084	-.017	.038	.027	.149	.091	-.060	.208	-.048	.135	1	
13. Com	.232	.128	.235*	.239*	-.084	.624**	.206	-.187	.196	.059	.627**	.202	1

**,*. Correlation is significant at the 0.01 and 0.05 level (2-tailed), respectively. Correlation value between <0.3 (weak), 0.3-0.6 (moderate) and >0.6 (strong).

Table 5. Binary logit result on factors affecting collegial coaching in schools

Variable	B	S.E.	Wald	Sig.	Exp(B)
Gender	.291	.690	.178	.673	1.338
Exp	.026	.034	.586	.444	1.026
Edu	.319	.902	.125	.723	1.376
Trust	1.243	.890	1.950	.163	3.467
Willingness	1.646	.831	3.926	.048	5.188
Edutrain	-.651	.652	.999	.318	.521
Scholtrain	.438	.629	.485	.486	1.550
Location	-.039	.732	.003	.958	.962
Mgt	.499	.881	.320	.572	1.646
Time	.115	.638	.033	.856	1.122
Com	.218	.972	.051	.822	1.244
Constant	-4.155	1.699	5.983	.014	.016

Log likelihood is 75.209, Cox & Snell R Square is 0.208, Nagelkerke R Square is 0.309, Chi-square is 19.835 and df is 11

Even though trust, willingness, management style and communication and interpersonal relationship from crosstab analysis, correlation analysis and binary logit model result significantly affected effective implementation of collegial coaching in schools; teachers pointed to some other constraints hindering effective implementation. These are lack of transparency and honesty, inadequate supply of teachers in the various curriculum subject areas, distance of the school to teachers, inferiority complex of teachers, social and economic needs of teachers, lack of training and awareness on collegial coaching and its importance, lack of coordination, relationship problem or disagreement of colleagues, unprofessional attitudes of some school authorities, time constraint to mention some.

4. CONCLUSION AND RECOMMENDATIONS

This study reveals that a number of factors affected effective implementation of collegial coaching in primary schools in Walaita Zone in Ethiopia. These factors include unwillingness of teachers to participate in collegial coaching; lack of trust among teachers and between teachers and school administration; poor management style and poor communication and interpersonal relationship among teachers and between teachers and school administration.

The paper recommends that adequate resources should be invested into future attempts to implement collegial coaching in Ethiopian primary schools. This is because effective implementation of collegial coaching requires more support in terms of realistic remuneration for participating teachers. It also requires that education authorities distribute adequate number of teachers for the various curriculum subject areas. This also requires regular training of teachers in order to equip them requisite knowledge, skills, and attitudes necessary for engaging in collegial coaching, and this would require more resources including but not limited to higher teacher pay. Teachers already equipped with knowledge, skills, and attitudes for collegial coaching need to support their colleagues in sharing their knowledge and skills with them. They would have to be transparent, honest and trustworthy in their attempt to help implement collegial coaching effectively in schools. School authorities would have to endeavor to empower teachers to work

cooperatively with their partners in their respective schools.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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