

The Contribution of Teachers' Peer Assessment and Self Reflection to the Implementation of Active Learning Strategies: the Case of Primary Schools of Bahir Dar Town, Amhara Region, Ethiopia

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Abstract

The study tried to investigate the contribution of primary school teachers' peer assessment and self-reflection to the implementation of active learning strategies. In this study, self-reflection and peer assessment include three broad categories, such as methods of teaching and learning, instructional resource utilization, and assessment techniques. This study was carried out on randomly selected primary school teachers of Bahir Dar town (the capital city of Amhara Region). Using multistage random sampling technique, five schools were selected out of 25 government primary schools found in Bahir Dar town. And then 50 teachers were randomly selected from a total of 157 teachers found in the five selected primary schools. Of these sample teachers, 32 were female and 18 were male. Peer assessment and self-reflection checklists were employed to solicit information from teachers about their state of using the two techniques as a means for promoting the implementation of active learning strategies. The results indicated that teachers' peer assessment and self reflection are insufficient in promoting the implementation of active learning strategies in primary schools of Bahir Dar town. This paper, therefore, proposes means and ways of improving the roles and status of teachers in using peer assessment and self reflection as a means to promote the implementation of active learning strategies in primary schools of Bahir Dar town.

Keywords: Peer Assessment, Self reflection, Active Learning, Implementation

Background of the Study

Achieving the minimum educational quality level is the outstanding concern of Ethiopia as a nation. This is believed to be realized through the four basic strategies. The strategies, as disclosed in the ETP, include: professional development, curriculum development, school management, and program evaluation (ETP, 1994). Of these basic variables, teachers' professional development takes the lion's share in the move towards bringing quality education in this nation (MoE, 2003).

As disclosed in the ETP (1994), education in the nation was highly authoritative, teacher-centered, which considered students as mere information receivers. That is, traditional methods of teaching subjects at any educational level employ a lecture format of instruction in which the majority of the students are passively listening to the instructor and taking down notes. In addition, the educational culture that had been flourished in the previous successive regimes' education systems of Ethiopia is believed to prohibit teachers' performance in conformity with the philosophy of considering learners at the center of instruction.

However, current views of learning and instruction challenge the wisdom of this traditional pedagogy by stressing the need for the learner to play an active role in constructing knowledge. This is due to the fact that the main intention of any formal education is to bring long lasting and authentic behavioral change among learners. To realize this intention, it must be learners who should actively participate and lead themselves towards the required end. This being the case, the current ETP has targeted teacher professional development with emphasis to developing the skill of facilitating students' active learning in all instructional situations.

In line with the current educational policy issues, the Ministry of Education has set TESO program as a strategy to enhance teacher development that articulates the nature of teacher training at different levels of education. The main intention of such a program is to improve educational quality in Ethiopia through increasing knowledge, attitude and skills of teachers required to practice active learning in the actual classes (MoE, 2003). Specifically put, the program aims at helping teachers"--- use active learning and student-centered teaching methods" (MOE, 2003, p. 6) in their actual classrooms. Put in yet other words, one of the major targets of the program is to develop the skill of teachers in using active learning that promotes students' participation in the teaching learning process.

In a different line of argument, providing quality basic education for all school going age children by the year 2015 is a commitment of many countries including Ethiopia. To achieve this goal, special emphasis has been given to the question of access in quite many cases in the Ethiopian education system. The commitment to achieve the goal is not only limited to provision of access but also concerned about bringing quality in education. The Ethiopian education system with the current Education and Training Policy (ETP, 1994) and consecutive

Education Sector Development Programs (ESDP I, II III, and IV) has made significant efforts to creating access to many school-going age children. Consequently, the primary enrollment has increased dramatically in Ethiopia. However, relatively speaking the quality of students' learning has been a challenge in the educational system. As a result, the problem of quality in education has become a great concern of the Ethiopian government, educators, teachers and other interest groups to educational matters.

The problems in quality could be related to input factors such as, student-teacher ratio, student-textbook ratio, and teachers' qualification. However, of the most important factors that may be responsible to learning quality could be related to the way the teaching-learning process occurs, the extent to which teachers examine their teaching practice, how much school supervision is directed towards helping them improve instruction and making the learning process active and learner-centered. Accordingly, it is believed that the quality of the teaching learning process can be improved by a multiple of interventions. Along with those input factors, teachers can be assisted to improve their practices through school based-collegial and collaborative supervision. Involving teachers in action research can also be another important means of improving teaching and learning. In this respect, teachers can also be supported through peer assessment based feedback. Most important complementary move to peer assessment is self reflection of one's practice as a measure of improving the quality of teaching and learning. This is based on the assumption that the more teachers make their classrooms and their teaching practices open to self reflection and peer assessment, the better the lesson they obtain to improve their practice and thereby improve student learning.

Student-centered learning would encourage active participation in their lessons which in turn would have positive contributions to develop abilities for creative thinking, problem solving and relating learning to real life experiences thereby achieving the envisaged goal of schooling. This can be more consolidated when a teacher is ready to engage in a continuous professional reflection on his/her own practice. Moreover, peer assessment would further enhance the professional development of teachers, which has greater contribution to active learning and quality education (Schon, 1993).

This study, therefore, investigates how far primary school teachers' employ peer assessment and self reflection in their respective sessions with the intention to enhance the implementation of active learning.

Statement of the Problem

Currently, educational institutions are expected to prepare students to meet the challenges of a swiftly changing world. This implies that schools are required to respond to these changes by altering the way they have been designing and implementing innovations for teaching. The change is presumed to involve the changes from philosophical perspectives schools adapted to the changes in the actual practice in the classroom. To realize this core intention of the 21st C., corresponding changes in relation to professional development is highly demanding.

Research suggests that there has little recognition of the benefits of professional development in the history of education before. Nowadays, however, several researchers have identified the professional development of teachers as a major component of school improvement that is necessary to provide students with the best educational practices. Professional development is critical to systemic educational reform and school improvement that is designed to enhance the teaching learning process (Fullan & Hargreaves, 1996). To this point, Guskey (1986) added that the goal of professional development is to bring about shifts in the beliefs, attitudes, and classroom practices of teachers with the ultimate target being changes in student outcomes.

However, the teaching learning process in most schools in Ethiopia has continued to be teacher dominated (MoE, 2003). Most classes in the Ethiopian primary schools are characterized by a situation where students are made to listen to their teachers and copy notes from the blackboard. Learning by doing, problem solving, cooperative learning and group approaches are limited and if used, they don't serve their very purpose. But literature from the psychology of learning disclosed that true and long lasting learning occurs not through pouring of information from a classroom teacher to students but by the real engagement of learners in the process of teaching and learning.

Consequently, there is a widely shared concern among educators in Ethiopia that the quality of learning especially in primary schools is very low. The Education Sector Development Program III (2005), for instance, stressed that the education system faces serious problems pertaining to teacher qualification, shortage of textbooks, and high student-teacher ratio. The dropout rate has been high and the retention rate at grade 5, for example, is only about 55 per cent. In addition to this, there is a wide gender gap of 18% favoring boys (ESDP III, 2005). Moreover, research findings (Pauline et. al, 1997; a study by Women's Affairs Department, 2000 cited in MoE Task Force, 2007) indicated lower participation of girls in classroom activities. These studies also showed that teachers give little encouragement for girls' participation in their classes. These situations have brought a serious concern among educators and the ministry of education about educational quality and further triggered them to find appropriate ways and means of boosting up teachers competency of managing classes with diversified needs.

The MoE of Ethiopia has reacted to this situation in different ways. The Ministry in its Education

Sector Development Program III (ESDP III, 2005/2006-2010/2011), for example, document indicates the following main points as part of quality enhancement endeavors:

- In the School Improvement Program emphasis is given to active learning, professional development, collaboration and quality of instruction.
- Improving teachers' professional growth through continuous professional development.
- Strengthening school cluster based in-service training through active learning methodology, action research.
- Strengthening in-school-supervision so that experienced, skilled and innovative teachers can share their experiences and coach the inexperienced teachers. It further pointed out that the content of pre-service and in-service teacher training programs will be revised to enable the teachers acquire and develop appropriate pedagogical skills that are academically sound, child friendly, and gender sensitive.

Regarding active learning, the extent teachers understand the concept and the skills they have to implement it are essential conditions. Moreover, the quality and amount of feed-back teachers get on their own teaching, the extent of their readiness to accept constructive comments of their peers on their teaching are issues that are subject for investigation. Moreover, the practice of self reflection and making continuous effort to improve one's own teaching is not visible in Ethiopian schools (MoE, Task Force, 2007). Hence, the study is designed to assess the extent to which teachers' peer assessment and self reflection could enhance the implementation of active learning in primary schools of Bahir Dar town by proposing the following leading questions:

- To what extent are teachers' peer assessment and self reflection used to promote active learning strategies in primary schools of Bahir Dar town?
- What kind of relationship does exist between teachers' peer assessment and self reflection?
- Is there any difference in teachers' peer assessment and self reflection by experience, gender and age of participants?

Purposes of the Study

The purposes of this study include:

- Examining the extent to which teachers' peer assessment and self reflection are used to promote the implementation of active learning in primary schools of Bahir Dar town.
- Indicating the relationship that exists between teachers' peer assessment and self reflection.
- Showing whether or not there exist a difference in teachers' peer assessment and self reflection by experience, gender and age of the participants.

Significance of the Study

The School Improvement Program (SIP) was developed to meet the identified needs of school teachers. It was believed to provide teachers with a practical experience to implement active learning strategies in their teaching. As it is indicated elsewhere in the literature, the successful implementation of any training for teachers largely depends on the extent to which it considers their needs and concerns for the kind of training they want to take (Solomon & Alemayehu, 2010). Hence, this study is significant in that the results will help Amhara Region Education Bureau or MoE to reconsider the ways and means of implementing SIP for primary school teachers' in Bahir Dar town vis-à-vis the feedback obtained in this study. It also helps primary school teachers in Bahir Dar town to see where they are in terms of using self reflection and peer assessment as a means of professional development directed towards justifying their day to day practice in the schools.

In general, as the researcher's lived experience proved, the teaching learning process had been totally considered as a secrete activity behind classroom doors, i.e, it was left to a teacher and the respective classroom students. No colleague was invited to observe teacher's instructional acts. The results of this study, therefore, is believed to further strengthen the current Education and Training Policy's attempt to make teaching and learning public and thereby promote a collaborative and self reflective instructional environment in schools.

Delimitation

This study would have been complete had it been made by soliciting data from different sources (students, principals, parents, teachers) and using different methods (such as FGD, interview, observation, questionnaire, and content analysis). But due to time inconvenience and budget constraints, the study is delimited to teachers as the only source of information, and teachers perceptions soliciting using peer assessment and self reflection checklists developed by the researcher as the only instruments for collecting data.

Definition of Important Terms

- **Peer assessment:** refers to colleagues' actual classroom observation feedback given to the respective classroom teacher about his/her teaching with emphasis to promoting active learning in actual teaching-

- learning sessions.
- **Self reflection:** refers to a teacher's retrospective thinking about his/her teaching practice with emphasis to promoting active learning in actual teaching-learning sessions based on the feedback obtained thereof.
- **State:** current competency of teachers in using peer assessment and self reflection about their teaching practice in schools.

RESEARCH METHODOLOGY

As it is stated earlier, the purpose of this study was to assess the contribution of teachers' peer assessment and self reflection to active learning strategies in the teaching learning process. Hence, to meet its goal effectively, the following elements were designed accordingly.

Population and Samples of the Study

The population of this study includes all government primary school teachers (364 male and 422 female with a total of 786) found in Bahir Dar town. The total number of government primary schools was 25. The samples of this study were teachers in randomly selected five primary schools from the population of this study who were assigned to teach students of grades 1 through eight in 2009/2010 academic year. Teachers who were assigned to facilitate activities of the schools other than teaching like the director, vice-director and the administrative staff of the school were excluded out of the study. In other words, of the total 157 (84 female and 73 male) teachers of the selected schools, 50 (32 female and 18 male) of them were assumed as samples of the study.

Sampling Technique

Out of 25 government primary schools found in Bahir Dar town, five of them were selected using random sampling technique (lottery method) from their list available in the Bahir Dar Special Zone Education Office. Then, 32 female and 18 male teachers were selected using second round random sampling technique out of a total of 157 teachers found in the five selected schools. This sampling technique was used because the researcher, as it is agreed up on from the relevant literature too, found it more convenient, impartial and appropriate to take representative sample for the total population of the study.

Methods of Data Gathering

To gather reliable and valid data from the selected teachers, the researcher has adapted peer observation and self reflection checklists which are developed by MoE Task Force, (2007) as part of one of the supplementary materials it developed. These checklists prepared were filled in by randomly selected teachers in the respective schools.

The peer assessment checklist was applied to see the state of peer observation practiced in selected primary school classes. To apply this technique, the researcher tried to modify certain criteria suggested by the Task Force based on the information from the review of the related literature and consulting the researcher's long time pedagogical background know-how. To this effect, fifteen criteria were employed for assessing the status of peer assessment practiced in primary schools of Bahir Dar town. Each item has three levels of frequency designated by 0,1,2, for **not at all, sometimes, and often employed**, respectively.

The other data gathering instrument used was, self reflection, which was conducted using self reflection checklist that has fifteen items. Each item has three level of frequency designated by 0,1,2, for **not at all, sometimes, and often used**, respectively. This reflection checklist was used to assess the respective teacher's perception of justifying his/her instructional practice in latter sessions. The items of the checklist were developed by the researcher based on the information from the review of the related literature and consulting the researcher's long time pedagogical background know-how.

Data Gathering Procedures

Peer observation and self reflection checklists were given to colleagues who have long years of experience in teaching so as to critically assess the relevance and comprehensiveness of those checklists in assessing the state of teachers peer assessment and self reflection. Before collecting data using the checklists, an attempt was also being made to see whether the checklists mean the same thing to different readers or not. To this end, the checklists were given to language editors for necessary modification. The language editors tried to endorse modifications in such a way that the researcher's intent of communication can be clearly understood by the respondents of the study. Then as part of the pilot study, the checklists were filled in by seven primary school teachers who were selected arbitrarily in the mentioned population of this study. The respective checklists were collected from the seven teachers, and thereby content analysis was made by the researcher in such a way that it enables him to make relevant adjustments to the final draft of the checklists.

Finally, the checklists were distributed to sample teachers. Each sample teacher was required to fill in both the self-reflection and peer assessment checklists. The return rate of the filled in checklists was 95 percent.

Data Analysis Technique

Results obtained from the peer assessment and self reflection checklists were analyzed using correlation, t-test and Chi-square test. The t-test analysis technique was employed for the purpose of checking the difference that exist between teachers' state of using self reflection and peer assessment as means to promote the

implementation of active learning in actual instructional delivery. In addition, correlation enables the researcher to see the relationship between teachers' state of using peer assessment and self-reflection as a means for promoting the implementation of active learning. The third analysis technique used in this paper enables the researcher to see the extent of use of peer assessment and self reflection as practice based strategies of promoting the effective implementation of active learning in schools.

PRESENTATION AND ANALYSIS OF DATA

This part of the study tries to present and analyze the data collected from teachers' state of actual practicing peer assessment and self reflection as a means to promote the implementation of active learning in actual classrooms. To this end, as mentioned before, the data collected by the checklists were analyzed using Chi-square tests, t-test and correlation coefficient.

The State of Self-reflection among Primary School Teachers of Bahir Dar Town

Table 1 Total self-reflection related questions

frequency	Observed N	Expected N	Residual	Chi-square(a)	df	Asymp. Sig.
never	352	250.0	102.0	69.624	2	.000
some times	229	250.0	-21.0			
often	169	250.0	-81.0			
Total	750					

Table 1 show that the frequency of using self reflection in actual teaching learning process is much inadequate. The residual for "never used" and "often used" self assessment techniques as a means of fostering learner-centered learning strategies were by far different from the expected number of participants but with different signs. That is, more respondents (352) put that they never used such a technique as part of their teaching learning process where as lesser respondents (169) than the expected number of participants declared that they often use self assessment technique as a strategy for promoting active learning in their actual sessions. This variation is very much significant at $\alpha=0.05$ level.

Table 2 method related self reflection questions

frequency	Observed N	Expected N	Residual	Chi-square(a)	df	Asymp. Sig.
never	114	83.3	30.7	17.528	2	.000
some times	73	83.3	-10.3			
often	63	83.3	-20.3			
Total	250					

Table 2 shows that the frequency of using method related self reflection techniques in actual teaching learning process is much insufficient. The residual for "never used" and "often used" method related self reflection techniques as a means of fostering learner-centered learning strategies were by far different from the expected number of participants but with different signs. That is, more respondents (114) put that they never used such a technique as part of their teaching learning process where as lesser respondents (63) than the expected number of participants (83) declared that they often used method related self reflection techniques as a strategy for promoting active learning in their actual sessions. This variation is very much significant at $\alpha=0.05$ level.

Table3 Resource utilization related self reflection questions

frequency	Observed N	Expected N	Residual	Chi-square(a)	df	Asymp. Sig.
never	138	83.3	54.7	57.848	2	.000
some times	69	83.3	-14.3			
often	43	83.3	-40.3			
Total	250					

Table 3 shows that the frequency of using resource utilization related self reflection techniques in actual teaching learning process are too little. The residual for "never used" and "often used" resource utilization related self reflection techniques as a means of fostering learner-centered learning strategies were by far different from the expected number of participants but with different signs. That is, more respondents(138) put that they never used such a technique as part of their teaching learning process where as lesser respondents (43) than the expected number of participants (83) declared that they often used resource utilization related self reflection techniques as a strategy for promoting active learning in their actual sessions. This variation is very much significant at α

=0.05 level.

Table 4 Assessment related self reflection questions

frequency	Observed N	Expected N	Residual	Chi-square(a)	df	Asymp. Sig.
never	100	83.3	16.7	8.456	2	.015
some times	87	83.3	3.7			
often	63	83.3	-20.3			
Total	250					

Table 4 shows that the frequency of using assessment related self reflection techniques in actual teaching learning process is scarce. The residual for “never used” and “often used” assessment related self reflection techniques as a means of fostering learner-centered learning strategies were by far different from the expected number of participants but with different signs. That is, more respondents (100) put that they never used such a technique as part of their teaching learning process where as lesser respondents (63) than the expected number of participants (83) declared that they often used assessment related self reflection techniques as a strategy for promoting active learning in their actual sessions. This variation is very significant at $\alpha=0.05$ level.

The State of Peer Assessment among Primary School Teachers of Bahir Dar Town
Table 5 Total peer-assessment related questions

frequency	Observed N	Expected N	Residual	Chi-square(a)	df	Asymp. Sig.
never	376	250.0	126.0	103.968	2	.000
some times	220	250.0	-30.0			
often	154	250.0	-96.0			
Total	750					

Table 5 as in the case of Table 1, shows that the frequency of using peer assessment in actual teaching learning process is much inadequate. The residual for “never used” and “often used” peer assessment techniques as a means of fostering learner-centered learning strategies were by far different from the expected number of participants but with different signs. That is, more respondents (376) put that they “never used” such a technique as part of their teaching learning process where as lesser respondents (154) than the expected number of participants (250) declared that they often used peer assessment technique as a strategy for promoting active learning in their actual sessions. This variation is very much significant at $\alpha=0.05$ level.

Table 6 method related peer assessment questions

frequency	Observed N	Expected N	Residual	Chi-square(a)	df	Asymp. Sig.
never	113	83.3	29.7	19.016	2	.000
some times	80	83.3	-3.3			
often	57	83.3	-26.3			
Total	250					

Table 6 shows that the frequency of using method related peer assessment technique in actual teaching learning process is much insufficient. The residual for “never used” and “often used” method related peer assessment techniques as a means of fostering learner-centered learning strategies were by far different from the expected number of participants but with different signs. That is, more respondents (113) put that they never used such a technique as part of their teaching learning process where as lesser respondents (57) than the expected number of participants (83) declared that they often used method related peer assessment techniques as a strategy for promoting active learning in their actual sessions. This variation is very much significant at $\alpha=0.05$ level.

Table 7 Resource utilization related peer assessment questions

frequency	Observed N	Expected N	Residual	Chi-square(a)	df	Asymp. Sig.
never	158	83.3	74.7	103.256	2	.000
some times	57	83.3	-26.3			
often	35	83.3	-48.3			
Total	250					

Table 7 shows that the frequency of using resource utilization related peer assessment technique in actual teaching learning process is much inadequate. The residual for “never used” and “often used” resource utilization related peer assessment technique as a means of fostering learner-centered learning strategies were by far different from the expected number of participants but with different signs. That is, more respondents (158) put that they never used such a technique as part of their teaching learning process where as lesser respondents (35) than the expected number of participants (83) declared that they often used resource utilization related peer assessment technique as a strategy for promoting active learning in their actual sessions. This variation is very significant at $\alpha=0.05$ level.

Table 8 Assessment techniques related peer assessment questions

frequency	Observed N	Expected N	Residual	Chi-square(a)	df	Asymp. Sig.
never	105	83.3	21.7	11.096	2	.004
some times	83	83.3	-.3			
often	62	83.3	-21.3			
Total	250					

Table 8 shows that the frequency of using assessment related peer assessment techniques in actual teaching learning process is far behind the expected. The residual for “never used” and “often used” assessment related peer assessment technique as a means of fostering learner-centered learning strategies were by far different from the expected number of participants but with different directions. That is, more respondents (105) put that they never used such a technique as part of their teaching learning process where as lesser respondents (62) than the expected number of participants (83) declared that they “often used” assessment related peer assessment techniques as a strategy for promoting active learning in their actual sessions. This variation is significant at $\alpha=0.05$ level.

1.1 The Relationship between Teachers’ Peer Assessment and Self-reflection

Table 9 - the Correlation between Teachers’ Peer Assessment and Self-reflection

		Freq of self reflection	freq of peer assessment
frequency of self reflection participants	Pearson Correlation	1	.727(**)
	Sig. (2-tailed)	.	.000
	N	50	50
frequency of peer assessment participants	Pearson Correlation	.727(**)	1
	Sig. (2-tailed)	.000	.
	N	50	50

Table 9 discloses the fact that there is a strong correlation between primary school teachers peer assessment and self-reflection practiced in schools of Bahir Dar town, which is significant at $\alpha=0.01$ level in a 2-tailed test. That is, teachers who usually implement self-reflection as a means to justify their teaching are also open to colleague criticism of their teaching practice which is a viable means of developing our competence in managing active learning during actual teaching and learning sessions.

Table 10 Paired Samples t-test Analysis of Teachers’ Peer Assessment & Self-reflection

Pair	frequency of self reflection - frequency of peer assessment	Paired Differences					t	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% confidence interval of the Difference				
					Lower	Upper			
1		.06202	.19478	.03795	-.01609	-.14013	1.634	49	.115

Table 10 indicates the fact that t-calculated is out of the 95% confidence interval of the difference (-0.01609 ____ 0.14013). That is, the t-calculated value (1.634) is within the rejected region. This farther implies

that there is no difference between the frequency of teachers practice of self-reflection and peer assessment done to better implement active learning in their respective classrooms. This is also confirmed by Table 9, which indicates the presence of strong relationship between teachers peer assessment and self-reflection.

Table 11: Teachers Peer Assessment & Self-reflection vis-à-vis Age, Experience and Gender

Table 11 indicates that there is mean frequency difference in teachers peer assessment and self-reflection in terms of variation in experience, age and gender of the participants. That is as teachers' age and teaching experience increases there is a slight increase in the mean frequency of practicing peer assessment and self-reflection attempts made for the purpose of justifying their own teaching. Moreover, the table indicates that female teachers outperform males in terms of frequency of applying peer assessment and self-reflection during the instructional process as a means to better manage active learning sessions. In relation to this point, Robertson in Anna (2000) asserted that due to the attempts made to make issues gender neutral, females are also doing best in peer review and self reflection attempts made to justify their teaching and better manage active learning in actual teaching.

Discussion of the Findings, Conclusion and Recommendation

Discussion of the Findings

The extent of teachers' peer assessment and self reflection in primary schools of Bahir Dar town

The research findings in this study show that the frequency of using peer assessment and self-reflection in actual teaching learning process is much behind the expectation. That is, the residual for the frequencies for "never used" and "often used" peer assessment and self-reflection techniques as a means of fostering learner-centered learning strategies were far apart from the expected number of participants but with different directions. That is, more respondents asserted that they "never used" such a technique as part of their teaching learning process where as very less respondents as compared to the expected number of participants declared that they often used peer assessment and self reflection techniques as strategies for promoting the implementation of active learning in their actual sessions. These variations were found very much significant at $\alpha=0.05$ level.

As the findings of this research imply, changing teachers' instructional practice requires changing the deep-rooted traditional philosophy they adhered to, the culture, norms and school ethos. However, it takes a long instructional time to bring the required change in these respects. In support of this point, the MoE (2003) disclosed the fact that though there exist strong criticisms on the conventional teacher based approach in education, the teaching learning process in most schools in Ethiopia has persisted to be teacher dominated and actual classes were dictated by direct instruction which lead teaching and learning towards pouring of inert information from the classroom teacher to students. That is, most classes are characterized by a situation where students are made to listen to their teachers and copy notes from the blackboard. Learning by doing, problem solving, cooperative learning and group approaches are limited and if used, they are used haphazardly and as a result they don't serve their very purpose (MoE Task Force, 2007).

Therefore, the MoE and its attendant implementers, interest groups, users of different educational programs should work towards realizing a strong school culture which is guided by the constructivist philosophical underpinning. Here, it requires us to define what it means by strong and weak school culture. The strength of culture is generally defined as "a combination of the extent to which norms and values are clearly defined and the extent to which they are rigorously enforced" (Cox, 1993, p.162). Cultural strength, therefore, refers to the extent to which the behaviour of school staff is actually influenced or determined by the assumptions, values, norms and artefacts that are shared in school or recommended by the education system to practitioners in schools. Weak cultures do not informally put great pressure on school members to behave in certain ways, but simply offer a guideline for their behaviour instead. As Kilmann, Saxton & Serpa (1985) word it, "the culture only mildly suggests that they behave in certain ways" (p.4). Stated otherwise, weak cultures do not prescribe how staff must behave, but rather how they might behave.

Generally, strong school culture in line with this philosophical foundation can be realised using frequent training and retraining of the school community, especially teachers and students. But the training should be based upon information about individual stages of concern and levels of program use of teachers (Solomon & Alemayehu, 2010). At the same time, the training usually needs to be organized in schools as supports to the current and largely used strategies of professional development, i.e., teachers' peer assessment and self-reflection.

The relationship between teachers' peer assessment and self reflection in primary schools of Bahir Dar town

Research findings of the current study discloses the fact that there is a strong correlation between primary school teachers peer assessment and self reflection practiced in Bahir Dar town, which is significant at $\alpha= 0.01$ level in a 2-tailed test. That is, teachers who usually implement self-reflection as a means to justify their teaching are also open to colleague criticism of their teaching practice which is a viable means of developing teachers' competence in managing active learning during actual teaching and learning sessions.

This research further confirmed that there is no difference between the frequency of teachers practice of self-reflection and peer assessment done to better implement active learning in their respective classrooms. The critical self reflection of teachers would be enhanced by peer observation and reflection. Conducting observations on peer classes and engaging in critical conversations is another important tool in promoting active learning. Discussing events teachers have experienced, and colleagues' description of what has happened benefits the teacher being observed; and at the same time they examine their own experiences and check, reframe, and broaden their own theories of practice (MoE Task Force, 2007).

Other scholars have further suggested that formative peer assessment, a process in which work collaboratively to assess each others' teaching and to assist one another in efforts to strengthen teaching, be developed and implemented as a supplement to self reflection in professional development endeavors. Collaborative peer review probably should include opportunities to teachers to learn how to teach more effectively, to practice new teaching techniques and approaches, to get regular feedback on their classroom performance, and to receive coaching from colleagues (Menges, 1985 cited in MoE Task Force, 2007).

Difference in teachers' peer assessment and self reflection by experience, gender and age of participants

The results in the current study also indicated the fact that there is mean frequency difference in teachers peer assessment and self-reflection in terms of variation in experience, age and gender of the participants. That is, as teachers' age and teaching experience increases there is a slight increase in the mean frequency of practicing peer assessment and self reflection for the purpose of justifying their own teaching. Moreover, it is indicated that female teachers out-perform males in terms of frequency of applying peer assessment and self-reflection during the instructional process as a means to better manage active learning sessions.

The results in the current study also indicated the fact that there exist mean differences among teachers teaching experience in using self assessment and peer reflection as a way out for easier management of active learning in instructional sessions. A stock of research findings suggested in the literature support the current finding. In this line, Marso & Pigge (1994) cited in Solomon & Alemayehu, (2010), for example, surveyed approximately 300 pre-service and in-service teachers in various stages of their career. Four career periods were identified: pre-service teachers, teachers with 5-19 years of experience, teachers with 20-29 years of experience, and teachers with 30+ years of teaching. Lower levels of concerns about the task of teaching were reported by pre-service teachers compared to the in-service teachers, though in-service teacher groups were not significantly different from one another. Late-career teachers did, however, report lower concerns about self-survival than did mid-career teachers. Pre-service teachers also reported significantly lower levels of concern for impact on pupils than in-service teachers, and again the in-service teacher groups were not significantly different from one another. On a similar basis, the original research of Fuller (1969) revealed patterns in teacher concerns that correlated with maturity and teaching experience. Of particular importance to this study are findings that show pre-service and beginning teachers have different concerns to experienced teachers, and that pre-service teacher education courses should take cognizance of the characteristics typical of teachers at an initial stage of development.

Some other research findings suggested in the literature, however, contradict the current finding. In this line, a review made into the related literature depicted the fact that one cannot assume that an instructor's years of experience are directly related to the teacher's developmental stage, as individual teachers move through these stages at different rates. It is also extremely important to recognize that teachers do not pass through these stages independent of the other conditions of one's life. Depending upon changing personal and professional factors, it is likely that the teachers will fluctuate among the stages. For example, if a teacher goes through a major life crisis, such as the death of a parent, it is likely that he or she will drop to a lower developmental stage while coping with this traumatic event. Also, if an experienced teacher moves to a new school district, he or she is likely to begin the first year at a survival stage of development. This stage may pass quickly as the teacher draws on past knowledge to begin to function within the new context. However, it is important to recognize that this is likely to occur. A change from a suburban to an urban setting may also result in an experienced teacher moving to a lower stage of development, and as such, they may need assistance with strategies that will help them become successful in this new context (Fullan & Hargreaves, 1996).

Even though some of the available literature on the correlation between increasing the use of self assessment and peer reflection with teaching experience uncovered no relationship, the results in this study, however, revealed the reverse. That is, the mean difference among teachers with different ranges of teaching experience is found to be related to the frequency of using self-reflection and peer assessment as techniques for effective and efficient implementation of active learning. To see greater magnitude of relationship, however, requires support by continuous and relevant training in schools.

Participants' age may also be related to their teaching experience. It might be as a result of this that teachers' age seems related to the frequency of using peer assessment and self reflection. From another point of argument, one can put that our competency in using peer assessment and self-reflection may be more justified as we get older and older due to the increase of the horizon of our life exposure.

Conclusion

Notwithstanding the government's relentless effort made to bring real change in schools, however, the schools observed showed little improvement in using self-reflection and peer assessment as a tool to manage active learning in actual classroom sessions. Whereas, teachers who employ self reflection were found good in terms of letting colleagues to observe their instructional practice and thereby get relevant feedback that enable them to better facilitate active learning sessions. Though it is at the bottom, it is found out that experience, age, and gender of participants matter their use of those techniques in classroom instructions. The researcher found out strong support in the relevant literature about the effect of experience in using innovations, but the effect of age and gender equivocal, thus these situations require further research to affirm.

Recommendation

Based on the above concluding remarks, the following points are suggested:

- Classroom teachers' performance is basically influenced by different factors that undergo/ interact in the school as well as outside the school setting such as school principals, administrators, colleagues, students, parents, etc. That is, boosting up teachers commitment and competence to perform self-reflection and peer assessment depends upon changes made both in school culture as well as the attitudes of people outside the school setting who put significant influence upon schooling practices. Therefore, the Bahir Dar Special Zone Education Office personnel and its attendant education administrators should provide repeated orientations to the above mentioned stakeholders on the value of using peer assessment and self-reflection strategies in fostering the implementation of active learning in the classroom.
- Individuals' competency of making self-reflection is found to have a strong correlation with their openness for peer observation. Therefore, to flourish better peer assessment among staff members, school principals/ department heads should motivate teachers on individual basis so that they will be highly committed for self-reflection strategy as a way out for smart management of active learning sessions.
- In addition to other criteria, teachers should get promoted to the higher professional ladder mainly on the bases of their valid participation in peer assessment and self-reflection. To this end, there is need to have a very orderly documentation of the everyday performance of teachers. This implies that there should be trained personnel in authentic record keeping.

REFERENCES

- Anna, C. (2000). *Continuing Professional Development: A Practical Guide for Teachers and Schools*, 2nd ed. London and New York
- Anderson, C.W. (1987). Strategic teaching in science. In B.F. Jones, A.S. Palincsar, D.S. Ogle & E.G. Carr (Eds.), *Strategic teaching and learning: Cognitive instruction in the content areas* (pp. 73-91). Alexandria, VA: Association for Supervision and Curriculum Development.
- Ausubel, D. (1978). In defense of advance organizers: A reply to the critics. *Review of Educational Research*, 48, 251-259.
- Bloom, Benjamin. (Ed.). (1956). *Taxonomy of educational objectives. Handbook I cognitive domain*. New York: David McKay.
- Brookfield, Stephen. (1986) *Understanding and facilitating adult learning*
San Francisco: Jossey-Bass.
- Brown, J.S., Collins, A. & Duguid, P. (1989). Situated cognition and the culture of learning. *Educational Researcher*, 18 (Feb), 32-42.
- Cole, M. (1985). The zone of proximal development: Where culture and cognition meet. In J.V. Wertsch (Ed.), *Culture, communication and cognition: Vygotskian perspectives*. Cambridge, UK: Cambridge University Press.
- Cooper, Joanne. (1991) *Telling our own stories: The reading and writing of journals or diaries*. In *Stories Lives Tell*, (eds. Witherell, C. & Noddings, N.) New York: Teachers College Press.
- Cox, T. Jr. (1993), *Cultural Diversity in Organizations: Theory, Research and Practice*, Berrett-Koehler, San Francisco, CA.
- Duckworth, Eleanor. (1987) *The having of wonderful ideas*. New York: Teachers College Press.
- Engel, Brenda. (1994) *Portfolio assessment and the new paradigm: New instruments and new places*. *The Educational Forum*, 59 (Fall, 94) 22-27.
- Fullan, M., & Hargreaves, A. (1996). *What's worth fighting for in your schools?* NY: Teachers College Press.
- Flanders, N. (1970) *Analyzing teacher behavior*. Reading, MA: Addison - Wesley.
- Fosnot, Catherine. (1996) *Constructivism: Theory perspectives, and practice*. New York: Teachers College Press.
- Gagne, Robert. (1970) *The conditions of learning* New York: Holt, Rinehart, and Winston.
- Guskey, T. R. (1986). Staff development and the process of teacher change. *Educational Researcher*, 15(5), 5-12.
- Hewson, P.W., Kerby, H.W. & Cook, P.A. (1995). Determining the conceptions of teaching science held by

- experienced high school science teachers. *Journal of Research in Science Teaching*, 32, 503-520.
- Hunter, Madeline. (1982) *Mastery Learning El Segundo*, CA: TIP Publications.
- Jonassen, D.H. (1995). Computers as cognitive tools: Learning with technology and not from technology. *Journal of Computing in Higher Education*, 6, 40-73.
- Johnson, David and Johnson, Roger (1975). *Learning together and alone*. Englewood Cliffs, NJ: Prentice Hall.
- Kilmann, R.H., Saxton, M.J. and Serpa, R. (1985), "Introduction: Five Key Issues in Understanding and Changing Culture", in Kilmann, R.H., Saxton, M.J. and Serpa, R. (Eds), *Gaining Control of the Corporate Culture*, Jossey-Bass, San Francisco, CA, pp. 1-16.
- Kottkamp, R.B. (1984), "The Principal as Cultural Leader", *Planning and Changing*, Vol.15, pp.152-160.
- Lave, J. (1988). *Cognition in practice: Mind, mathematics and culture in everyday life*. Cambridge, UK: Cambridge University Press.
- Ministry of Education Task Force (2007). *Project Proposal on Enhancing Active Learning through Teachers Peer Assessment and Self Reflections in Selected Primary Schools in Ethiopia*. MoE, Addis Ababa.
- Ministry of Education (1997), *ESDP III*. Addis Ababa
- Ministry of Education (2001) *ESDP III*. Addis Ababa
- Ministry of Education (2005). *ESDP III*. Addis Ababa
- Ministry of Education (2003). *A National Curriculum Guidance for Pre-service Teacher Education Programs*. AA.
- Perrone, Vito. (1988). *Alternative assessment*. Alexandria, VA: ASCD
- Resnick, L.B. (1983). Mathematics and science learning: A new conception. *Science*, 220, 477-478.
- Resnick, L.B. (1987). *Education and learning to think*. Washington, DC: National Academy Press.
- Sanders, Norris. (1966). *Classroom questions: what kinds?* New York: Harper & Row.
- Schauble, L. (1990). Belief revision in children: The role of prior knowledge and strategies for generating evidence. *Journal of Experimental Child Psychology*, 49, 31-57.
- Schmuck, Richard. & Schmuck, Pat. (1988) *Group processes in the classroom*. Dubuque, IA: W. C. Brown.
- Schon, David. (1987) *Educating the reflective practitioner* San Francisco: Jossey Bass.
- Seyoum Tefera (1996). Attempts at Educational Reform in Ethiopia: A Top-down or Bottom-up Reform. *The Ethiopian Journal of Education*. XVI(1), 1-34, Addis Ababa, AAU.
- Sizer, Theodore. (1992). *Horace school: redesigning the American high school*. Boston: Houghton Mifflin.
- Slavin, R. E. (1980a). Cooperative Learning. *Review of educational research*, 50, 317-343.
- Solomon Melesse & Alemayehu Bishaw (2007). Stages of Concern and Levels of Use of Active Learning Strategy in Higher Learning Institutions in Ethiopia. *Ethiopian Journal of Higher Education (EJHE)*, Vol.4, No.2, December 2007.
- Transitional Government of Ethiopia (1994). *The New Education and Training Policy*. Addis Ababa.
- von Glasersfeld, E. (1989). Cognition, Construction of Knowledge, and Teaching. *Syntheses*, 80, 121-140.
- von Glasersfeld, E. (1992). A constructivist's view of learning and teaching. In R. Duit, F. Goldberg & H. Niedderer (Eds.), *The proceedings of the international workshop on research in physics education: Theoretical issues and empirical studies (Bremen, Germany, March 5-8, 1991)*. Kiel, Germany: IPN.
- Vygotsky, L.S. (1978). *Mind in society: The development of higher psychological processes*. Cambridge, MA: Harvard University Press.

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