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## Teachers' Beliefs And Practices Of Cooperative Group Work Assessment: Selected Secondary School Teachers In Focus

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*Abstract: This study aimed to investigate the beliefs and practices of group work assessment of secondary school teachers. For this reason, 213 teachers were selected randomly for a questionnaire survey. In addition, two teachers and five students were selected for interviews and focus group discussions at each site, respectively. A one-sample t-test was applied to analyze the data acquired through the questionnaire while the Pearson product-moment correlation was used to examine the relationship between the beliefs and practices of group work assessment. The data obtained through interviews and focus group discussion (FGD), were analyzed through thematic verbal descriptions. The findings showed favorable teachers' beliefs towards group work assessment. On the contrary, teachers' assessment practices were partial with focus on group product, with diminutive or no assessment of group process and individual contribution. Hence, Ethiopian Bureaus should conduct on- job training for teachers on the assessment of group work.*

**Keywords:** belief, practice, assessment, group work, assessment belief, assessment practice

### Introduction

Cooperative learning is a student-centered pedagogical practice in which students work together in small groups at all levels of education across different subject areas (Johnson & Johnson, 2002; Gillies, 2014; 2016). Related literature highlights that learners can obtain multiple benefits from cooperative learning. Accordingly, cooperative learning enhances the achievement of students, interaction, higher self-esteem, problem-solving skills, and socialization (Johnson & Johnson, 2002; Gillies, 2014). Besides, it provides a non-threatening, more comfortable, and supportive learning environment learning (Gupta, 2004). Moreover, cooperative learning was found more effective than competitive and individual learning on several academic, personal, and social variables (Johnson & Johnson, 2002; Gillies, 2016). To this effect, teachers' roles in the undertaking of cooperative group work are essential (Gillies, 2014; 2016).

Among the assorted roles teachers are supposed to play, the assessment of cooperative learning is central since it can influence quality learning (Casal, 2016; Gillies & Boyle, 2010), learning contents, and methods of learning (Biggs, 2002). Concerning cooperative learning assessment practices, the available empirical works have been consulted. To begin with, Le,

Janssen, and Wubbels (2018) conducted a study on students' and teachers' perceived obstacles to effective collaboration. It was a case study that involved twenty-three students and nineteen teachers from different disciplines. The study employed interviews with both teachers and students. The finding revealed the assessment of collaborative learning as an antecedent obstacle in the implementation of cooperative learning. Hence, the result showed teachers dominantly focused on the assessment of group outcomes and gained knowledge of individuals although some teachers used to assess the collaborative process. This shows that teachers give less emphasis to the assessment of the group process. Similarly, Ross, Rolheiser, and Hogaboam-Gray (1998) carried out a case study on the assessment practices of exemplary users of cooperative learning methods. The finding divulged the participants felt they did not assess often enough and were unable to balance individual and group accountability in their assessment. As the result, they felt their assessments were inaccurate and muddled, careless, and practiced inexperienced methods.

Also, Gillies and Boyle (2010) conducted interviews with ten teachers in two schools on their perceived assessment practices. The finding indicated that they utilized more informal assessments than formal forms of assessments at large. More specifically, the teachers reported that they took anecdotal pieces of evidence going around groups and observed who was on task. The teachers reported that they assessed their students using group discussions and presentations of their works followed by an individual assessment. Furthermore, they pointed out that they assessed their students via self-assessment modes. In the same vein, Le, Janssen, and Wubbels (2018), revealed that teachers employed group-based report, diary, peer- and self-assessments. It was reported that teachers used an informal assessment of monitoring by going around and observed their interactions on the tasks. The authors suggested that the involvement of students in the assessment process via peer- and self-assessments coupled with teacher assessment would reduce social loafing (Ross, Rolheiser & Hogaboam-Gray, 1998). Also, it was proposed that teachers have to engage students in setting assessment criteria, transparent on what will be assessed and what will be done, and make the scoring key and interpretive schemes visible to students to ensure fairness and acceptability (McInnis & Devlin, 2002).

Assessment for learning should reflect and encourage both individual and group accountability. Concerning this, a meta-analysis of seventy-seven studies in which CL was compared to the control group (Slavin, 1995 as cited in Ross & Rolheiser, 2003). The result revealed that CL treatments that included both individual and group accountability had medium effects ( $ES= 0.32$ ) on learning while those that lacked one or more of the elements had negligible impacts ( $ES= 0.07$  to  $0.16$ ). On the same line of discussion, Barkley, Cross, and Howell-Major (2004) note:

*Individual grades provide a mechanism to ensure individual accountability, but they may minimize the importance of the group effort. Group grades ensure that the group is held accountable and that members support each other's learning, but if individuals are not held accountable, group grades create opportunities for 'easy riders' to avoid responsibility' (p. 83).*

The findings and the block quote implied that assessment of cooperative group work should balance individual and group accountability to optimize learning.

Concerning cooperative group work assessment methods (tools), Gillies and Boyle (2010) disclosed that teachers use more informal than formal assessment methods at large, anecdotal shreds of evidence from observation, groups, observation, discussions, presentations, individual assessments, and self-assessment techniques. Likewise, Le, Janssen, and Wubbels (2018) indicated teachers employed group-based reports, diary, peer- and self-assessments,

informal assessment of going around, and observation as tools to assess group work. On the same issue of concern, Jaques (2000) suggested the use of different assessment techniques like shared group grade, project work, exam, and oral assessments, peer assessment, and feedback on individual contribution to the group work as useful techniques in cooperative group work assessment. The author further noted the use of various assessment methods would moderate the group mark to the entire group in cooperative group work assessment.

Teachers' beliefs, according to Borg (1999), have great potential in influencing the classroom instructional decisions of teachers. To this end, teachers' beliefs of cooperative group work assessment determine the assessment practices of the teachers (Casal, 2016; Rio, 1996). Teachers' beliefs towards the assessment of cooperative group work could influence the actual assessment practices, and hence very important to study it. With this regard, Ross, Rolheiser, and Hogaboam-Gray (1998) did a qualitative case study on teachers' beliefs towards the assessment of cooperative learning using the interview as a tool. The result showed teachers had beliefs that rigorous assessment influenced their' insights and strong views that often characterize CL. Consequently, they felt that recommended assessment strategies of CL conflicted with other goals they held importantly. They further pinpointed peer-assessment, for instance, would collapse the team-building tenet of CL. Therefore, they viewed assessment distinct and less important than teaching, and loosely linked with teaching.

The association between teachers' beliefs and practices of cooperative group work assessment is of paramount importance. Nonetheless, there is a scarcity of studies on the association between the two variables as long as the knowledge of the current researchers is concerned. This void may trigger an examination the relationship between teachers' beliefs and practices of cooperative group work assessment.

The studies conducted on the assessment of cooperative group work are limited. Some of them, (Le, Janssen & Wubbels, 2018; Gillies & Boyle, 2010; Ross, Rolheiser & Hogaboam-Gray, 1998) adopted qualitative case study designs. Besides, they employed only interviews as a data collection tool and saw the issue either from teachers' or students' perspectives as stakeholders in the study. Besides, the result obtained through a single tool may not be trustworthy. Therefore, their findings may not be generalized. The study conducted by Slavin (1995), as cited in Ross and Rolheiser (2003), was experimental in its design. It was intended to compare the effectiveness of CL to individual and group accountability with the counter control group in which individual or group accountability or both was removed. Hence, its finding may not show the exhibited actual assessment practices cooperative group work. On top of this, the association between teachers' beliefs and practices of group work assessment seems a left void or rarely studied.

Considering all these facets and bearing the potential effects of assessment on learning in general, and the influence of cooperative group work assessment on learning in particular, it appeared very essential to survey teachers' beliefs and practices of cooperative group work assessment with a focus on teachers at some selected secondary schools in Southern Nation and Nationality Peoples Regional State (SNNPRS), Ethiopia. Unless a study is warranted on this issue and determines a clear picture of the reality, it would be difficult to take informed remedial intervention if need be.

Specifically, this study sought to meet four specific objectives which include: (i) to explore teachers' beliefs of cooperative group work assessment; (ii) to examine teachers' practices of cooperative group work assessment in terms of assessment of group process, assessors involved in the assessment, and assessment of group product; (iii) to investigate methods (techniques) teachers employed in the assessment of cooperative group work, and (iv)

to scrutinize the association between teachers' beliefs and practices of cooperative group work assessment.

## **Research Methodology**

### **Research Design**

The main objective of the study was to explore teachers' beliefs and practices of cooperative group work assessment in some selected secondary schools in SNNPRS, Ethiopia. To address this objective of the study, a mixed-methods design of concurrent/convergent type was adopted. Mixed methods design combines the use of both qualitative and quantitative data in a single study. The use of both qualitative and quantitative data in combination in a single study provides a better understanding of the research problem than either approach alone. Therefore, employing multiple approaches to the social inquiry can provide the best understanding of the research problem being investigated, and improve the validity and credibility of the results than the use of a single approach (Saldana, 2011).

Accordingly, a quantitative approach was used to generate data through a questionnaire on teachers' beliefs and practices of cooperative group work assessment. In contrast, a qualitative approach, semi-structured interview, and focus group discussion was employed to collect in-depth data from participants on their beliefs and practice of cooperative group work assessment.

Among the various mixed methods design, this study adopted a concurrent/convergent design. This design obtains different but complementary data at the same time through questionnaires, semi-structured interviews, and focus group discussions on the problem under the study. To this effect, the data acquired through these tools were integrated to get a better insight into the phenomena being studied. Also, this design provides ways to compare and contrast quantitative statistical results with qualitative findings to get a comprehensive picture of the issue under investigation (Creswell, 2009).

### **Participants and their Characteristics**

Secondary school teachers from five schools were the participants of this study. Among the secondary schools in SNNPRS, Arba Minch, Karat, Sawula, Merab-Abaya, and Konso Secondary Schools were selected due to their relative proximity to the researchers' workplace, Arba Minch. The study was conducted between June and December 2019. A simple random sampling technique was employed to select 254 teachers for the questionnaire survey. The sample teachers were selected from all subjects taught in the schools. However, only 213 teachers appropriately filled and returned the questionnaire. For an in-depth interview, however, two teachers from each school were selected purposively based on their willingness for the interview. Besides, five students were selected at each school for FGD to generate qualitative data on their teachers' group work assessment practices.

The participants were drawn from all 14 disciplines taught at secondary school. The number of the participants as per their subjects they teach were from English language (n=21), physical health education (n=10), Amharic (n=16), Mathematics (n=19), Physics (n=15), Chemistry (n=20), Biology (n=11), Geography (n=15), History (n=25), Civic & Ethical education (n=17), ICT (n=11), Technical Drawing (n=6), General Business (n=12), and Economics (n=15). Concerning sex, there were 190 males and 23 females. As to educational

levels, 170 had first degrees while 43 qualified for master's degrees. About teaching experiences, 21 of them had 1-2 years of experience while 31 teachers taught for 3-5 years. Besides, 53 of them had 6-10 years of services while the rest 108 served for more than 11 years.

### **Data Collection Instruments**

Questionnaires, interviews, and FGD were used to collect data from the study participants. Each tool has been described and presented below independent of each other.

### **Teacher Questionnaire**

The purpose of the questionnaire was to obtain accurate quantitative data from teachers concerning their beliefs and practices of cooperative group work assessment. To meet this objective, a close-ended questionnaire was developed based on empirical works (Gillies & Boyle, 2010; Le, Janssen & Wubbels, 2018) and related review literature on cooperative learning (Frykedal & Chiriack, 2011; Paul & Ralph, 2005; Valente, 2018; Webb, 1994). The original questionnaire constituted of 35 items with two scales. The cooperative group work assessment practice scale had (n=19) items while the cooperative group work assessment beliefs scale consisted of (n=16) items. The draft questionnaire has two parts. The first part consisted of items that are related to demographic information about the participants' sex, teaching experience, the subject they teach, and educational level. The second part focuses on teachers' beliefs and practices of cooperative group work assessment on a 5-point Likert scale which included 1=strongly disagree, 2= disagree, 3= undecided, 4= agree, and 5= strongly agree to scales.

The questionnaire was checked for its face validity, content validity, construct validity, and internal consistency reliability before using it for actual data collection. The result indicated a face validity index of  $\geq 0.92$  which shows the instrument has acceptable face validity. Concerning the content validity of items of the tool, Item Content Validity Index (I-CVIs) for clarity, relevance, and appropriateness were found between acceptable content validity of 0.80–1.00. Similarly, the Content Validity Index for scale (S-CVI/Ave) was revealed to be 0.91, which is above a cut off value of 0.90. This entails the tool is content valid at an item and scale levels (Abate & Getu, 2020; unpublished manuscript).

Concerning the construct validity of the tool, principal component analysis (PCA) was conducted with orthogonal Varimax rotation. Principal component analysis (PCA) was run for teachers' practice of cooperative group work assessment (n= 19 items) scale. Accordingly, four items with extracted communality value less than 0.5 were removed from the scale step wisely. The 15 items retained comprised four components which are labeled as the assessment of group process (n=7), assessors involved (n=5), and assessment of group product (n=3) items. In the same vein, principal component analysis (PCA) on teachers' beliefs of cooperative group work assessment (n= 16 items) was run. The result confirmed all the items were retained with four factors. The factors have been labeled as beliefs about assessors involved (n=5), assessment of group process (n=6), assessment of social skills (n=3), and assessment of group product (n=2) items (Abate & Getu, 2020; unpublished manuscript).

The internal consistency reliability of the factors and scales is presented in the table with the description below.

<b>Factors (assessment practices)</b>	<b>No of items (N)</b>	<b>Cronbach alpha</b>
F1 (group process)	7	.87
F 2 (assessors involved)	5	.74
F3 (group product)	3	.66
<b>Scale</b>	15	.85
<b>Factors (assessment Beliefs)</b>		
F 1 (assessors involved)	5	.88
F 2 (group process)	6	.89
F 3 (social skills)	3	.80
F 4 (group product)	2	.68
<b>Scale</b>	16	.92

**Table 1- Internal consistency reliability of factors and scales**

The internal consistency reliability tests were computed with Cronbach’s alpha with a value of .70 cut off. In this view, the tool was found to be internally consistent to measure teachers’ beliefs and practices of cooperative group work assessment at scales levels. However, the internal consistency reliability values were discovered to be  $< 0.70$  for assessment of group product ( $\alpha = .66$ ) and beliefs about assessment of group product ( $\alpha = .68$ ) subscales. The two subscales have been maintained as the assessment of group products is an essential aspect. Items or scales with marginal alpha values could be retained if deemed important (DeVon et al., 2007).

### **Interviews**

In addition to the questionnaire, semi-structured interview questions were used to intensively probe teachers’ assessment beliefs and practices of cooperative group work. To this effect, a face-to-face individual interview was conducted with each interviewee. The interview was transcribed for accuracy for later analysis.

### **Focus Group Discussion**

Focus group discussions were used with selected students at each school to get their teachers’ cooperative group work assessment practices.

### **Data Organization and Analysis**

The data collected through the questionnaire was tallied, organized into average at items and scale levels, and made ready for analysis. On the contrary, the data collected through a semi-structured interview and focus group discussion was coded and categorized for analysis. One sample *t*-test was used to examine teachers’ beliefs of cooperative group work assessment. It could determine whether there was a statistically significant difference between the observed mean and expected mean (3.00) at both items and scale levels. In the same way, to decide teachers’ practices of cooperative group work assessment, and investigate if the observed mean of the methods teachers employed to assess cooperative group work were statistically and significantly different from the expected mean (3.00) at both items and scale levels, a one-sample *t*-test was applied. To investigate whether there was a relationship between the beliefs

and practices of cooperative group work assessment of the teachers or not, Pearson product-moment correlation was applied.

The data were checked for the assumptions of one sample *t*-test and Pearson product-moment to avoid possible flaws that might have originated from violation of the assumptions of the tools. Besides, a five percent ( $\alpha = 0.05$ ) level of significance was used throughout the study.

The data collected through interviews and FGD were coded, categorized, and analyzed qualitatively through verbal descriptions.

Test value =3					
Items		Mean	df	t	p
1	Students assess their peers in a responsible manner	3.84	212	6.47	.000
2	Peer assessment accurately assess group member's performance	3.64	212	7.38	.000
3	Peer assessment assesses individual contribution to the group work fairly	3.49	212	6.70	.000
4	Student peer assessment is an effective assessment method	3.45	212	5.56	.000
5	Student self-assessment is a valuable method of assessing cooperative group work	3.72	212	9.01	.000
6	The ability to assess group work is an important skill for a teacher	3.92	212	11.9	.000
<b>Sub-scale</b>		<b>3.62</b>	<b>212</b>	<b>9.83</b>	<b>.000</b>

**Table 2. One sample t-test results on teachers' beliefs about assessors involved**

## Results

One of the specific objectives of this study was to explore teachers' beliefs of cooperative group work assessment with references to sub-scales which included group process, social skills, group product, assessors involved in the assessment, and beliefs at scale level. The other objective was to examine teachers' practices of cooperative group work assessment in terms of assessors involved, assessment of group process, and product. The third one was intended to investigate the assessment methods (tools) teachers employed to assess cooperative group work as part of assessment practice. The final one was to investigate the association between teachers' beliefs and practices of cooperative group work assessment. The analysis of each objective has been presented below in consecutive tables.

### Teachers' Beliefs Towards Group Work Assessment

#### Teaches Beliefs About Assessors Involved in the Assessment of Group Work

As indicated in table 2 above, the six items of the questionnaire and the sub-scale mean values were found to be statistically significant from the expected mean value of 3.00 at  $p < .001$ . This implies that teachers had favorable beliefs about the involvement of students in the assessment of group work via peer and self-assessment. They showed that peer assessment is an effective, accurate, and fair method of group work assessment at large and individual contribution to the group work in particular.



**Teaches Beliefs About the Assessment of Group Process**

Test value =3					
	Items	Mean	df	t	p
7	Assessment of group work plays an important role in fostering learning	4.08	211	13.8	.000
8	Assessment of group work provides feedback to students on their performances	4.04	212	15.2	.000
9	Students should take part in assessing their peers in group work	3.80	212	11.8	.000
10	The assessment of how students cooperatively worked is important	4.09	212	16.2	.000
11	How students worked on the task (group process) should be assessed	3.75	212	10.2	.000
	<b>Sub-scale</b>	3.95	212	16.2	.000

**Table 3. One sample t-test results on the assessment of group process**

Similarly, table 3 above indicated the five items on beliefs about the assessment of the group process and the sub-scale mean values were statistically significant from the expected mean value of 3.00 at  $p < .001$ . This entails that teachers had favorable beliefs on the assessment of group processes including the assessment of collaborative skills and performances through peer assessment and feedback for the betterment of learning.

**Teaches Beliefs About the Assessment of Social Skills**

Test value =3					
	Items	Mean	df	t	p
12	Feedback on the assessed group tasks helps students to improve their learning	4.42	211	26.5	.000
13	Social skills among students should be monitored to develop collaborative behavior	4.22	212	21.7	.000
14	The assessment of group work should include an assessment of social skills	3.99	212	16.7	.000
	<b>Sub-scale</b>	4.21	212	19.4	.000

**Table 4. One sample t-test results on the assessment of social skills**

As shown in table 4, the items on beliefs about the assessment of social skills and the sub-scale mean values were statistically significant from the expected mean value of 3.00 at  $p < .001$ . This shows that teachers had helpful beliefs towards the inclusion of social skills and feedback as a means to foster the social skills of students in addition to cognitive development.

**Teaches Beliefs About the Assessment of Group Product**

Test value =3					
	Items	Mean	df	t	p
15	The assessment of final group work (group product) is important	4.05	211	15.2	.000
16	The final group work (group product) should be assessed	4.15	212	18.9	.000
	<b>Sub-scale</b>	4.09	212	19.4	.000

**Table 5. One sample t-test results on the assessment of group product**

Table 5 indicated the items on beliefs about the assessment of group product and the sub-scale mean values were found statistically significant from the expected mean value of 3.00 at  $p < .001$ . This shows that teachers had positive beliefs towards the importance of the assessment of group products and their assessment.

**Teachers' Practices of Group Work Assessment**  
**Assessment of Group Process**

Test value =3

	<b>Items</b>	<b>Mean</b>	<b>df</b>	<b>t</b>	<b>p</b>
1	I frequently check the contribution of each group members to the group work	3.50	212	6.82	.000
2	I give relevant feedback timely on an individual contribution to the group work	3.59	212	7.18	.000
3	I give relevant feedback timely on the performance of group work	3.71	212	10.23	.000
4	I use peer assessments to assess the contribution of each member to the group work	3.32	212	4.55	.000
5	I regularly monitor if group members listen to each other attentively to understand each other as they carry out group work	3.62	212	8.08	.000
6	I oversee the respect each group member gives to others' opinions and feelings in the group as they carry out group work	3.74	212	9.69	.000
7	I request group members to report the communications they had between them, the ideas, strategies, tools, and/or resources they used to carry out the activity	3.60	212	7.89	.000
	<b>Sub-scale</b>	<b>3.58</b>	<b>212</b>	<b>10.34</b>	<b>.000</b>

**Table 6. One sample t-test results on the assessment of group process**

As indicated in table 6 above, all the items of the questionnaire and the sub-scale mean values were found to be statistically significant from the expected mean value of 3.00 at  $p < .001$ . Accordingly, teachers used to assess group process through peer assessment and provide timely and relevant feedback. Also, they used to monitor and check the respect they pay each other in their communication as a means to cultivate their social skills. Therefore, the data indicated teachers assess both the social skills and cognitive performances of the students in group work.

**Assessors Involved in the Assessment of Group Work**

Test value =3

	<b>Items</b>	<b>Mean</b>	<b>df</b>	<b>t</b>	<b>p</b>
8	I involve students in suggesting assessment tasks for group work	3.97	211	17.1	.000
9	I involve students in preparing assessment criteria (scoring rubrics) for group work	3.38	212	6.30	.000
10	I use student self-assessments in assessing cooperative group work	3.60	212	8.19	.000
11	I use student peer assessments in my assessment for learning in cooperative group work	3.39	212	5.00	.000
12	I ask for the support/feedback each group member gave to other group members	3.70	212	11.4	.000
	<b>Sub-scale</b>	<b>3.61</b>	<b>212</b>	<b>13.0</b>	<b>.000</b>

**Table 7. One sample t-test results on assessors involved in assessment**

Table 7 showed that all the items of the questionnaire and the sub-scale mean values were found to be statistically significant from the expected mean value of 3.00 at  $p < .001$ . The result implied that teachers involved students in the assessment of their learning through the preparation of assessment rubrics, self, and peer-assessment.

**Assessment of Group Product**

Test value =3

	<b>Items</b>	<b>Mean</b>	<b>df</b>	<b>t</b>	<b>p</b>
13	I use only my assessments in assessing cooperative group work	3.12	211	1.68	.093
14	I give each member the same mark regardless of the quality of work done by each member	3.49	212	6.31	.000
15	I assess the final group outcome than group work processes	3.53	212	6.36	.000
	<b>Sub-scale</b>	<b>3.38</b>	<b>212</b>	<b>6.29</b>	<b>.000</b>

**Table 8. One sample t-test results on the assessment of group product**

Table 8 depicted two of the items and the sub-scale mean values on the assessment of group products were found to be statistically significant from the expected mean value of 3.00 at  $p < .001$ . However, the data indicated that teachers were not certain on whether they should use only their assessments alone or involve students in the assessment of group work. The results showed that teachers assess the group outcome and offer the same marks to all regardless of individual contributions to the group work and group process. In other words, the teachers seem to favor the assessment of group product than the process.

**Assessment Methods (Tools) Teachers Use to Assess Group Work**

Test value =3

	<b>Items</b>	<b>Mean</b>	<b>df</b>	<b>t</b>	<b>p</b>
1	Student self-assessments	3.46	212	6.77	.000
2	Peer assessments	3.20	212	2.76	.000
3	Teacher assessments	3.92	212	12.32	.000
4	Teacher Observations/monitors by going around while group work on task	3.76	212	11.16	.000
5	Teacher Observations with observation check lists	3.55	212	7.28	.000
6	Paper and pencil work (tests, quizzes, examinations)	4.02	212	12.23	.000
7	Group written reports after students worked together	3.27	212	3.89	.000
8	Individual written reports after students worked together	2.90	212	-1.19	.233
9	Individual reflective diary	2.58	212	-5.12	.000
10	Group presentations	3.32	212	4.69	.000
11	Individual presentations	2.89	212	-1.35	.178
12	Group discussions	3.93	212	13.63	.000
13	Portfolio assessments	2.51	212	-5.37	.000
14	Interviews on work done in group	2.26	212	-10.2	.000
15	Project works	2.48	212	-5.65	.000
16	Demonstrations	2.12	212	-11.7	.000
17	Experiments	1.71	212	-25.0	.000
18	Debates	1.82	212	-22.4	.000
	<b>Scale</b>	<b>2.98</b>	<b>212</b>	<b>-.37</b>	<b>.715</b>

**Table 9. One sample t-test results on assessment tools used to assess group work**

Table 9 showed statistically significant higher observed mean values from the expected mean of 3.00 at  $p < .001$  for items numbered from 1-7 and items 10 & 12. Conversely, statistically significant but lower mean values from the expected mean of 3.00 at  $p < .001$  were obtained for item 9 and items 13-18. Also, statistically, non-significant mean differences were found between observed and expected means for items of numbers 8 & 11 at  $p > 0.05$ . The result

revealed that teachers claimed they apply peer and self-assessment, teacher assessment, monitoring, observations, traditional paper-pencil tests, written group works, group presentations, and group discussions as assessment tools in the assessment of group work. On the contrary, teachers rarely use other assessment tools (item 9, and 13-18 items) in their assessment of group work. However, the teachers left undecided on the use of individual written reports and individual presentations.

**Relationship Between Teachers’ Beliefs and Practices of Group Work Assessment**

Measures	1	2	3	4	5	6	7	8
1 BAI	--							
2 BAGP	.605**	---						
3 BASS	.426**	.614**	---					
4 BAGPT	.611**	.586**	.437**	---				
5 TAB	.832**	.864**	.736**	.815**	---			
6 AGP	.302**	.327**	.312**	.222**	.357*	---		
7 AIA	.256**	.370**	.323**	.137*	.331**	.596**	---	
8 AGPT	.281**	.264**	.296**	.210**	.327**	.082	.195**	---
9 TAP	.303**	.306**	.327**	.226**	.355**	.136*	.305**	.987**

\*\*< .001, \*< .05

**Table 10 Pearson product-moment Correlations Between Measures of Assessment Beliefs and Practices**

BAI= beliefs about assessors involved, BAGP= beliefs about the assessment of group process, BASS= beliefs about the assessment of social skills, BAGPT= beliefs about the assessment of group product, TAB= total assessment beliefs, AGP= assessment of group process, AIA= assessors involved in assessment, AGPT= assessment of group product, TAP= total assessment practice

Before running Pearson product-moment correlation for examining the association between teachers’ beliefs and practices of cooperative group work assessment, preliminary analyses were performed and the results ensured there was no violation of the assumptions of normality, linearity, and homoscedasticity. The Pearson product-moment correlation result showed a positive and significant medium correlation ( $r = .355, p < .001$ ) between beliefs and practices of cooperative group work assessment scales. Besides, statistically significant, but small and medium correlations were obtained between beliefs and practices sub-scales of the two scales. This implied that the stronger the beliefs the teachers held on the assessment of cooperative group work, the more they may assess cooperative group work.

**Interview Data Analysis**

**Teachers’ Beliefs and Practices of Group Work Assessment**

On the beliefs teachers had on the assessment of group work, they began their reflection on the general beliefs on cooperative learning and went specific to their beliefs on the assessment of group work. In this regard, they reported that cooperative group work is a useful pedagogy that enhances to pull up struggling learners from where they have been while sometimes enriches the skills and knowledge of the advanced and grade level learners as well. However, some teachers believe that group work is a top-down imposition including its assessment.

Conversely, teachers had also favorable beliefs towards cooperative group work and its assessment. They believe that cooperative group work and its assessment are very important. One of the interviewed teachers noted:

*I have been using cooperative group work as much as I could. As the assessment of cooperative group work is inseparable from the implementation of group work, I also have firm beliefs on the necessity of group work assessment. Unless we develop strong ground on the importance of cooperative group assessment, we may not attempt the assessment (Teacher 2).*

The results of the interview data presented earlier on teachers' beliefs on cooperative learning in general and group work assessment, in particular, are contradictory. Due to this difference, one interviewed teacher suggested some sort of consensus has to be maintained on cooperative learning in general and group work assessment in particular for its effective implementation (Teacher 4).

The beliefs teachers hold about the assessment of group work influence their assessment practices. Favorable beliefs towards the assessment of cooperative group work will have a positive effect on the betterment of cooperative group work assessment practices as the two co-exist. Accordingly, teachers' interviews on the assessment practices of group work showed they use information from a group on an individual contribution to the group work and group process. Besides, the teachers disclosed they used to employ both formal and informal assessment systems. One of the interviewees remarked the assessment of cooperative group work:

*I let the group leader facilitate discussions, and monitor the contribution of each member to the group work and the group process. Hence, the group leader will monitor the group process; I assess the group product. Also, I sometimes go around and monitor their interactions and contributions to the group work. Moreover, I sometimes question an individual for his/her contribution to the group work on a random basis during a whole-class discussion (Teacher 1).*

On the same line of discussion, teacher 4 stated that:

*The group leader reports the level of participation and contribution of each member of the group. I grade the group work final product and give the same marks to all based on the equal participation assumption report of the group leader in addition to my personal attempt to check for individual contribution.*

This shows that teachers assess the group product based on the final work without considering group process and individual contribution to the group work although they used to ask the group leader for a report on an individual contribution and group process.

### **Students' Views of Their Teachers' Group Work Assessment Practices**

On group work assessment practices, focus group discussion results showed teachers inured to assess group work products mostly at the expense of group process. The students reported teachers to ask for group leader reports on the contribution of individuals to the group tasks. Yet, the students told us that they have not seen the marking of individual contribution to the group work. Instead, we experienced equal marks for all despite the differences in the individual contribution to the group work. The further pinpointed that the reports from the group leaders were just procedurally done in vain for our moral satisfaction.

Concerning student involvement in the assessment process, the FGD discussants described some of their teachers rarely let them assess each other on the contributions they made

to the group work. They reported the teachers used to involve them rarely via peer assessment modes as a means to assess each other on their contribution to the group work. They told that they get marks according to their contribution to the group work in a very rare situation.

About the assessment tools teachers use to assess group work, the discussants reported some teachers used to do informal assessments through going around and observe students while we work in the classroom and the school compound reserved for group work. Also, the students reported their teachers sometimes were given to ask a member of the group question related to the group tasks randomly as a means for checking the group process. Besides, few teachers randomly ask someone to present group work instead of the group leader. Nevertheless, it was reported that the informal assessments and group presentations as assessment tools done by some teachers may not be enough follow up as these were not intensive, frequent, and were not undertaken by all teachers.

## **Discussion and Conclusions**

The results obtained from the questionnaire indicated teachers had favorable beliefs towards cooperative group work assessment. Teachers showed positive beliefs towards the assessment of cognitive and social skills, group products and processes, and involvement of students in the assessment of group work. They believe that peer assessment is an effective, accurate, and fair method of group work assessment and individual contribution to the group work. Therefore, the teachers took for granted the involvement of students in the assessment through peer and self-assessment. The interview results also disclosed teachers have favorable beliefs towards cooperative group work assessment. This finding is contradictory with the results of an early case study which showed a disparity between the teachers' insights and strong views they had about cooperative learning and group work assessment (Ross, Rolheiser & Hogaboam-Gray, 1998). In contrary to the finding of the current study, Ross, Rolheiser, and Hogaboam-Gray (1998) found that teachers had beliefs that peer-assessment would crumple the team-building principle of cooperative learning.

Concerning the assessment practices of group work, the results gained from the questionnaire revealed teachers used to assess group processes, group products, and involve students in the assessment. Thus, teachers used to assess group process through peer assessment and provide timely and relevant feedback. Besides, they monitor the respect the students pay each other in their communication as a means to cultivate their social skills. However, the teachers seem to favor the assessment of group product than the process. Concerning the student involvement in the assessment of their learning, teachers claimed they involve students in preparing assessment rubrics, self, and peer-assessment. Conversely, the interview and FGD results revealed that teachers dominantly assess the group product with little consideration of the assessment of group process and individual contribution to the group work. Although teachers were accustomed to asking for group leaders' reports on the contribution of individuals to the group work, they used to grade the group final product and offer the same marks to all on the assumption of equal participation with little or no grading the process and individual contribution in most cases. This finding is harmonious with Le, Janssen, and Wubbels (2018) who divulged the assessment of teachers which were prevalingly centered on group products and gained knowledge of individuals with an infrequent assessment of the collaborative process. The finding of the current study is also congruent with Ross, Rolheiser, and Hogaboam-Gray (1998) that

teachers fell short of offering copious and adequate assessments that could balance individual and group accountability in their group work assessment practices.

With reference to group work assessment tools, the results attained from the questionnaire demonstrated that teachers asserted they applied peer and self-assessment, teacher assessment, monitoring, observations, traditional paper-pencil tests, written group reports, group presentations, and group discussions as assessment tools. Divergently, the finding evidenced teachers rarely use individual reflective diaries, portfolios, interviews, project works, demonstrations, experiments, and debates in their assessment of group work. Nevertheless, the teachers left undecided on the use of individual written reports and individual presentations as tools. The interview and FGD results also confirmed that teachers employ more informal than formal assessment and use very few of them despite the various assessment tools that may be used. This finding is in line with Gillies and Boyle (2010) and Le, Janssen, and Wubbels (2018) which showed that teachers use finger-counted assessment tools in which most were informal assessment modes.

In connection with the association between teachers' beliefs and practices of cooperative group work assessment, the results unveiled that there are direct and significant positive relationships between beliefs and practice scales and their subscales. This shows the more the teachers held positive beliefs towards cooperative group work assessment, the better the possibility of cooperative group work assessment is conducted.

Based on the results, it is reasonable to conclude that teachers have promisingly positive beliefs towards cooperative group work assessment. Teachers' favorable beliefs towards cooperative group work assessment could be a fertile ground for effective assessment practices since beliefs have immense opportunities for influencing teachers' classroom instructional decisions including assessment. Despite teachers' positive beliefs towards cooperative group work assessment, their assessment practices of group work were partial with focus on group product, with little or no attention to the assessment of group process and individual contribution to the group work, and less involvement of students in the assessment. Also, equal marks to all group members regardless of equal contribution have been found an established feature in the assessment attempt of the teachers. On top of this, teachers' have implemented limited and inadequate assessment tools that are directed by informal assessments. Interestingly, the study has shown direct and important connections between beliefs and practices of cooperative group work assessment.

Based on the findings, it will be plausible to forward some recommendations. Stakeholders would be wise to organize on-job training on cooperative group work in general and on the assessment of group work in particular. In addition, teacher education institutions should consider means to in-built cooperative group work assessment in their curricula for their graduates at different levels of teachers' certifications.

This study focused on secondary school teachers selected from five schools at SNNPRS in Ethiopia. Further studies need to be conducted at different educational levels and localities to generalize the findings. Besides, future studies on a similar issue should consider if the participants' sex, educational status, teaching experiences, and fields of study could bring differences in the findings of this study as these variables were not the concern of the current study.

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### **Conflict of interests**

There is no conflict of interest