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DILLA JOURNAL OF EDUCATION

**A PEER REVIEWED BI-ANNUAL JOURNAL OF DILLA
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Articles

Language Learning Strategy Use of Dilla University English Major Students
Belilew Molla Gebre

**Investigating the Understanding of Basic Elementary Geometry Concepts
among Bachelor of Science Graduates in Mathematics Education**
Asnake Muluye Bekele

**Assessing Factors Hindering Females' Participation and the Practice of
Teacher's Strategies in EFL Classrooms: The Case of Grade 11 Students in
Geddeo Zone**
Meretch Shiferaw Kibret & Firew Bogale Edo

**Cooperative Training as a Means of Implementing Dual Training Model for
Sustainable Employment Opportunity in SNNPR, Geddeo Zone**
Mesfin Demissie Ducalie, Mesfin Molla Demissie & Roza Belew Abebe

**Teachers' and Supervisors' Views of Principal Power in Secondary Schools
of Ethiopia**
Mesfin Molla Demissie & Giorgis Chinasho

**Educators' Academic Integrity: The Case of Three Selected Universities in
the Southern Region of Ethiopia**
Habtamu Disasa

Volume 1

Issue 2

October 2022

Message from the Editor-in-Chief

I am pleased to introduce the release of Volume 1, Issue 2 of Dilla Journal of Education, a peer-reviewed bi-annual publication of Dilla University. This issue presents a diverse collection of articles that delve into critical aspects of education within Ethiopia.

On behalf of the editorial board, I invite you to explore the research presented, which examines topics such as language learning strategies used by English major students at Dilla University, the understanding of basic elementary geometry concepts among Bachelor of Science graduates, and factors hindering female participation and teacher strategies in EFL classrooms in the Gedieo Zone. Additionally, this issue discusses cooperative training as a means of implementing a dual training model for sustainable employment opportunities, teachers' and supervisors' views on principal power in secondary schools, and educators' academic integrity at three selected universities in the southern region of Ethiopia.

It is my hope that this issue provides valuable insights, stimulates further discussion, and encourages continued research within the Ethiopian education landscape. I encourage you to engage with these articles and contribute to the ongoing dialogue surrounding educational improvement.

Finally, I extend my sincere gratitude to the authors for contributing their valuable research, to the reviewers for their rigorous and insightful feedback, and to the dedicated members of the editorial team for their tireless efforts in bringing this issue to fruition. Your commitment to scholarly excellence is highly appreciated.

Daniel Gebretsadik (PhD, Associate Professor)
Editor-in-Chief
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Language Learning Strategy Use of Dilla University English Major Students

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Abstract

This study investigated the patterns of language learning strategy (LLS) use among English major students at Dilla University, with particular attention to variations across different achievement levels. The participants were thirty second-year students enrolled in the English program. Adopting a descriptive research design that combined both quantitative and qualitative methods, the study gathered data through Rebecca Oxford's Strategy Inventory for Language Learning (SILL) and a series of follow-up interviews. The quantitative data were analyzed using SPSS version 20, employing descriptive statistics (mean and standard deviation) and inferential tests, including one-way ANOVA and post hoc analyses, to determine group differences. The findings revealed that students with higher academic achievement utilized a broader range and higher frequency of language learning strategies compared to their average- and low-achieving peers. The statistical results also confirmed significant differences among the three groups in their overall use of learning strategies. These outcomes highlight a strong positive relationship between the effective use of language learning strategies and academic success in English language learning.

1 Introduction

In contemporary language education, the ability to learn effectively has become as important as the content being learned. Within second and foreign language contexts, researchers consistently emphasize that learners' strategic behavior plays a crucial role in determining learning outcomes. As noted by scholars such as Griffiths (2013) and Oxford (2017), language learning strategies are not merely supplementary techniques but central mechanisms that shape how learners process, retain, and apply linguistic knowledge.

The global expansion of English has further intensified the need for effective learning practices. English functions as a primary medium for academic communication, access to digital information, professional networking, and international

collaboration. Consequently, it occupies a central position in educational systems worldwide, where it is taught either as a second language or as a foreign language across all instructional levels. In such contexts, learners are required not only to acquire linguistic knowledge but also to develop the capacity to regulate their own learning processes.

A considerable amount of research has been devoted to examining the ways in which learners employ various strategies to facilitate their English language learning. Empirical evidence indicates that students adopt multiple techniques aimed at improving their comprehension, memory retention, communication skills, and self-regulation during the learning process (Khamkhien, 2011; Oxford, 2011). Numerous studies have also focused on determining which specific strategies are most

commonly utilized and how their use varies according to learners' proficiency levels (Foster *et al.*, 2017; Phonhan, 2016; Rardprakhon, 2016). Consistent with these investigations, several scholars have observed that high-achieving learners tend to use language learning strategies more frequently and in more diverse ways than their less proficient counterparts (Al-Qahtani, 2013; Habok & Magyar, 2018; Rao, 2016). However, other studies have reported that the correlation between strategy use and language proficiency is not always statistically significant (Phonhan, 2016; Rardprakhon, 2017). These mixed findings imply that learners' strategy use may depend on a combination of contextual factors, individual learner characteristics, and instructional environments.

Research has also examined which categories of strategies learners prefer. Some studies indicate that cognitive strategies—such as analyzing, practicing, and summarizing—are used more frequently than memory-based techniques (Al-Qahtani, 2013; Charoento, 2017; Bonyadi *et al.*, 2012; Khamkhien, 2011). In contrast, other studies have highlighted the importance of social strategies, reporting either high or relatively low levels of usage depending on the educational setting (Suwanarak, 2015; Tieocharoen & Rimkeeratikul, 2019; Foster *et al.*, 2017). Such variations suggest that language learning strategy use is neither uniform nor universal but shaped by specific instructional, cultural, and motivational contexts.

Within the Ethiopian higher education environment, enrollment in English programs has increased in recent years due to the expanding role of English in employment, academic mobility, and international engagement. Despite this growth, noticeable disparities in academic performance persist among university students majoring in English. At Dilla University, for instance, fluctuations in enrollment and academic achievement have raised concerns. A considerable proportion of students demonstrate performance below expected standards, and some discontinue their studies due to academic challenges. These patterns highlight the need to examine factors beyond curriculum and instruction, including how students approach the learning process itself.

Low academic achievement in English may stem from multiple sources, such as instructional practices, availability of learning materials, assessment systems, teacher preparation, and learner attitudes (Cross, 1995). However, learners' own strategic engagement with language tasks is equally important. Understanding whether high-, average-, and low-achieving students differ in their strategic behavior may provide insight into the mechanisms underlying achievement gaps.

Accordingly, the present study seeks to investigate the language learning strategies employed by English major students at Dilla University and to determine whether differences exist across achievement levels. By examining how learners regulate, monitor, and support their language development, this study aims to contribute to a clearer understanding of the relationship between strategy use and academic performance in an Ethiopian university context. The study addresses the following research questions:

1. Which language learning strategies are most frequently employed by high-, average-, and low-achieving students?
2. Is there a statistically significant difference among high-, average-, and low-achieving students in their use of language learning strategies?

2 Review of Related Literature

Language Learning Strategies: Conceptual Perspectives

Over several decades, language learning strategies (LLS) have attracted sustained scholarly attention within second and foreign language research (Griffiths, 2013; Griffiths & Cansiz, 2015; Habok & Magyar, 2018; Khamkhien, 2011; Macaro, 2006; Oxford, 2011; Wu, 2008). Rather than viewing learners as passive recipients of instruction, contemporary perspectives frame them as active agents who deliberately employ techniques to enhance comprehension, retention, and communication. Within this framework, strategy use is considered a mediating factor between instructional input and language achievement.

Empirical studies consistently suggest that strategic engagement contributes to improved language performance. However, the extent and type of strategies used vary considerably among learners. Researchers have identified multiple variables that shape strategy selection, including proficiency level, duration of language study, academic goals, gender, personality characteristics, learning styles, disciplinary background, aptitude, instructional context, task type, cultural background, emotional factors, and age. This indicates that strategy use is dynamic and context-sensitive rather than fixed or universal.

Strategy Use and Language Proficiency

One of the most debated issues in the literature concerns the relationship between strategy use and proficiency level. A number of investigations report that learners with higher proficiency tend to utilize a broader range of strategies and apply them more systematically (Al-Qahtani, 2013; Gerami & Baighlou, 2011; Giang & Tuan, 2018; Habok & Magyar, 2018). These learners not only report more frequent strategy use (Foster *et al.*, 2017; Gerami & Baighlou, 2011), but also demonstrate more purposeful and contextually appropriate application (Chen, 2009).

Similarly, recent research underscores that effective learners are often characterized by strategic flexibility and conscious regulation of their learning processes (Al-Qahtani, 2013; Charoento, 2017; Rao, 2016; Wu, 2008). In this sense, strategy use appears to function as both a cognitive and metacognitive resource supporting academic success (Habo, 2017).

Nevertheless, not all findings align with this positive association. Some studies report weak or non-significant relationships between strategy frequency and proficiency level (Phonhan, 2016; Rardprakhon, 2016). Such inconsistencies suggest that strategy effectiveness may depend on contextual variables, including instructional quality, learner beliefs, and cultural expectations (Chen, 2009; Gerami & Baighlou, 2011; Giang & Tuan, 2018; Habok & Magyar, 2018). Thus, while a general trend supports a positive relationship, the literature remains nuanced rather than unanimous.

Influence of Educational Context and Culture

Strategy use does not develop in isolation; it is shaped by the educational and sociocultural environments in which learning occurs. Chamot (2004) and Oxford (1989) argue that instructional practices and curriculum design significantly influence how learners approach language tasks. In systems that emphasize competition and individual accountability, learners may gravitate toward independent strategies, whereas collaborative environments may encourage social engagement.

Grainger (2012) further emphasizes that cultural norms affect learners' preferences for certain strategy types. Zhong (2015), for example, documented how two Chinese immigrant learners adjusted their strategy repertoire after exposure to new pedagogical practices in New Zealand. Their beliefs about learning and their strategic behaviors evolved in response to the new educational setting. Additional studies also highlight the socially mediated nature of strategy use (Habok & Magyar, 2018; Hashim *et al.*, 2018; Tieocharoen & Rimkeeratikul, 2019). Collectively, these findings reinforce the view that strategy adoption is contextually embedded and subject to environmental influences.

Motivation and Strategic Learning

Motivation represents another central variable influencing language learning strategies. Learners with stronger motivational orientations generally report higher frequency and diversity of strategy use (Al-Qahtani, 2013). Beyond frequency, motivation also enhances strategic appropriateness by enabling learners to align chosen strategies with long-term learning goals (Oxford, 1990).

Research indicates that motivation and strategy use operate interactively rather than independently (Griffiths, 2013; Kunasaraphan, 2015; Macaro, 2006; Taguchi, 2002). Both intrinsic and extrinsic motivational orientations contribute to persistence, task engagement, and sustained effort. Consequently, strategic behavior may be understood not merely as a cognitive tool but also as a motivationally driven process that supports autonomy and self-regulation. Understanding these interconnections is essential for educators and researchers, as it clarifies how learners translate intention into effective action within EFL contexts.

Oxford's Taxonomy of Language Learning Strategies

Among the various classification systems proposed in the literature, Oxford's (1990) framework remains one of the most widely applied. Her model organizes strategies into two overarching categories: direct and indirect strategies. This taxonomy has gained prominence because it integrates cognitive, affective, and social dimensions of language learning into a coherent structure (Paredes, 2010).

Direct Strategies

Direct strategies involve active manipulation of the target language. They encompass memory, cognitive, and compensation strategies. Memory strategies facilitate retention and retrieval of new linguistic material by forming associations through imagery, grouping, sound patterns, or physical movement (Oxford, 2003). Such techniques enable learners to encode vocabulary and structures in meaningful ways.

Cognitive strategies involve deeper processing activities, such as analyzing, summarizing, reasoning, note-taking, and practicing language forms. These strategies directly engage learners in constructing and restructuring linguistic knowledge. Compensation strategies allow learners to overcome gaps in knowledge. Through guessing meanings from context, paraphrasing, or using alternative expressions, learners maintain communication even when linguistic resources are limited.

Indirect Strategies

Indirect strategies support language learning without directly manipulating linguistic content. They include metacognitive, affective, and social strategies (Oxford, 1990).

Metacognitive strategies involve planning, monitoring, and evaluating one's learning process (Fewell, 2010). Learners employing these strategies set goals, organize study time, seek opportunities for practice, and reflect on their progress. Affective strategies address emotional regulation. Managing anxiety, maintaining confidence, and sustaining motivation are central components of successful language learning (Vlckova *et al.*, 2013). Emotional stability enables learners to participate more actively in communicative situations.

Social strategies facilitate interaction with others. By asking for clarification, requesting feedback, or engaging in collaborative practice, learners enhance both comprehension and communicative competence (Canale, 1983; Paredes, 2010). Although definitions of LLS vary across researchers, most agree that strategic engagement promotes learner autonomy and self-direction (Vandergrift, 2002; Paredes, 2010).

The Strategy Inventory for Language Learning (SILL)

Oxford's Strategy Inventory for Language Learning (SILL) has become one of the most extensively used instruments for measuring strategy use. Ellis (1994) describes it as one of the most comprehensive tools available for large-scale data collection. Numerous studies have employed SILL across diverse cultural and educational contexts (Green & Oxford, 1995; Wharton, 2000; Hsiao & Oxford, 2002; Lan & Oxford, 2003).

The instrument has been translated into multiple languages and applied to investigate relationships between strategy use and variables such as gender, proficiency level, learning styles, cultural background, and years of language study (Green & Oxford, 1995; Wharton, 2000). Its structured format allows for systematic comparison across groups while maintaining internal consistency.

Given its theoretical grounding and empirical validation, SILL provides a reliable framework for examining how learners deploy different categories of strategies. For the present study, its comprehensive classification system offers an appropriate basis for analyzing variations in strategy use across achievement levels.

3 Methodology

3.1 Research Design

Quantitative data were coded and entered into SPSS version 20 for statistical analysis. Descriptive statistics (means and standard deviations) were computed to determine the overall frequency of strategy use across categories. To identify differences among high-, average-, and low-achieving groups, one-way analysis of variance (ANOVA) was conducted. Where significant differences emerged, post hoc

comparisons were applied to determine specific group contrasts. Qualitative interview responses were analyzed thematically. Emerging themes were compared with the quantitative findings to identify convergence or divergence in reported strategy use patterns (Griffiths, 2013; Oxford, 2011).

3.2 Target Population and sampling

This study, conducted at Dilla University, sought to investigate the strategies employed by high, average, and low achievers. Just like the setting, the subjects were purposefully selected by the researcher because the present investigator assumed that the students had better awareness of language learning strategies than freshmen at the university. The total population that took part in this study was thirty EFL students, based on a comprehensive sampling technique.

All participants in this study were first-degree learners. High, average, and low achievers were identified among these participants based on their three semester cumulative results. Students who managed to score between 2 and 2.5 points in their English language learning were considered low achievers, and the students whose grade ranged from 2.5 to 3.00 points were called average achievers in this study. The high achievers are the ones who were able to achieve a 3.0 or higher GPA in their English language learning. The ages of these students ranged from 19 to 22 years old. Participants have nearly the same year of English learning experience. They studied English beginning in primary school and progressing through tertiary school. All participants in this study neither entered language schools nor lived in English-speaking countries.

3.3 Data Gathering Instruments

Two research instruments were employed in this study to gain the required information from the respondents and assess their strategy use. These were a self-report questionnaire for ESL/EFL learners (SILL) and a semi-structured interview.

The self-report questionnaire (SILL):

Data were collected using the Strategy Inventory for Language Learning (SILL) developed by Rebecca L. Oxford (1990). The SILL is one of the most widely utilized instruments for assessing lan-

guage learning strategies and has been applied extensively in international research contexts (Ellis, 1994; Green & Oxford, 1995; Hsiao & Oxford, 2002; Lan & Oxford, 2003; Wharton, 2000).

The instrument contains 50 items categorized into six strategy groups: memory, cognitive, compensation, metacognitive, affective, and social strategies (Oxford, 1990). Respondents indicate the frequency of their strategy use on a five-point Likert scale ranging from 1 (“never true of me”) to 5 (“always true of me”). Previous research has reported satisfactory reliability and validity across diverse linguistic and cultural settings (Ellis, 1994; Green & Oxford, 1995).

Interview:

A semi-structured interview was used in order to substantiate the information gained via the questionnaire. To obtain detailed information from subjects, the researcher conducted semi-structured interviews. By the same token, it permits a free response. Since the purpose of this interview was to supplement the data collected through the self-report questionnaire, it was designed on the basis of the questionnaire. For this reason, the contents of the interview were almost identical to the contents of the questionnaire. Three students from each of the three groups, low, average, and high achievers, were purposefully chosen for the interview.

3.4 Data analysis techniques

Quantitative data were coded and entered into SPSS version 20 for statistical analysis. Descriptive statistics (means and standard deviations) were computed to determine the overall frequency of strategy use across categories. To identify differences among high-, average-, and low-achieving groups, one-way analysis of variance (ANOVA) was conducted. Where significant differences emerged, post hoc comparisons were applied to determine specific group contrasts.

Qualitative interview responses were analyzed thematically. Emerging themes were compared with the quantitative findings to identify convergence or divergence in reported strategy use patterns (Griffiths, 2013; Oxford, 2011).

4 Results and Discussions

Table 1: Metacognitive Strategy use

Achievement		Metacognitive Strategy 1	MetaStrg 2	MetaStrg3	MetaStrg 4	MetaStrg 5	MetaStrg 6	MetaStrg 7	MetaStrg 8	MetaStrg 9	MetaStrg 10
Low	Mean	2.12	2.53	2.88	2.76	2.65	2.94	2.47	2.53	2.65	2.88
	SD	.781	1.281	1.269	1.348	1.222	1.298	1.281	1.231	.931	1.317
	Skewness	-.219	.432	.039	.658	.079	-.073	.378	-.077	.828	.057
	N	17	17	17	17	17	17	17	17	17	17
Medium	Mean	2.71	3.14	3.86	4.43	2.86	2.86	3.00	3.43	2.43	3.43
	SD	.951	1.464	1.215	.787	.900	1.464	1.000	1.272	1.813	.976
	Skewness	-.863	.109	-.414	-1.115	.353	-.109	-1.400	.222	.983	.277
	N	7	7	7	7	7	7	7	7	7	7
High	Mean	3.67	3.33	4.17	4.50	4.67	3.83	4.00	4.33	4.33	4.00
	SD	.816	1.211	1.169	.548	.516	.983	1.549	1.211	1.033	1.549
	Skewness	.857	.075	-1.586	.000	-.968	-1.438	-.968	-1.952	-.968	-1.936
	N	6	6	6	6	6	6	6	6	6	6
Total	Mean	2.57	2.83	3.37	3.50	3.10	3.10	2.90	3.10	2.93	3.23
	SD	1.006	1.315	1.326	1.383	1.296	1.296	1.373	1.398	1.363	1.331
	Skewness	.131	.231	-.262	-.335	-.096	-.299	.106	-.109	.391	-.272
	N	30	30	30	30	30	30	30	30	30	30

Items 1 to 10 were constructed to assess how often students with high, average, and low achievement levels used metacognitive strategies when facing difficulties in learning English. Among the low-achieving group, the reported mean frequency ranged from 2.21 to 2.94. The least utilized strategy was Item 1 (“When I cannot remember an English word, I replace it with another word or phrase of similar meaning”), whereas Item 6 (“I seek as many opportunities as I can to practice my English”) was the most frequently employed.

Other strategies that appeared relatively common among this group included Item 2 with a mean of 2.53 (“If I forget a word during conversation, I use gestures to express it”), Item 8 with a mean of 3.00 (“I set specific goals to develop my English skills”), and Item 10 with a mean of 2.88 (“I regularly think about my progress in learning English”). These results classify low achievers as moderate users of learning strategies. According to Rebecca Oxford (1990), such learners could benefit from targeted instruction aimed at improving their strategy use.

For average achievers, the mean frequency of metacognitive strategy use ranged between 2.43 and 4.43. Their most frequently used strategy was Item 4 (“I try to learn how to become a more effective English learner”), which had a mean score of 4.43, while their least used strategy was Item 8 (“I set clear goals for improving my English skills”) with a mean of 2.43. The mean scores for Items 1, 2, 5, 6, 7, and 9 were 2.71, 3.14, 2.86, 3.00, and 2.43, respectively. These findings show that average achievers, like the low-achieving group, are moderate users of metacognitive strategies, suggesting that strategy-focused guidance could further enhance their learning. This group notably made

frequent use of Items 3 and 4, with mean scores of 3.86 and 4.43, respectively.

High achievers, on the other hand, reported mean scores ranging from 3.23 to 4.67. The least frequently practiced strategy was Item 10 (“I reflect on my progress in learning English”), with a mean of 3.23, while the most frequently used was Item 5 (“I monitor my English mistakes and use them for improvement”) with a mean of 4.67. The mean values for Items 1, 3, 5, 6, 7, 8, and 9 were 3.67, 3.86, 4.50, 4.67, 3.83, 4.00, 4.33, and 4.33, respectively. Overall, these results indicate that high achievers employ metacognitive strategies more consistently and effectively than both average and low achievers.

Table 2: Cognitive Strategy use

Achievement		Cogntv Strg 11	Cogntv Strg 12	Cogntv Strg 13	Cogntv Strg 14	Cogntv Strg 15	Cogntv Strg 16	Cogntv Strg 17	Cogntv Strg 18	Cogntv Strg 19	Cogntv Strg 20	Cogntv Strg 21
Low	Mean	2.35	2.29	2.41	2.82	2.71	2.82	2.59	3.00	2.65	2.59	2.65
	SD	.996	1.105	.870	1.468	1.047	1.074	1.004	1.369	1.115	1.004	.996
	Skewness	.031	.280	.306	.344	-.809	.392	.147	-.166	.501	-.273	1.258
	N	17	17	17	17	17	17	17	17	17	17	17
Medium	Mean	2.57	2.86	2.71	2.71	2.57	3.71	3.57	2.57	2.71	2.86	2.71
	SD	1.397	.900	1.254	.951	1.272	1.113	1.272	1.512	1.113	1.215	1.254
	Skewness	1.079	-1.569	.740	-.863	-.222	-.249	-.222	.620	-.249	1.147	1.450
	N	7	7	7	7	7	7	7	7	7	7	7
High	Mean	3.67	4.50	4.50	4.33	3.67	4.17	3.83	4.50	4.50	4.67	4.83
	SD	1.506	.548	.837	.816	1.751	1.169	.753	.548	.837	.516	.408
	Skewness	-1.270	.000	-1.537	-.857	-.919	-1.586	.313	.000	-1.537	-.968	-2.449
	N	6	6	6	6	6	6	6	6	6	6	6
Total	Mean	2.67	2.87	2.90	3.10	2.87	3.30	3.07	3.20	3.03	3.07	3.10
	SD	1.269	1.279	1.242	1.373	1.279	1.208	1.143	1.424	1.273	1.258	1.296
	Skewness	.358	-.052	.433	-.021	-.158	.003	.010	-.301	.149	.089	.515
	N	30	30	30	30	30	30	30	30	30	30	30

Items 11 to 21 were designed to assess how frequently high-, average-, and low-achieving students applied cognitive strategies in learning English.

For low achievers, the reported frequency ranged from 2.29 to 3.00. The least used strategy was Item 12 (“I skim through an English passage quickly before reading it carefully”), while the most frequently applied was Item 18 (“I repeat or write new English words several times”).

Other strategies used relatively often by this group were Item 14 with a mean of 2.00, Item 16 with 2.82, and Item 15 with 2.71, all ranking just below Item 18 with 3.00. Overall, these results suggest that low achievers are weak users of cognitive strategies.

As Oxford (1990) points out, such students require substantial training in strategy use to strengthen their English learning ability.

Among average achievers, the use of cognitive strategies ranged from 2.57 to 3.71. Their most preferred strategy was Item 15 with a mean of 3.71 (“I watch TV programs or movies in English”), while the least employed was Item 17 with 2.57 (“I repeat or write new English words several times”). Items 13, 19, and 21 each had a mean of 2.71, whereas Items 16 and 18 showed higher use, each with 3.57. These findings place average achievers in the category of medium to high users of cognitive strategies.

For high achievers, the frequency of cognitive strategy use fell between 3.67 and 4.83. The most frequently used strategy was Item 21 with a mean of 4.83 (“I initiate conversations in English”). In contrast, strategies such as Item 11 (“I read English for pleasure”), Item 15 (“I try to speak like a native English speaker”), and Item 20 (“I summarize what I hear or read in English”) were applied less frequently compared to others. The overall pattern indicates that high achievers are strong users of cognitive strategies.

Interview findings further supported these results. High achievers reported that they frequently employ

strategies such as watching English-language films and TV programs, reading for enjoyment, practicing English regularly, summarizing information from texts and audio, and reinforcing vocabulary by repeating or writing new words. They also mentioned engaging in practical writing activities like composing messages or letters in English. Most of them explained that they learn new vocabulary through contextual clues, though they sometimes rely on dictionaries or peers to clarify unfamiliar words. These qualitative findings align with the questionnaire results, confirming that high achievers demonstrate consistent and effective use of cognitive strategies.

Table 3: Memory Strategy use

Achievement		Memory Strg 22	Memory Strg 23	Memory Strg 24	Memory Strg 25	Memory Strg 26	Memory Strg 27	Memory Strg 28
Low	Mean	2.35	2.41	2.82	2.76	2.59	2.29	2.24
	SD	1.115	.870	.883	.970	.870	1.047	.970
	Skewness	.113	.306	-.237	.066	.339	.439	.399
	N	17	17	17	17	17	17	17
Medium	Mean	2.29	2.43	2.71	2.71	3.00	3.43	3.14
	SD	.951	1.134	.951	1.496	1.155	1.618	1.773
	Skewness	.863	-.235	-.863	.256	-.909	-.317	-.297
	N	7	7	7	7	7	7	7
High	Mean	3.67	3.17	3.00	3.50	3.50	4.50	4.17
	SD	1.366	.983	1.673	1.225	.837	1.225	.753
	Skewness	-.523	-.456	.384	.490	-1.537	-2.449	-.313
	N	6	6	6	6	6	6	6
Total	Mean	2.60	2.57	2.83	2.90	2.87	3.00	2.83
	SD	1.221	.971	1.053	1.155	.973	1.486	1.367
	Skewness	.361	.041	.165	.207	-.198	.203	.148
	N	30	30	30	30	30	30	30

Items 22 to 28 focused on examining the extent to which students of varying achievement levels—high, average, and low—utilized memory strategies to retain English language content.

For the low-achieving group, reported mean scores ranged from 2.24 to 2.82. The strategy least employed was Item 28 (“I use new English words in sentences to help me remember them”), whereas Item 24 (“I form a mental image of a context where a new English word could be used”) was the most frequently practiced. Strategies such as Item 27

(mean = 2.29) and Item 22 (mean = 2.35) appeared less common, while Item 25 (“I try to remember new words or expressions by recalling where I saw them—on a page, board, or sign,” mean = 2.71) and Item 26 (“I make guesses about unfamiliar English words to understand their meaning,” mean = 2.59) were somewhat more frequently used following Item 24. Overall, the results indicate that low achievers are relatively weak in applying memory-based learning strategies.

Among average achievers, mean scores for memory

strategy use ranged between 2.29 and 3.43. The most commonly employed approach was Item 27 (“I associate the sound of a new English word with an image or picture to aid recall”) with a mean of 3.43, while the least utilized was Item 22 (“I review my English lessons regularly”) with a mean of 2.29. In general, the results suggest that average achievers’ memory strategy patterns resemble those of their low-achieving peers, showing only minor differences in frequency and preference.

For high achievers, the use of memory strategies ranged from 3.00 to 4.50. Their most favored strategy was again Item 27 (“I connect the sound of a new word with an image or picture to make it easier to remember”) with a mean score of 4.50. In contrast, Item 23 (“I link new information learned in English to what I already know,” mean = 3.17) and Item 24 (“I visualize a situation where the new word could be used,” mean = 3.00) were the least practiced. Collectively, these findings reveal that high achievers rely on memory strategies more effectively and consistently than students in the other

two groups.

The interview findings supported these quantitative results. High achievers reported using a wide range of techniques to aid memory, such as reviewing lessons regularly, forming mental pictures of situations in which new words might appear, relating new knowledge to prior knowledge, incorporating new words into sentences, recalling words based on their location on a page, sign, or board, and even writing new vocabulary on paper or their hands to review while walking or sitting.

In contrast, the average achievers interviewed mentioned applying only a few strategies, such as associating word sounds with images, reflecting on what they had been taught, and reviewing lessons periodically. Low achievers, however, admitted that they seldom used deliberate strategies for memorization. Both the statistical analysis and interview responses confirmed that high achievers clearly outperformed average and low achievers in the effective use of memory strategies.

Table 4: Social Strategy use

Achievement		Social Strg 30	Social Strg 31	Social Strg 32	Social Strg 33	Social Strg 34
Low	Mean	2.18	2.82	2.47	2.76	2.24
	SD	1.074	1.131	1.179	1.033	1.200
	Skewness	.293	.388	.469	.146	.962
	N	17	17	17	17	17
Medium	Mean	2.14	2.71	3.86	2.71	3.00
	SD	1.215	1.113	1.215	1.496	1.155
	Skewness	.414	1.784	-.414	.256	.909
	N	7	7	7	7	7
High	Mean	4.83	5.00	5.00	4.17	4.17
	SD	.408	.000	.000	1.169	1.169
	Skewness	-2.449	.	.	-1.586	-1.586
	N	6	6	6	6	6
Total	Mean	2.70	3.23	3.30	3.03	2.80
	SD	1.466	1.331	1.466	1.273	1.375
	Skewness	.280	.198	-.139	.041	.386
	N	30	30	30	30	30

Items 30 to 34 were designed to attain data on how frequently high, average, and low achievers employ social strategies to accelerate their progress in English. The result revealed that the frequency

of social strategy use for low achievers ranges from 2.18 to 2.82. Item 31: "If I do not understand something in English, I ask the other person to slow down or say it again." was the most frequently used

strategy, and Item 30: "I try to learn about the culture of English speakers." was the least frequently used strategy.

Average learners' social strategy use ranges from 2.14–3.86. The most frequently used social strategy for average achievers is Item 32, with a mean score of 3.86 ("I ask questions in English"), and the least frequently used strategy was Item 30, with a mean score of 2.14 ("I try to learn about the culture of English speakers"). The data revealed that average achievers' use of social strategies was not different from that of low achievers.

The frequency of social strategy use for high achievers ranges from 4.17–5.00. Item 31 and 32 received a 5.00 mean score. "If I do not understand something in English, I ask the other person to slow down or say it again" and "I ask questions in English" were the most frequently used social strategies used by high achievers. However, Item 33, with a mean score of 4.17, "I ask English speakers to correct me when I talk," and Item 34, with a mean score of 4.17, "I practice English with other students," were the least frequently used social strategies, though the range is high for strategy usage.

Table 5: Compensation Strategies use

Achievement		Compensation Strategy 35	Compensation Strategy 36	Compensation Strategy 37
Low	Mean	2.47	2.47	2.00
	SD	.943	1.007	1.000
	Skewness	-.158	.091	.425
	N	17	17	17
Medium	Mean	2.57	2.71	2.43
	SD	.787	1.604	1.272
	Skewness	1.115	.305	1.581
	N	7	7	7
High	Mean	3.67	4.33	4.33
	SD	1.211	1.211	.516
	Skewness	-.075	-1.952	.968
	N	6	6	6
Total	Mean	2.73	2.90	2.57
	SD	1.048	1.373	1.331
	Skewness	.387	.192	.411
	N	30	30	30

Items 35 to 37 were intended to gather information on how often students at different achievement levels—high, average, and low—used compensation strategies to enhance their English learning progress. The findings showed that low achievers reported using such strategies with mean scores ranging from 2.00 to 2.47. The least practiced strategy was Item 37 ("When I do not know the correct English word, I invent one"), while Items 35 ("I try to predict what the other person will say next in English") and 36 ("I read English texts without checking every unfamiliar word") were the most frequently used, each with a mean of 2.47. However, even these mean values indicate a generally

low level of compensation strategy use among this group.

For average achievers, the reported range of strategy use was between 2.43 and 2.71. The most often applied strategy was Item 36 ("I read English without consulting a dictionary for every new word") with a mean of 2.71, whereas the least utilized was Item 37 ("I create new words when I do not know the correct ones in English") with a mean of 2.43. These results suggest that the pattern of compensation strategy use among average achievers closely mirrors that of low achievers, with minimal variation in frequency or approach.

In contrast, high achievers reported a noticeably higher frequency of compensation strategy use, with mean values ranging from 3.67 to 4.33. Items 36 and 37—"I read English without looking up every new word" and "I make up new words if I do not know the correct ones"—both received mean scores of 4.33, making them the most frequently used strategies. Item 35 ("I attempt to guess what the speaker will say next in English"), with a mean of 3.67, was the least used among this group, though it still reflects a relatively high level of strategic

engagement compared to the other groups.

Interview findings further supported these quantitative results. High achievers were able to mention several compensation strategies they employed, including the use of gestures, synonyms, and paraphrasing, among others. Conversely, both average and low achievers identified far fewer strategies. This indicates that more proficient learners tend to employ a broader and more effective range of compensation strategies than their less successful peers.

Table 6: Affective Strategy use

Achievement		Affective Strategy 38	Affective Strategy 39	Affective Strategy 40
Low	Mean	2.24	2.47	2.41
	SD	1.251	.943	1.064
	Skewness	.798	-.158	.084
	N	17	17	17
Medium	Mean	2.71	3.00	3.57
	SD	1.496	.816	1.134
	Skewness	.256	.000	-.725
	N	7	7	7
High	Mean	3.33	4.50	3.50
	SD	1.211	.548	1.225
	Skewness	.075	.000	-.490
	N	6	6	6
Total	Mean	2.57	3.00	2.90
	SD	1.331	1.145	1.213
	Skewness	.411	.000	-.045
	N	30	30	30

Items 38–40 were set up to collect data on how frequently the target population of this study applies affective strategies. The result revealed that the frequency of affective strategy usage for low achievers ranges from 2.24 to 2.47. Item 38, "I try to relax whenever I feel afraid of using English," was the least frequently used affective strategy, and Item 39, with a mean score of 2.47, "I notice if I am tense or nervous when I am studying or using English," was the most frequently used strategy, though the mean score was very close to low strategy usage.

Average learners' affective strategy usage ranges from 2.71 to 3.57. The most frequently used af-

factive strategy for average achievers is Item 40, with a mean score of 3.57. "I give myself a reward or treat when I do well in English" was the most frequently used strategy. However, Item 38, with a mean score of 2.71, "I try to relax whenever I feel afraid of using English," was the least used affective strategy.

The frequency of affective strategy usage for high achievers ranges from 3.33 to 4.50. item with a mean score of 4.50 "I notice if I am tense or nervous when I am studying or using English." was the most frequently used affective strategy used by high achievers. However, Item 38, with a mean

score of 3.33, "I try to relax whenever I feel afraid of using English," was the least frequently used affective strategy, which is in the category of medium strategy usage.

The findings from the interview also support the results from the questionnaire. Respondents in the interview were asked to describe the types of language learning strategies they often utilize to control their anxiety when they speak in front of people, such as during presentations. In this regard, according to the high achievers in the interview, recognizing their anxiety, encouraging themselves, talking to someone else about their feelings, and trying to relax during using English are the four

types of strategies that they mostly use to reduce their negative feelings when using English.

One average performer in the interview responded that she usually tries to think about her strong side when using English. The other respondent said that she sometimes tries to relax while using English. Low achievers reported that listening to music or religious songs, sharing their feelings, and praying to their creator are three types of strategies they frequently use by the time they have an English presentation. This demonstrates the superiority of the high achievers over the average achievers, as well as the low achievers, in applying affective strategies.

Table 7: Descriptive Statistics for Summated Variables

Main Variables Vs Achievement		N	Mean	SD	Std. Error	95% CI for Mean		Min.	Max.
						Lower Bound	Upper Bound		
Metacognitive strategies	Low	17	2.6412	.80550	.19536	2.2270	3.0553	1.20	3.90
	Medium	7	3.2143	.28536	.10785	2.9504	3.4782	2.90	3.70
	High	6	4.0833	.44460	.18151	3.6168	4.5499	3.50	4.60
	Total	30	3.0633	.85681	.15643	2.7434	3.3833	1.20	4.60
Cognitive strategies	Low	17	2.6257	.69076	.16753	2.2705	2.9808	1.45	3.73
	Medium	7	2.8701	.54761	.20698	2.3637	3.3766	2.00	3.64
	High	6	4.2879	.43186	.17631	3.8347	4.7411	3.64	4.64
	Total	30	3.0152	.88690	.16193	2.6840	3.3463	1.45	4.64
Memory strategies	Low	17	2.4958	.57169	.13866	2.2019	2.7897	1.43	3.43
	Medium	7	2.8163	.86392	.32653	2.0173	3.6153	1.57	4.00
	High	6	3.6429	.54772	.22361	3.0681	4.2177	3.00	4.29
	Total	30	2.8000	.76665	.13997	2.5137	3.0863	1.43	4.29
Social strategies	Low	17	2.4941	.87783	.21291	2.0428	2.9455	1.00	4.60
	Medium	7	2.8857	1.02539	.38756	1.9374	3.8340	1.60	4.40
	High	6	4.6333	.29439	.12019	4.3244	4.9423	4.40	5.00
	Total	30	3.0133	1.16729	.21312	2.5775	3.4492	1.00	5.00
Compensation strategies	Low	17	2.3137	.69192	.16782	1.9580	2.6695	1.00	3.33
	Medium	7	2.5714	1.08379	.40963	1.5691	3.5738	1.67	4.67
	High	6	4.1111	.17213	.07027	3.9305	4.2918	4.00	4.33
	Total	30	2.7333	1.00725	.18390	2.3572	3.1094	1.00	4.67
Affective strategies	Low	17	2.3725	.78954	.19149	1.9666	2.7785	1.00	4.33
	Medium	7	3.0952	.46004	.17388	2.6698	3.5207	2.67	4.00
	High	6	3.7778	.68853	.28109	3.0552	4.5003	3.00	4.67
	Total	30	2.8222	.89157	.16278	2.4893	3.1551	1.00	4.67

Table 7 presents a summary of descriptive statistics, including the mean, standard deviation, and 95% confidence intervals for the dependent variables—metacognitive, cognitive, memory, social, compensation, and affective strategies—across the three achievement groups (high, average, and low) as well as for the combined total. These statistical values provide a clear overview of how each group performed in terms of strategy use.

The average score for metacognitive strategy use was 4.08 for high achievers, 3.21 for average achievers, and 2.64 for low achievers. This demonstrates that students with higher achievement levels tend to employ metacognitive strategies more often, followed by average and then low achievers. Therefore, it can be inferred that there are distinct levels of usage across the groups—high, medium, and low, respectively.

With respect to cognitive strategies, the mean scores were 4.29 for high achievers, 2.87 for average achievers, and 2.63 for low achievers. These results indicate that high achievers make far greater use of cognitive learning strategies than either of the other two groups. Hence, high achievers show strong engagement with cognitive strategies, while average and low achievers demonstrate comparatively limited use.

The mean values for memory strategies were 3.64, 2.82, and 2.50 for high-, average-, and low-achieving students, respectively. This pattern suggests that high achievers make moderate use of memory-based strategies, whereas both average and low achievers exhibit minimal application of such strategies in their learning process.

For social strategies, the mean scores recorded were 4.63 for high achievers, 2.89 for average achievers, and 2.49 for low achievers. This implies that high achievers actively engage in socially oriented strategies—such as interacting with peers or teachers to improve language skills—more frequently than students in the other groups. Thus, social strategy use appears to be highest among high achievers but low among average and low performers.

In terms of compensation strategies, high achievers scored an average of 4.11, while average and

low achievers scored 2.57 and 2.31, respectively. These figures reveal that high achievers rely on compensatory methods, such as guessing or using alternative expressions, more effectively and frequently than the other two groups.

Regarding affective strategies, the mean scores were 3.78 for high achievers, 3.10 for average achievers, and 2.37 for low achievers. This trend shows that high achievers surpass the others in using affective strategies to manage their emotions and motivation, while average achievers also engage in such practices more than low achievers. Overall, affective strategy use is moderate among high and average achievers but limited among low achievers.

When ranking the six categories of learning strategies based on their mean values:

For high-achieving learners, the order is as follows:

1. Social strategies ($\bar{x} = 4.63$, $SD = 0.29$),
2. Memory strategies ($\bar{x} = 4.63$, $SD = 0.29$),
3. Cognitive strategies ($\bar{x} = 4.29$, $SD = 0.43$),
4. Compensation strategies ($\bar{x} = 4.11$, $SD = 0.17$),
5. Metacognitive strategies ($\bar{x} = 4.08$, $SD = 0.44$),
6. Affective strategies ($\bar{x} = 3.78$, $SD = 0.69$).

Based on these findings, social strategies—classified under indirect learning strategies in Rebecca Oxford's framework—appear to be the most frequently employed by high achievers. Conversely, metacognitive and affective strategies are the least used, suggesting that top-performing learners tend to favor direct over indirect language learning strategies.

For average-achieving learners, the rank order is:

1. Metacognitive strategies ($\bar{x} = 3.214$, $SD = 0.285$),
2. Affective strategies ($\bar{x} = 3.095$, $SD = 0.460$),
3. Social strategies ($\bar{x} = 2.886$, $SD = 1.025$),
4. Cognitive strategies ($\bar{x} = 2.870$, $SD = 0.547$),
5. Memory strategies ($\bar{x} = 2.819$, $SD = 0.863$),
6. Compensation strategies ($\bar{x} = 2.571$, $SD = 1.083$).

This ranking suggests that the strategy use of average achievers is moderate overall. Interestingly,

these students rely more heavily on indirect strategies (metacognitive, social, and affective) than on direct ones (memory, cognitive, and compensation), contrasting with the pattern observed among high achievers.

For low-achieving learners, the order of strategy use is:

1. Metacognitive strategies ($\bar{x} = 2.641$, $SD = 0.805$),
2. Cognitive strategies ($\bar{x} = 2.626$, $SD = 0.690$),
3. Memory strategies ($\bar{x} = 2.496$, $SD = 0.571$),
4. Social strategies ($\bar{x} = 2.494$, $SD = 0.877$),
5. Affective strategies ($\bar{x} = 2.373$, $SD = 0.789$),

6. Compensation strategies ($\bar{x} = 2.314$, $SD = 0.691$).

The overall pattern reveals that low achievers demonstrate minimal engagement with language learning strategies in general, using them far less frequently and less effectively than their higher-achieving counterparts.

In summary, the results from Table 7 highlight a consistent pattern: high achievers employ a wider and more effective range of learning strategies, particularly social and cognitive, while average achievers demonstrate moderate use and low achievers exhibit limited strategy engagement.

Table 8: ANOVA Table

Variables		Sum of Squares	df	Mean Square	F	Sig.
Metacognitive strategies	Between Groups	9.432	2	4.716	10.738	.000
	Within Groups	11.858	27	.439		
	Total	21.290	29			
Cognitive strategies	Between Groups	12.445	2	6.223	16.207	.000
	Within Groups	10.366	27	.384		
	Total	22.811	29			
Memory strategies	Between Groups	5.837	2	2.919	7.032	.003
	Within Groups	11.207	27	.415		
	Total	17.045	29			
Social strategies	Between Groups	20.443	2	10.222	14.471	.000
	Within Groups	19.071	27	.706		
	Total	39.515	29			
Compensation strategies	Between Groups	14.566	2	7.283	13.237	.000
	Within Groups	14.856	27	.550		
	Total	29.422	29			
Affective strategies	Between Groups	9.438	2	4.719	9.359	.001
	Within Groups	13.614	27	.504		
	Total	23.052	29			

Table 8 shows the output of the ANOVA analysis and whether there is a statistically significant difference among our group means. We can see that the significance value for metacognitive strategies is 0.000 ($F(2, 29) = 10.738$, $p = 0.000$), the significance value for cognitive strategies is 0.000 ($F(2, 29) = 16.207$, $p = 0.000$), the significance value for memory strategies is 0.003 ($F(2, 29) = 7.032$, $p = 0.003$), the significance value for social

strategies is 0.000 ($F(2, 29) = 14.471$, $p = 0.000$), the significance value for compensation strategies is 0.000 ($F(2, 29) = 13.237$, $p = 0.000$), and the significance value for affective strategies is 0.001 ($F(2, 29) = 9.359$, $p = 0.001$). The result revealed that there is a statistically significant difference in the mean of all six constructs of language learning strategy use among the three ability groups.

In order to identify the specific groups that differed, the post hoc test was used. The multiple comparisons depict which groups differed from each other.

Table 9: Multiple Comparisons

Dependent Variable	(I) Achievement	(J) Achievement	Mean Difference (I-J)	Std. Error	Sig.	95% CI	
						Lower Bound	Upper Bound
Metacognitive strategies	Low	Medium	-.57311	.29762	.065	-1.1838	.0376
		High	-1.44216*	.31469	.000	-2.0879	-.7965
	Medium	Low	.57311	.29762	.065	-.0376	1.1838
		High	-.86905*	.36870	.026	-1.6256	-.1125
	High	Low	1.44216*	.31469	.000	.7965	2.0879
		Medium	.86905*	.36870	.026	.1125	1.6256
Cognitive strategies	Low	Medium	-.24446	.27827	.387	-.8154	.3265
		High	-1.66221*	.29423	.000	-2.2659	-1.0585
	Medium	Low	.24446	.27827	.387	-.3265	.8154
		High	-1.41775*	.34473	.000	-2.1251	-.7104
	High	Low	1.66221*	.29423	.000	1.0585	2.2659
		Medium	1.41775*	.34473	.000	.7104	2.1251
Memory strategies	Low	Medium	-.32053	.28934	.278	-.9142	.2731
		High	-1.14706*	.30594	.001	-1.7748	-.5193
	Medium	Low	.32053	.28934	.278	-.2731	.9142
		High	-.82653*	.35844	.029	-1.5620	-.0911
	High	Low	1.14706*	.30594	.001	.5193	1.7748
		Medium	.82653*	.35844	.029	.0911	1.5620
Social strategies	Low	Medium	-.39160	.37743	.309	-1.1660	.3828
		High	-2.13922*	.39909	.000	-2.9581	-1.3203
	Medium	Low	.39160	.37743	.309	-.3828	1.1660
		High	-1.74762*	.46758	.001	-2.7070	-.7882
	High	Low	2.13922*	.39909	.000	1.3203	2.9581
		Medium	1.74762*	.46758	.001	.7882	2.7070
Compensation strategies	Low	Medium	-.25770	.33312	.446	-.9412	.4258
		High	-1.79739*	.35223	.000	-2.5201	-1.0747
	Medium	Low	.25770	.33312	.446	-.4258	.9412
		High	-1.53968*	.41268	.001	-2.3864	-.6929
	High	Low	1.79739*	.35223	.000	1.0747	2.5201
		Medium	1.53968*	.41268	.001	.6929	2.3864
Affective strategies	Low	Medium	-.72269*	.31889	.032	-1.3770	-.0684
		High	-1.40523*	.33719	.000	-2.0971	-.7134
	Medium	Low	.72269*	.31889	.032	.0684	1.3770
		High	-.68254	.39506	.095	-1.4931	.1280
	High	Low	1.40523*	.33719	.000	.7134	2.0971
		Medium	.68254	.39506	.095	-.1280	1.4931

*The mean difference is significant at the 0.05 level.

The results summarized in Table 9 indicate that the use of metacognitive learning strategies differed significantly across the three achievement groups, as confirmed by a one-way ANOVA ($F(2, 29) = 10.738, p < 0.001$). Post hoc comparisons using the LSD test revealed that high achievers scored significantly higher than both low achievers (mean difference = 1.442, $SE = 0.314, p < 0.001$) and average achievers (mean difference = 0.869, $SE = 0.368, p = 0.026$). However, no significant difference was found between the average and low achievers ($p = 0.065$).

For cognitive learning strategies, the ANOVA results also revealed a statistically significant group difference ($F(2, 29) = 16.207, p < 0.001$). The LSD post hoc analysis showed that high achievers outperformed both low achievers (mean difference = 1.662, $SE = 0.294, p < 0.001$) and average achievers (mean difference = 1.417, $SE = 0.344, p < 0.001$). On the other hand, the difference between average and low achievers was not statistically significant ($p = 0.387$).

A similar pattern emerged for memory learning strategies, where the one-way ANOVA showed a significant variation among groups ($F(2, 29) = 7.032, p = 0.003$). The LSD post hoc test confirmed that high achievers used memory strategies significantly more often than both low achievers (mean difference = 1.147, $SE = 0.305, p = 0.001$) and average achievers (mean difference = 0.826, $SE = 0.358, p = 0.029$). Nonetheless, the difference between the average and low achievers was statistically non-significant ($p = 0.278$).

For social learning strategies, the analysis demonstrated a significant group effect ($F(2, 29) = 14.471, p < 0.001$). The LSD test revealed that high achievers were statistically higher in their use of these strategies compared to low achievers (mean difference = 2.139, $SE = 0.399, p < 0.001$) and average achievers (mean difference = 1.747, $SE = 0.467, p = 0.001$). The comparison between average and low achievers, however, did not show a significant difference ($p = 0.309$).

Regarding compensation learning strategies, a one-way ANOVA also indicated a statistically significant difference among the three groups ($F(2, 29) =$

$13.237, p < 0.001$). Post hoc results revealed that high achievers made greater use of compensation strategies than both low achievers (mean difference = 1.797, $SE = 0.352, p < 0.001$) and average achievers (mean difference = 1.539, $SE = 0.412, p = 0.001$). The difference between the latter two groups was not statistically significant ($p = 0.446$).

When it comes to affective learning strategies, the findings also pointed to a statistically significant difference among the groups ($F(2, 29) = 9.359, p = 0.001$). The LSD post hoc test showed that low achievers scored significantly lower than average achievers (mean difference = -0.722, $SE = 0.318, p = 0.032$) and high achievers (mean difference = -1.405, $SE = 0.337, p < 0.001$). However, no statistically significant difference was found between the high and average achievers ($p = 0.095$).

In summary, both the quantitative and qualitative findings support a consistent conclusion: students with higher academic achievement tend to employ language learning strategies more frequently and effectively than their average and low-achieving counterparts. Moreover, interview responses corroborated the statistical data, reinforcing that successful learners actively use a wider range of strategies to enhance their English learning performance.

5 Discussions

Based on the students' responses, the findings of this study indicate that the overall use of language learning strategies (LLSs) among learners of English is relatively limited. The three performance groups—high, average, and low achievers—differed significantly in their employment of these strategies. Low-achieving students were found to use neither direct nor indirect LLSs effectively, reflecting a lack of understanding regarding how and when these strategies should be applied to enhance their learning.

Average achievers, on the other hand, reported frequent use of only two out of the six major types of strategies: metacognitive and affective strategies. This limited application suggests that they have insufficient experience with the three subcategories of direct strategies (cognitive, memory, and

compensation) and with social strategies under the indirect group. Consequently, their overall strategy use appears incomplete and inconsistent.

Unlike the other two groups, high-achieving students demonstrated frequent and consistent use of all six major categories of language learning strategies—both direct and indirect. This finding shows that high achievers engage with a broader range of learning techniques, implying greater awareness, experience, and control over their learning processes. Their effective and diversified strategy use clearly contributes to their superior English performance compared to average and low achievers.

The present findings align with several previous studies that have consistently shown that more successful learners tend to employ language learning strategies more frequently and effectively than their less successful counterparts (Al-Qahtani, 2013; Gerami & Baighlou, 2011; Giang & Tuan, 2018; Habók & Magyar, 2018; Foster *et al.*, 2017; Gerami & Baighlou, 2011; Chen, 2009). These studies confirm that effective learners are generally more strategic—they adapt their techniques to suit particular tasks, seek help from peers or teachers when necessary, and possess confidence in their capacity to learn successfully.

Moreover, the current findings correspond with earlier research that distinguishes between the behaviors of good and poor learners. Good learners, as noted in the literature, can articulate the reasons behind their learning efficiency, adjust strategies according to the nature of learning activities, and show adaptability when learning conditions change. They also exhibit self-confidence and demonstrate an active attitude toward learning.

While several studies (Chamot, 2005; Lai, 2005; Vandergrift, 2003) have emphasized that metacognitive strategies are most commonly employed by high achievers, the present research offers a contrasting insight. The results here reveal that social strategies were the most frequently used by high-achieving students. This indicates that these learners rely heavily on interactive and communicative forms of learning, such as collaboration and peer discussion, which enhance their language competence. Additionally, this study challenges

Vandergrift's (2003) claim that successful learners predominantly use monitoring strategies within the metacognitive domain. Instead, it shows that they engage more in strategies related to identifying and creating learning opportunities—actions that foster active participation and exposure to language use.

In general, the results of this investigation confirm the strong association between learners' use of language learning strategies and their language achievement. This positive correlation is also supported by previous research, notably that of Oxford and Burry (1995), who asserted that higher and more frequent use of LLSs leads to better language performance.

6 Conclusion

The primary purpose of this study was to examine the types and frequency of language learning strategies (LLSs) employed by English major students. The analysis of learners' responses revealed clear distinctions among high-, average-, and low-achieving students in their use of the six major categories of LLSs. Each group demonstrated a unique hierarchy in strategy application, reflecting varying levels of awareness, skill, and experience in language learning.

For high-achieving learners, the order of strategy use was as follows: social strategies, memory strategies, cognitive strategies, compensation strategies, metacognitive strategies, and affective strategies. This pattern indicates that high achievers actively and effectively use both direct and indirect strategies. Their wide-ranging and frequent strategy use suggests that these learners possess the qualities of successful English language learners. Hence, high-achieving Ethiopian English majors can be characterized as effective and autonomous users of LLSs.

In the case of average-achieving learners, strategies were employed in the following order: metacognitive, affective, social, cognitive, memory, and compensation strategies. The findings further indicated that average achievers did not perform better than low achievers in several areas—particularly memory, social, and compensation strategies. This highlights the need for strategic training and tar-

geted instructional support to help these learners enhance their ability to use a broader range of strategies effectively. Teachers should therefore give special attention to developing their students' strategy awareness and application through explicit instruction and guided practice.

For low-achieving learners, the sequence of strategy use was found to be: metacognitive, cognitive, memory, social, affective, and compensation strategies. These learners exhibited minimal and inconsistent use of language learning strategies overall, which correlates with their lower academic performance. Consequently, this group requires deliberate and structured training in strategy awareness, selection, and application to improve both their language learning efficiency and outcomes.

Statistical analyses using one-way ANOVA confirmed significant differences among the groups. High and average achievers showed statistically significant mean differences in nearly all strategy categories except affective strategies. Moreover, significant differences were found between high and low achievers across all six major strategy types. However, no meaningful difference was observed between the average and low achievers.

Taken together, these results lead to the conclusion that high achievers demonstrate strong and frequent use of language learning strategies, average achievers show moderate engagement, and low achievers use such strategies infrequently. This pattern reinforces the notion that students with higher academic performance are also more strategic, reflective, and experienced in their approach to language learning compared to their peers.

Conflict of Interest

The author of this article has declared that there is no conflict of interest. He also confirmed that he has thoroughly read and approved the manuscript to be published in this journal.

Ethical Approval

Consent was sought from the research participants. Confidentiality was maintained in reporting information.

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Investigating the Understanding of Basic Elementary Geometry Concepts among Bachelor of Science Graduates in Mathematics Education

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Abstract

The purpose of this study was to investigate BSC graduate mathematics teachers' understanding of some basic elementary geometry concepts. To conduct the study, descriptive survey design and inferential T-test were employed. A total of 53 where 43 males and 10 female mathematics teachers, who came to attend Post Graduate Diploma (PGDT/Teaching) program in 2018/2019 Dilla University Ethiopia, constituted by convenience sampling techniques were participated in the study and completed the achievement test. A 15-item achievement test on basic elementary geometry concepts in Mathematics were used as an instrument for the study. The findings revealed that, out of 15 concepts, 1.55 and 1.85 were answered by female and male teachers respectively. Where it perceived as difficult to understand and solve by BSC graduate Mathematics teachers. Also, there was no significant difference in teachers' gender understanding and solving elementary basic concepts in geometry is $p=0.372$ greater than $p=0.05$ level of significant. It is therefore recommended that extremely important BSc holders in mathematics teachers' skill up through their professional development program, the stakeholders and MOE need make constructive action, and universities also arrange workshop to strengthen the situation.

1 Introduction

1.1 Motivation and Background of the Study

Ethiopia, like many other developing nations in Africa, places high importance on advancing science, technology, agriculture, industry, and education. Within this context, mathematics plays a pivotal role in supporting national development. Its application extends across numerous disciplines, making it not only a language of science but also a unifying tool and an art form with wide-ranging uses. Different branches of mathematics serve as essential foundations for various careers. For instance, algebra supports fields such as computer science, cryptography, and chemistry; analysis and differential equations are crucial in engineering,

biology, and business modeling; and geometry provides indispensable tools in both science and art (Asnake, 2016).

Geometry, in particular, is applied extensively by architects, engineers, and scientists. It enables learners to understand the structure of their environment, from crystal formations to planetary orbits, and it can make mathematics more engaging and enjoyable (Serin, 2018). Therefore, mathematics teachers are expected to possess a thorough understanding of geometry in order to effectively teach and inspire students. Despite its significance, several studies have noted that geometry remains underemphasized in school curricula, particularly at the early stages of learning (Melo & Martins, 2015).

1.2 Statement of the Problem

Basic geometry encompasses core ideas such as plane and solid figures, properties of polygons, relationships within triangles, criteria for similarity and congruence, circle properties, and measurement of length, area, and volume of three-dimensional shapes like prisms, cylinders, cones, and spheres (Melo & Martins, 2015). For mathematics teachers, mastering these concepts is vital, as their confidence and clarity directly influence how well students grasp the subject. Unfortunately, research has shown that many high school mathematics teachers struggle with misconceptions or insufficient understanding of geometry. A lack of well-prepared teachers has been identified as a key contributor to students' poor performance in mathematics, given that teachers are the key affecting performance (Iheanachor, 2007).

In addition, gender differences in mathematics achievement, particularly in geometry, have received increasing attention in recent studies. Some findings suggest that male students often perform better than females in mathematical reasoning (Kurumeh & Iji, 2009; Wushishi & Usman, 2013), whereas other studies report no meaningful gender gap (Popola, 2008, as cited in Asnake, 2016). This inconsistency underscores the need for further investigation.

Against this backdrop, the present study seeks to examine the extent to which BSc graduates in mathematics education understand fundamental geometry concepts, while also exploring possible gender differences in their performance.

1.3 Purpose of the Study

The main purpose of the study is to investigate mathematics teacher's knowledge or understanding of some basic elementary geometry concepts. Specifically, the study focuses on the adequacy of mathematics teachers in teaching high school geometry. Currently, the graduates of mathematics and natural science teachers are found to be least competent to teach their subjects (MOE, 2016a) as cited in (Tirussew, Amare, Jeilu, Tassew, Aklilu, & Berhannu, 2018).

Because of the least competitive of mathematics

teachers, students may lose the benefit of the investigative process in mathematics that can be used to foster a relatively informal atmosphere in a mathematics classroom in which communication and debate are encouraged. It has been stated "mathematics classrooms were once envisaged as silent places" and communication between children (Quinnell, 2010).

Thus, it seems that teachers' role in teaching geometry lessons in high school is immense. However, teachers seem resistant to commit themselves and apply the principles of geometry lessons. There is no research evidence for why the majority of Ethiopian BSC graduate teacher's feel uncomfortable with this teaching geometry lessons. Therefore, more research is needed on assessing the extent of understanding of BSC graduate teachers on basic geometry concepts. Therefore, this study seeks an answer for the following research questions:

1.4 Research questions

1. To what extent do BSC graduate teachers understand and solve some basic elementary geometry concept questions?
2. Is there a significant difference in understanding and solving basic elementary geometry questions between male and female BSc graduates?

1.5 Objectives of the Study

General objective

The general objective of the research is to assess the degree of knowledge of BSC graduate teachers on fundamental elementary geometry concepts.

Specific objectives

The specific objectives of the present study are to:

1. To explore the extent of BSC graduate teachers to understand and solve basic elementary geometry concept questions; and
2. To assess gender significance difference of BSC graduate teachers on understanding and solving basic elementary geometry questions.

1.6 Hypothesis

H_o : There is no significant difference between the two genders of BSC graduate teachers in understanding and solving some basic elementary geometry questions.

1.7 Significance of the study

This study will benefit different parties. The study will benefit BSC in Mathematics graduating teachers in becoming aware of the principles and practice of geometry lessons and implement it accordingly. Moreover, it will help them move one step ahead from where they are in their professional career. BSC in Mathematics graduating teachers are also expected to reflect on their practice and test theories and hypotheses in practice to become reflective practitioners. Students also benefit from quality instruction teachers deliver and improve their learning process, social skills and achievement when teachers act in principled and informed ways.

2 Methodology

2.1 Sample and Population

Research was conducted on BSC in Mathematics graduate teachers of PGDT trainers. Population of the study is Mathematics graduate teachers. There were 53 PGDT trainers which were the collection of 43 males and 10 females by convenience sampling techniques all of them have participated in the study.

2.2 Design of the Study

This study adopted a quantitative case study design to examine the extent to which BSc mathematics graduates understand core concepts of elementary geometry. Data collection focused on teachers who were enrolled in the Postgraduate Diploma in Teaching (PGDT) program. The analysis relied on both descriptive and inferential statistics.

For descriptive statistics, measures such as percentages, means, and standard deviations were used to summarize participants' responses. To determine whether differences existed between male and female graduates, inferential analysis was performed using an independent samples t-test. Statistical

significance was tested at the 0.05 level. This design was intended to provide both an overall picture of participants' understanding of geometry and insights into possible gender-based variations.

2.3 Data collection tools

An achievement test that was constructed by the investigator from Grade 8 and Grade 10 Mathematics Textbooks, according to Ethiopian education system in 8th grade levels basic geometry concepts such as Similar Plane Figures, Similar Triangles, Further On Circle, Angles in the Circle, Geometry and Measurements (Theorems on the Right Angled Triangle, Introduction to Trigonometry and Solids Figures) (Gebreyes & Basavaraju, 2016) and in 10th grade levels basic geometry concepts such as Coordinate Geometry, Trigonometric function, Plane Geometry and measurement of surface area and volume of prism and cylinder, pyramid, cone and spheres are included (Bansal, Rachel Mary, Mesay, Gizachew, & Tesfa, 2010), which all achievement test of concepts of elementary geometry are included in Grade 8 Mathematics and in Grade 10 Mathematics textbook with detailed notes. Seven open ended questions with fifteen items of achievement test were prepared. The achievement tests were constituted question one from plane figures, question two from Trigonometric function, question three from Angles in the Circle, question four from Plane Geometry, question five, six and seven with three items each were from measurement of surface area and volume of cone, pyramid and prism. The validity of an achievement test was studied and tested.

Test-retest correlation is often used as an indicator of reliability, although the strength of the correlation may vary depending on the time gap between the two administrations. To quantify this type of reliability, statistical analysis produces a coefficient ranging from 0 to 1, where a value of 1 reflects perfect agreement between the test and retest (Jack & Norman, 2009). Since flawless correlation is rarely attainable, most scholars consider values of 0.7, 0.8, or 0.9 as acceptable, depending on the discipline. In this study, the instrument's reliability was examined using a test-retest procedure with a 30-minute interval, yielding a coefficient of 0.998. This very high positive correlation demonstrates

that the test instrument is highly reliable.

2.4 Data Analysis Technique

The achievement tests were distributed to participants, collected, and then analyzed systematically. Responses were first summarized using descriptive statistics including mean, percentage, and standard deviation. Each item was scored numerically, and weighted means were calculated to determine participants' average performance across categories. A grand mean was then computed to provide a general interpretation of their understanding. Standard deviation values were also considered to show the variability of responses around the mean.

To assess whether there were significant differences between male and female participants, independent samples t-tests were conducted. The analysis helped to evaluate the extent of variation in understanding of basic geometry concepts across genders. Findings from these statistical procedures formed the basis for interpretation, discussion, and drawing

conclusions about the participants' knowledge level.

3 Results

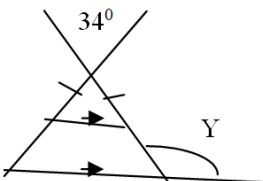
This section presents the analysis and interpretation of the collected data, along with the principal findings of the study.

Characteristics

BSC graduate mathematics teachers who take the training of PGDT in 2019 at Dilla University. BSC graduate mathematics teachers were given basic elementary Geometric questions. Analyses of BSC graduate mathematics teachers' responses to questions items are presented as follows.

- **For question number one:** To what extent do BSC graduate teachers understand and solve the following basic elementary geometry concept question?

Table 1: BSc teachers' understanding and ability of analysis basic angle and line properties

Item Q1	Male				Female				Total			
	Incorr		Corr		Incorr		Corr		Incorr		Corr	
	f	%	f	%	f	%	f	%	f	%	f	%
1. From the following figure, find the value of Y 	40	93.1	3	6.9	8	81.8	2	18.2	48	90.7	5	9.3

As it can be seen from Table 1, it induces information on the degree of male and female BSC graduate teachers of mathematics solve basic elementary geometry angle question. When asked to find the value of Y of item one (93.1%) of male mathematics teachers and (81.8%) of female mathematics teachers i.e. 90.7% of the total mathematics teachers did not correctly answer that it to $Y = 107^\circ$. Even though all required properties that help to solve the equation vertically opposite angle,

base angle of isosceles triangle, and supplementary angle are mostly used in grade eight and ten for instance in grade ten the following problems need the above concepts to solve it.

This shows that BSC in mathematics teachers have a lack of understanding of one or more of equality of vertically opposite angles, congruency of base angle of Isosceles triangles and the sum of straight angle is 180° .

MATHEMATICS GRADE 10

- 8 IN FIGURE 6.57, FIND THE VALUES OF x AND y GIVEN THAT O IS THE CENTRE OF THE CIRCLE AND $m(\angle AOC) = 160^\circ$



Figure 6.57

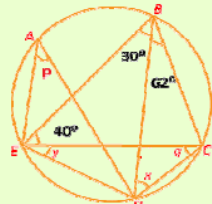


Figure 6.58

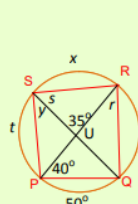


Figure 6.59

- 9 IN FIGURE 6.58, CALCULATE THE ANGLES MARKED

- 10 FIND THE VALUES OF THE ANGLES MARKED AS SHOWN IN FIGURE 6.59

6.3.2 Angles and Arcs Determined by Lines Intersecting Outside a Circle

WHAT HAPPENS IF TWO SECANT LINES INTERSECT OUTSIDE A CIRCLE? IN FIGURE 6.60, $\overline{AB}$ AND $\overline{CD}$ INTERSECT OUTSIDE THE CIRCLE. THEY INTERCEPT ARCS $\widehat{AC}$ AND $\widehat{BD}$. DRAW THE CHORD PARALLEL TO $\overline{AB}$ AND $\overline{CD}$. CAN YOU SEE THAT THE MEASURE IS HALF THE DIFFERENCE BETWEEN THE MEASURES OF THE ARCS? CAN YOU PROVE IT?

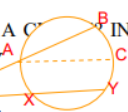


Figure 6.60

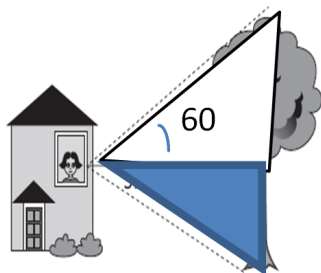
(Bansal, Rachel Mary, Mesay, Gizachew, & Tesfa, 2010)

Figure 1: Sample problems in Grade 10 geometry lesson

- **For question number two:** To what extent do BSC graduate teachers understand and solve the following basic elementary geometry concept question?

Table 2: BSc Mathematics teachers' ability to synthesis simple geometric concept with trig in real world

Item	Male				Female				Total			
	Incorr		Corr		Incorr		Corr		Incorr		Corr	
	f	%	f	%	f	%	f	%	f	%	f	%
Q2 Lula is standing in the building and looking out of a window at a tree. The tree is 20m away from Lula. Lula's line of sight to the top of the tree creates a 60° angle elevation, and her line of sight to the base of tree creates a 30° of depression. What is the height of the tree?	43	100	0	0	10	100	0	0	53	100	0	0



As it can be seen from Table 2, it induces data on the degree of female and male BSC graduate teachers of mathematics solve basic elementary geometry elevation question. When asked to find the height of the tree (100%) of male mathematics teachers and (100%) of female mathematics teachers i.e. 100% of the total mathematics teachers did not correctly answer that height of the tree is

$20\text{m} \tan(60^\circ) + 20\text{m} \tan(60^\circ) = \frac{80\sqrt{3}}{3}$. But introduction of Trigonometric concept with brief notes and examples are included in grade eight lessons for instance one example that founded in grade eight textbook is illustrated as follows.

This shows that BSC in mathematics teachers have insufficient understanding of applying simple trigonometric functions.

Grade 8 Mathematics **[GEOMETRY AND MEASUREMENT]**

Example 18: A ladder 20 meters long, leans against a wall and makes an angle of 45° with the ground. How high up the wall does the ladder reach? And how far from the wall is the foot of the ladder?

Solution: Let in Figure 7.55 represent the given problem

$$\begin{aligned}\cos 45^\circ &= \frac{\text{adj.}}{\text{hyp.}} \\ \frac{1}{\sqrt{2}} &= \frac{AB}{20\text{ m}} \\ 20 &= \sqrt{2}AB \\ AB &= \frac{20\text{ m}}{\sqrt{2}} = 10\sqrt{2}\text{ meters}\end{aligned}$$

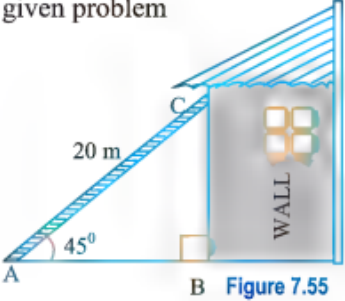


Figure 7.55

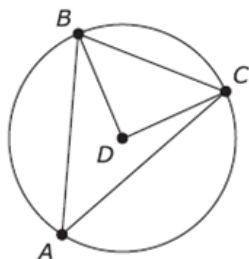
(Gebreyes & Basavaraju, 2016)

Figure 2: Sample problems in Grade 8 geometry lesson

- **For question number three:** To what extent do BSc graduate teachers understand and solve the following basic elementary geometry concept question?

Table 3: BSc teachers' understanding of property of inscribed triangles in a circle

Item Q3	Male				Female				Total			
	Incorr		Corr		Incorr		Corr		Incorr		Corr	
	f	%	f	%	f	%	f	%	f	%	f	%
The figure shows $\triangle ABC$ inscribed in circle D. If $m\angle CBD = 34$, then find $m\angle BAC$	41	95.3	2	4.6	9	90.9	1	9.09	50	94.4	3	5.6



As it can be seen from Table 3, it induces information on the degree of male and female BSC graduate teachers of mathematics solve basic elementary geometry inscribed angle in circle question. When asked to find the inscribed angle $m\angle BAC$ (95.3%) of male mathematics teachers and (90.9%)

of female mathematics teachers i.e. 94.4% of the total mathematics teachers did not correctly answer the inscribed angle $m\angle BAC$ where its answer is 56° . For instance, the above concepts are found in grade 8 lessons as follows.

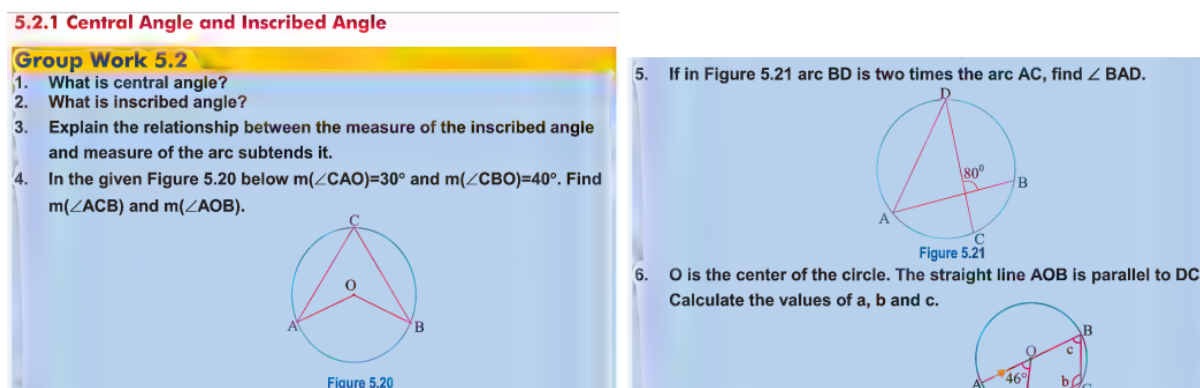


Figure 3: Additional sample problems in Grade 8 geometry lesson (Gebreyes & Basavaraju, 2016)

This shows that BSC in mathematics teachers have a deficit of understanding of properties of inscribed angle in a circle, at the center of a circle and on a circle.

- **For question number four:** To what extent do BSC graduate teachers understand and solve the following basic elementary geometry concept question?

Table 4: BSc teachers' understanding of surface area of regular triangles and quadrilateral

Item Q4	Male				Female				Total			
	Incorr		Corr		Incorr		Corr		Incorr		Corr	
	f	%	f	%	f	%	f	%	f	%	f	%
Find a total area of the following figure	43	100	0	0	10	100	0	0	53	100	0	0

As it can be seen from Table 4, it induces information on the degree of male and female BSC graduate teachers of mathematics solve basic elementary geometry of the above figure. When asked to find the total surface area of the figure (100%) of male mathematics teachers and (100%) of female mathematics teachers i.e. 100% of the total mathematics teachers did not correctly answer the total surface area of the figure where its answer is $36 + 6\sqrt{6} \text{ cm}^2$.

This shows that BSC in mathematics teachers have a lack of skill and understanding of finding total surface area of rectangle, triangle and trapezoid.

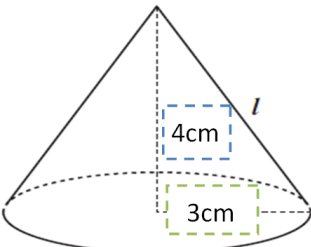
- **For question number five:** To what extent do BSC graduate teachers understand and solve the following basic elementary geometry concept question?

As it can be seen from Table 5, it induces information on the degree of male and female BSC graduate

teachers of mathematics solve basic solid geometry of conic section slant height, lateral surface area, total surface area, and volume cone.

When asked to find:- slant height of cone (100%) of male mathematics teachers and (90.9%) of female mathematics teachers i.e. 98.15% of the total mathematics teachers did not correctly answer the slant height of the cone where its answer is 10cm, Lateral surface area of the given cone (100%) of male mathematics teachers and (100%) of female mathematics teachers i.e. 100% of the total mathematics teachers did not correctly answered the Lateral surface area of the given cone where its answer is 60cm square, total surface area of the given cone (100%) of male mathematics teachers and (100%) of female mathematics teachers i.e. 100% of the total mathematics teachers did not correctly answer the total surface area of the given cone where its answer is 96 cm^2 .

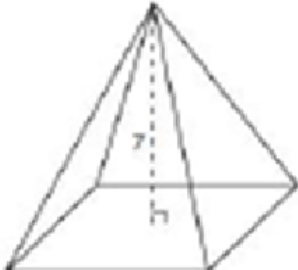
Table 5: BSc teachers' understanding of right circular cone

Item Q5	Male				Female				Total			
	Incorr		Corr		Incorr		Corr		Incorr		Corr	
	f	%	f	%	f	%	f	%	f	%	f	%
The altitude of a right circular cone is 4cm.												
												
If the radius of the base is 3cm, then find												
Slant height	43	100	0	0	9	90.9	1	9.1	53	98.15	1	0.02
Lateral surface area	43	100	0	0	11	100	0	0	54	100	0	0
Total surface area	43	100	0	0	11	100	0	0	54	100	0	0
Volume of cone	43	100	0	0	11	100	0	0	54	100	0	0

This shows that BSC in mathematics teachers have a huge gap of skill and understanding of finding basic solid geometry of conic section of slant height, lateral surface area, total surface area, and volume cone.

- **For question number six:** To what extent do BSC graduate teachers understand and solve the following basic elementary geometry concept question?

Table 6: BSc teachers' understanding of pyramid

Item Q6	Male				Female				Total			
	Incorr		Corr		Incorr		Corr		Incorr		Corr	
	f	%	f	%	f	%	f	%	f	%	f	%
The pyramid shown below has a square base, a length of $8\sqrt{2}cm$ with altitude of $7cm$,												
												
then find												
Slant height	43	100	0	0	10	90.9	1	9.1	53	98.2	1	1.8
Lateral surface area	43	100	0	0	10	100	0	0	53	100	0	0
Total surface area	43	100	0	0	10	100	0	0	53	100	0	0
Volume of cone	43	100	0	0	10	100	0	0	53	100	0	0

As it can be seen from Table 6, it induces information on the degree of male and female BSc graduate teachers of mathematics solve basic solid geometry of pyramid section slant height, lateral surface area, total surface area, and volume cone. When asked to find:- slant height of the pyramid (100%) of male mathematics teachers and (90.9%) of female mathematics teachers i.e. 98.15% of the total mathematics teachers did not correctly answer the slant height of the pyramid where its answer is 9cm, Lateral surface area of the given pyramid (100%) of male mathematics teachers and (100%)

of female mathematics teachers i.e. 100% of the total mathematics teachers did not correctly answered the Lateral surface area of the given pyramid where its answer is $\sqrt{2}cm^2$ the total surface area of the given pyramid (100%) of male mathematics teachers and (100%) of female mathematics teachers i.e. 100% of the total mathematics teachers did not correctly answer the total surface area of the given pyramid where its answer is $\sqrt{2}cm^2$. But all the above concepts are found in grade eight and ten lessons for instance.

Grade 8 Mathematics [GEOMETRY AND MEASUREMENT]

Exercise 7F

1. In Figure 7.65 shows a square pyramid.

- Name its vertex.
- Name its four lateral edges.
- Name its four lateral faces.
- Name the height.
- Name the base.

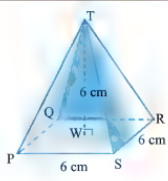


Figure 7.65

Surface area

THE LATERAL SURFACE AREA OF A REGULAR PYRAMID IS EQUAL TO HALF THE HEIGHT AND THE PERIMETER OF THE BASE. THAT IS,

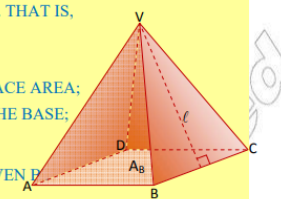
$$A_L = \frac{1}{2} P\ell,$$

WHERE A_L DENOTES THE LATERAL SURFACE AREA;
 P DENOTES THE PERIMETER OF THE BASE;
 ℓ DENOTES THE SLANT HEIGHT.

THE TOTAL SURFACE AREA OF A PYRAMID IS GIVEN BY

$$A_T = A_B + A_L = A_B + \frac{1}{2} P\ell,$$

WHERE A_B IS AREA OF THE BASE.



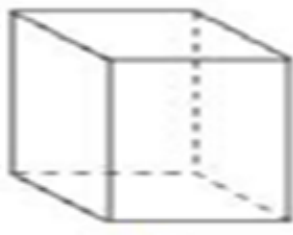
(Gebreyes & Basavaraju, 2016; Bansal, Rachel Mary, Mesay, Gizachew, & Tesfa, 2010)

Figure 4: Sample problems in Grade 8 &10 geometry lesson

This shows that BSc in mathematics teachers has a huge gap of skill and understanding of finding basic solid geometry of section pyramid of slant height, lateral surface area, total surface area, and volume cone.

- **For question number seven:** To what extent do BSc graduate teachers understand and solve the following basic elementary geometry concept question?

Table 7: BSc teachers' understanding of rectangular prism

Item Q7	Male				Female				Total			
	Incorr		Corr		Incorr		Corr		Incorr		Corr	
	f	%	f	%	f	%	f	%	f	%	f	%
The rectangular prism shown below has a base, a length of 6cm, width 8cm and height 10cm, then find												
												
Diagonal of rectangular prism	40	93.0	3	7.0	10	100	0	0	50	94.4	3	5.6
Total surface area of prism	41	95.3	2	4.7	10	100	0	0	51	96.3	2	3.7
Volume of prism	38	88.4	5	11.6	10	90.1	1	9.9	47	88.9	6	11.1

As it can be seen from Table 7, it induces information on the degree of male and female BSc graduate teachers of mathematics solve basic solid geometry of a diagonal of rectangular prism, the total surface area of prism, and volume of prism.

When asked to find:- a diagonal of rectangular prism (93%) of male mathematics teachers and (100%) of female mathematics teachers i.e. 94.0% of the total mathematics teachers did not correctly answer the diagonal of rectangular prism where its answer is $10\sqrt{2}cm$, the total surface area of given a rectangular prism (95.3%) of male mathematics teachers and (100%) of female mathematics teachers i.e. 96.3% of the total mathematics teachers did not correctly answered the total surface area of given

rectangular prism where its answer is $416cm^2$, the volume of prism of the given rectangular prism (88.4%) of male mathematics teachers and (90.1%) of female mathematics teachers i.e. (88.9%) of the total mathematics teachers did not correctly answer the volume of prism where its answer is $480cm^2$.

This shows that BSc in mathematics teachers has a huge gap of skill and understanding of finding basic solid geometry of a diagonal of rectangular prism, the total surface area of prism, and volume of a prism.

- **For research question number two** (Is there a significant difference in understanding and solving basic elementary geometry questions between male and female BSc graduates?)

Table 8: Group Statistics

Group	Code	N	Mean	Std. Deviation	Std. Error Mean
Female	.00	11	1.5455	1.63485	.49293
Male	1.00	60	2.0500	1.85422	.23938

As Table 8 shows as the mean result on basic elementary geometry questions of BSC graduate mathematics female teachers' is 1.55 out of 15 and their standard deviation is 1.63. And mean result on basic elementary geometry questions of BSC graduate mathematics male teachers' is 2.05 out of 15 and their standard deviation is 1.85

Table 9: Independent Samples *t* – test

		Levene's Test for Equality of Variances		<i>t</i> – test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI of the Difference	
FM	Equal variances assumed	.008	.931	-.843	69	.402	-.50455	.59827	-1.70	.689
	Equal variances not assumed			-.921	15.130	.372	-.50455	.54798	-2	.663

4 Discussions

The current study contains an analysis of assess the extent of understanding of BSC graduate mathematics teachers on basic elementary geometry concepts. The results of this study indicate that participants have a gap on solving basic elementary geometry questions.

Basic elementary geometry mathematics knowledge teachers use; students learn in 8th grade levels basic geometry concepts such as Similar Plane Figures, Similar Triangles, Further On Circle, Angles in the Circle, Geometry and Measurements (Theorems on the Right Angled Triangle, Introduction to Trigonometry and Solids Figures) (Gebreyes & Basavaraju, 2016) and in 10th grade levels basic geometry concepts such as Coordinate Geometry, Trigonometric function, Plane Geometry and measurement of surface area and volume of prism and cylinder, pyramid, cone and spheres are included (Bansal, Rachel Mary, Mesay, Gizachew, & Tesfa, 2010), and BSC graduate Mathematics teachers must have adequate knowledge to provide instruction on this topic. However, certainly all BSC graduate Mathematics teachers would know enough to

answer those basic elementary geometry questions correctly; it is communal content knowledge not only for the work of teaching geometry.

Since Mathematics teacher's meaningful understanding of geometry could help them to develop confidence to teach their students (Iheanachor, 2007) students' learning influenced on teacher knowledge and teaching performance. Teachers' competency and knowledge in using and teaching mathematics are influential factors that can influence students' conceptual understanding in problem posing (Rober, Capraro, & Capraro, 2018). It is necessary to support teachers' professional development.

The findings in this study also show that there is disconnect between qualification of BSC graduate mathematics teachers' and teachers' knowledge on basic elementary geometry concepts. referring Table 9 the level of significance value was 0.372 greater than 0.05 this indicating no difference in gender difference of BSC graduate mathematics teachers on understanding and solving basic elementary geometry questions which agree with null hypothesis.

5 Conclusion

In the Ethiopian context, individuals who earn a Bachelor of Science degree in mathematics are appointed as secondary school teachers upon completing an additional one-year professional training in pedagogy. The focus of this study was on BSC graduate mathematics teachers. In the present study, the result showed that BSC graduate mathematics teachers do not have sufficient understanding and skills to solve basic elementary geometry questions, even what they teach in grade 8-10. If a teacher does not explain and solve different elementary basic Geometric equations, it's not possible to teach the operations to pupils. The data also revealed that majority of teachers don't know the properties of vertically opposite angles, alternate interior and exterior angles, straight angles, the sum of angle of triangles, area of triangle, area of rectangle, perimeter of triangle and rectangle, volume of cylinder, volume of prism and pyramid, slant high, diagonal and altitude of solid geometry.

6 Recommendation

The study showed that BSC graduate mathematics teachers do not have sufficient understanding and skills to solve basic elementary geometry questions:

- Teachers themselves should develop their knowledge through professional development program.
- It is therefore extremely important that the stakeholders and the MOE have to step up conscription efforts.
- In order to strengthen mathematics, universities have to take an action like a workshop to fill the gap.
- It needs further study regarding BSc graduate Mathematics teachers' understanding of basic mathematical concepts.

Conflict of Interest

The authors is affiliated with Dilla University as teaching and research staff. He declared that has thoroughly read and approved the manuscript to be published in this journal.

Ethical Approval

Consent was sought from the research participants. Confidentiality was maintained in reporting information.

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Assessing Factors Hindering Females' Participation and the Practice of Teacher's Strategies in EFL Classrooms: The Case of Grade 11 Students in Gedeo Zone

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Abstract

The purpose of this study was to assess factors hindering Grade 11 female students' participation and teachers' strategies in EFL classrooms. To achieve the objective, the researchers used a descriptive survey design and employed both qualitative and quantitative methods. There are around 46 grade 11 sections in the selected weredas, so the researchers selected 18 sections using a lottery system. Each section has an average of 42 students. Among these, 40% are females, and the researchers selected 176 female students using purposive sampling for this study. The researchers employed three data-gathering tools. These are semi-structured interviews, classroom observations, and questionnaires. The major findings indicated that female students did not freely participate like male students do in the EFL classroom unless they were called by their teacher; most female students were passive listeners. They didn't even ask questions for the briefing when the lesson wasn't clear to them. EFL teachers' teaching strategy did not invite female students to participate in the classroom discussion. According to the findings, EFL teachers should give male and female students equal opportunity in classroom discussions. They also need to create a conducive environment and gender-sensitive group formation since it builds female students' self-confidence.

1 Introduction

Active classroom participation is widely regarded as a central component of effective language learning. In English as a Foreign Language (EFL) contexts, learners develop communicative competence not only through exposure to input but also through meaningful interaction and sustained engagement in classroom discourse. Learner-centered pedagogies, particularly communicative and task-based approaches, emphasize the importance of student involvement in dialogue, problem-solving, and collaborative tasks as mechanisms for language development (Diane Larsen-Freeman, 2000; Jack

C. Richards & Theodore S. Rodgers, 2001).

Within these frameworks, participation is viewed as an essential process through which learners practice linguistic forms, negotiate meaning, and build fluency.

Empirical studies have also highlighted the academic and psychological benefits of active engagement. For instance, Pamela A. Fassinger (1995) argues that classroom interaction is closely associated with students' confidence and sense of belonging, while Sharon Tatar (2005) emphasizes that verbal participation provides learners with oppor-

tunities to refine their communicative competence. Similarly, Jun Liu (2001) suggests that students who participate more frequently tend to demonstrate stronger academic performance in language courses.

These findings collectively indicate that classroom discourse functions not merely as a pedagogical technique but as a developmental tool for both linguistic and cognitive growth.

Despite the recognized importance of participation, classroom interaction is often unevenly distributed among students. Research across different educational contexts suggests that gender differences may shape patterns of verbal engagement, with female students sometimes participating less actively than their male peers (Mary A. Lundeberg, 1997; Christine Higgins, 2010). Factors such as fear of negative evaluation, limited self-confidence, sociocultural expectations, and teacher questioning practices have been identified as possible influences on female students' willingness to speak (Fassinger, 1995).

In the Ethiopian secondary school context, English serves both as a subject and as a medium of instruction in upper grades. Consequently, students' classroom participation in EFL lessons carries implications beyond language learning alone. Limited engagement may restrict opportunities for practice and weaken overall academic performance. Although prior studies in Ethiopia have examined challenges affecting female students' academic achievement (e.g., Yenenesh T., 2013; Gashahun W., 2019), less attention has been directed toward understanding participation patterns specifically within EFL classrooms.

Therefore, examining the factors that shape female students' participation, alongside teachers' instructional strategies, is critical for promoting inclusive and equitable language learning environments. Thus, the current research seeks to search out the factors that exert a crucial influence on female students' participation in EFL classrooms in four selected secondary schools in the Gedeo zone.

1.1 Statement of the Problem

Interaction is widely acknowledged as a key mechanism in second and foreign language acquisition, as it allows learners to test hypotheses about language use, receive feedback, and develop communicative fluency (Mondada & Pekarek-Doehler, 2004). In EFL classrooms, where authentic exposure to English outside school is often limited, the classroom becomes the primary space for practicing the target language. However, the effectiveness of such practice depends largely on students' willingness to participate actively in instructional activities.

Research indicates that participation patterns are not always evenly distributed among learners. Female students have been reported to demonstrate lower levels of verbal engagement in some classroom contexts (Zhengdong Gan, 2012; Le Thi Mai, 2011). Communication apprehension, fear of making mistakes, and concern about peer evaluation may discourage active involvement in speaking tasks. According to Fassinger (1995), students' confidence levels and perceptions of classroom climate significantly influence their readiness to contribute. When the learning environment does not sufficiently support equitable participation, certain groups of students may remain silent despite having relevant ideas to share.

Teacher-related factors also play a substantial role in shaping classroom interaction. Instructional strategies, questioning techniques, feedback patterns, and group formation practices can either encourage or inhibit students' engagement. Oluwakemi E. Aina and Patricia A. Cameron (2011) argue that subtle forms of gender bias may influence how teachers allocate attention and opportunities during lessons. Similarly, Higgins (2010) notes that classroom discourse practices may unintentionally privilege more assertive students, thereby limiting equitable participation.

Within the Ethiopian context, English functions as a medium of instruction at the secondary school level, making active participation in EFL classrooms essential for academic success.

Previous Ethiopian studies have primarily focused on factors affecting female students' academic achievement at a broader level (Yenenesh T., 2013; Gashahun W., 2019). However, relatively limited empirical evidence exists regarding how instructional practices and learner-related factors specifically influence female students' participation in EFL classrooms, particularly in the Gedeo Zone.

Professional observations suggest that many Grade 11 female students tend to participate only when directly called upon, rarely volunteering in open discussions or group activities. Nevertheless, these observations have not been systematically investigated through structured research. Without empirical examination, it remains unclear whether limited participation is primarily driven by learner characteristics, teacher strategies, classroom climate, or a combination of these factors.

Accordingly, there is a need for focused research that examines both the factors hindering female students' participation and the instructional strategies employed by EFL teachers. Such investigation is essential for informing gender-responsive pedagogical interventions and promoting equitable language learning opportunities.

1.2 Objectives of the Study

This research is designed to assess factors hindering females' participation and teachers' strategies in EFL classrooms, in the case of grade 11 students in the Gedeo Zone. Specifically to:

- identify the causes that hinder female students' participation in EFL classes
- assess whether EFL teachers' strategies affect female students' classroom participation
- suggest possible solutions to alleviate the problems identified

2 Materials and Methods

2.1 Research Design

The objective of this study was to assess factors that affect female students' participation and strategies used by teachers in EFL classrooms in secondary

schools. The researchers used a descriptive survey design and employed both qualitative and quantitative methods. The qualitative research method primarily addressed data gathered through interviews and observations. Whereas the quantitative research method treated the data obtained through the questionnaires administered to female students.

2.2 The Research Setting

The study was conducted in four government secondary schools in urban areas of Ethiopia's Gedeo Zone, SNNPRS. The subjects of this research were grade 11 English teachers and grade 11 female students from the four secondary schools. Two English classes in each school were selected randomly in each high school for classroom lesson-observation purposes.

2.3 The Population and Sample of the Study

The target population for this study was secondary school English teachers and grade 11 students. The researchers attempted to survey four weredas in Gedeo zone, including Bule, Yirgachefe, Wonago, and Dilla secondary schools. The researchers selected one secondary school from each area using simple random sampling. There were around 46 grade 11 sections in the selected weredas, so the researchers selected 18 sections using a lottery system. Each section had an average of 42 students. Among these, 40% were females, and the researchers selected 176 female students using purposive sampling for this study. In addition to the classroom observations and semi-structured interviews, eight EFL teachers were randomly selected through a simple random sampling method.

2.4 Data Gathering Tools

The researchers employed three data gathering tools. These were semi-structured interviews, classroom observations, and questionnaires.

2.5 Data Analysis

Data from the interviews was transcribed, and the observation data was coded and analyzed using the qualitative method. The data gathered from the questionnaire, on the other hand, was analyzed using frequency and percentage.

2.6 Considerations for Ethical Issues

The process of conducting the study must be ethically sound, as it is based on the participants' free will and motivation. Every effort was made to keep the status of all participants and institutions and the participants' beliefs, opinions, and values unharmed. During data collection, the autonomy and equity of the participants were well ensured. To that end, the researchers first stated the purpose of the study. The researchers attempted to pay the utmost attention to maintaining the privacy, anonymity, and confidentiality of the responses. Being aware

of cultural sensitivity, the research team tried to confirm the intended leadership. For classroom observation and conducting interviews, prior permissions were obtained from school directors, head teachers, and the classroom teachers.

3 Results and Discussions

3.1 Questionnaire Result on female students' participation

The result of the data indicates that majority of female students did not express their idea freely in the English language classroom.

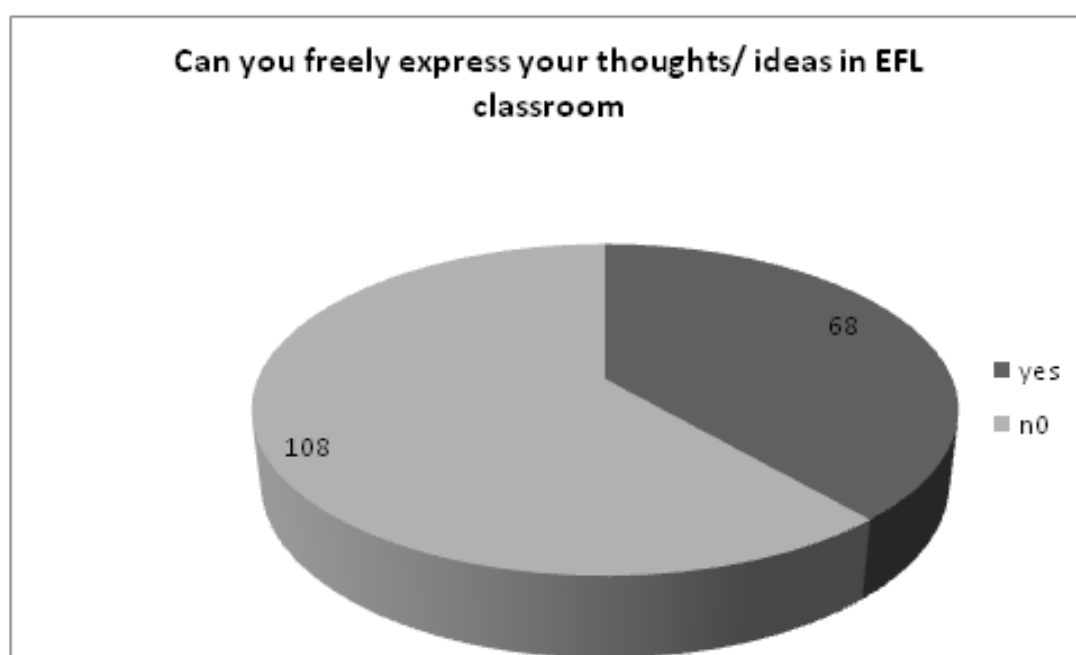


Figure 1: Students' response whether they freely express their thoughts/ ideas in EFL classes

The data in figure 2 has shown that most female students feel afraid to ask for clarification when the lesson is not clear to them. Fassinger (1995) and Gomez *et al.* (1995) asserted that female students' fear of failing to demonstrate their intelligence in the classroom, low levels of self-confidence and feelings of confusion will cause them to become passive, and thus less engaged in classroom discussions.

The data in figure 3 shows that there is gender-specific bias in different ways in the EFL classroom. gender-related bias can subtly operate within classroom settings, and educators may not always be consciously aware of its presence (Lundeberg, 1997). Most teachers focus on boys students more frequently than girls' students. This decreases the participation of female students in classroom discussions (Higgins, 2010).

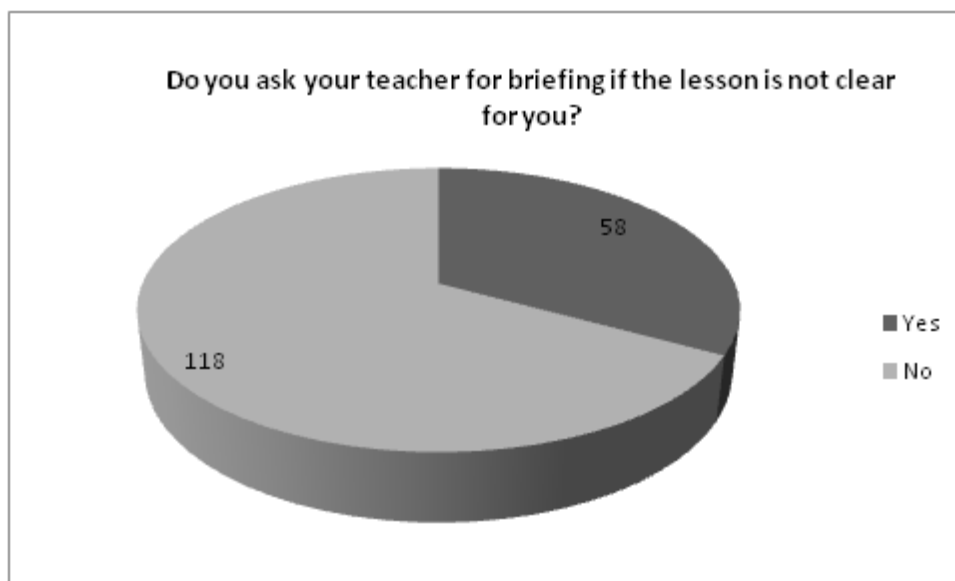


Figure 2: Students' response on whether they ask for briefing when the lesson is not clear for them

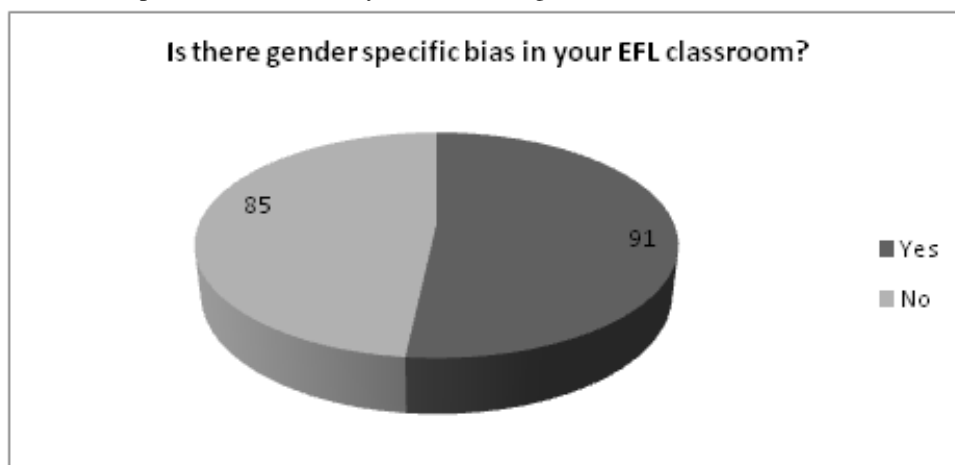


Figure 3: Whether there is gender specific bias in EFL classroom

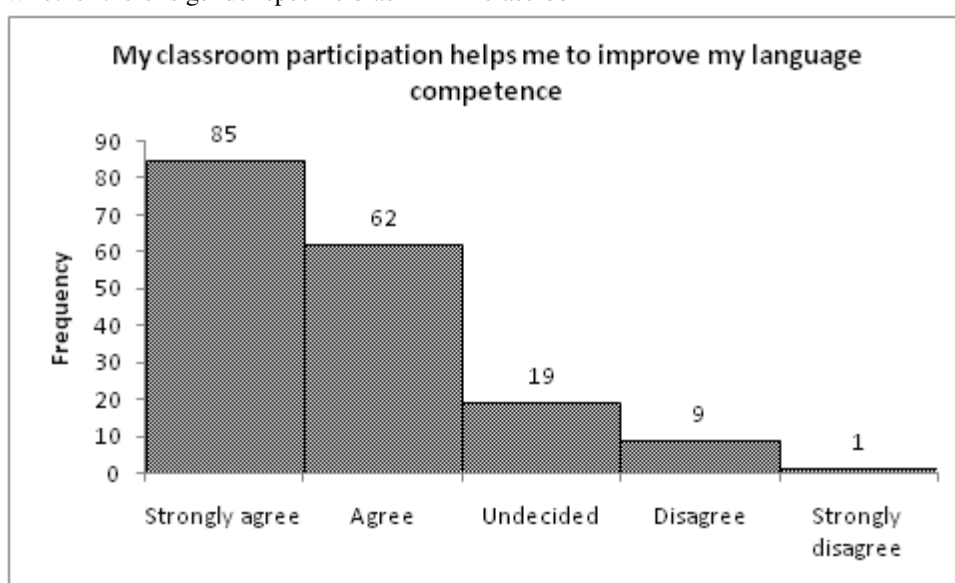


Figure 4: The advantage of Classroom participation in EFL class

Figure 4 indicates that a great number of the respondents believe that their classroom participation will help them to improve their language competence. Concerning this, Ewens (2000) suggested that classroom participation promotes a higher level

of reflective thinking and problem solving, including application, analysis, synthesis, and evaluation, and that information learned through discussion is generally retained better than information learned through lecture.

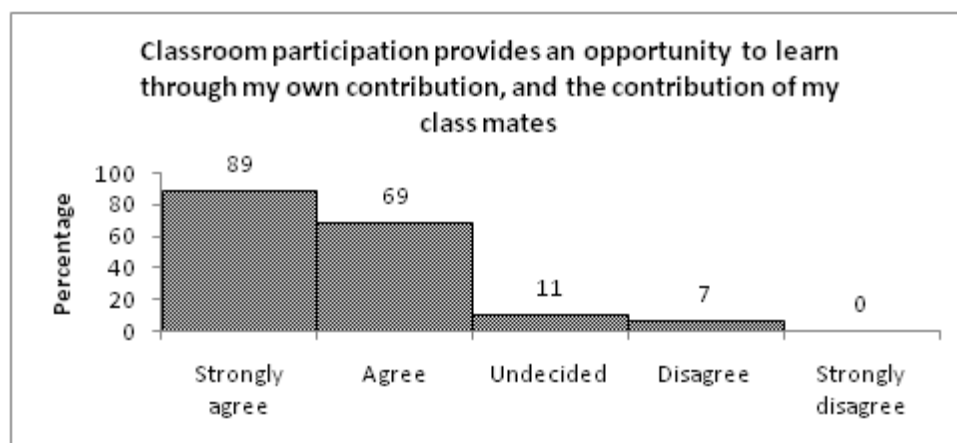


Figure 5: Students response on how they learn from their own classmate participation

Figure 5 indicates that most female students strongly believe that their classroom participation will help them to learn from their own contributions and the contributions of their classmates. Mustafa *et al.*

(2010) claim that students who actively participate in the classroom are expected to get better results. Thus, poor participation may affect female students' academic achievement.

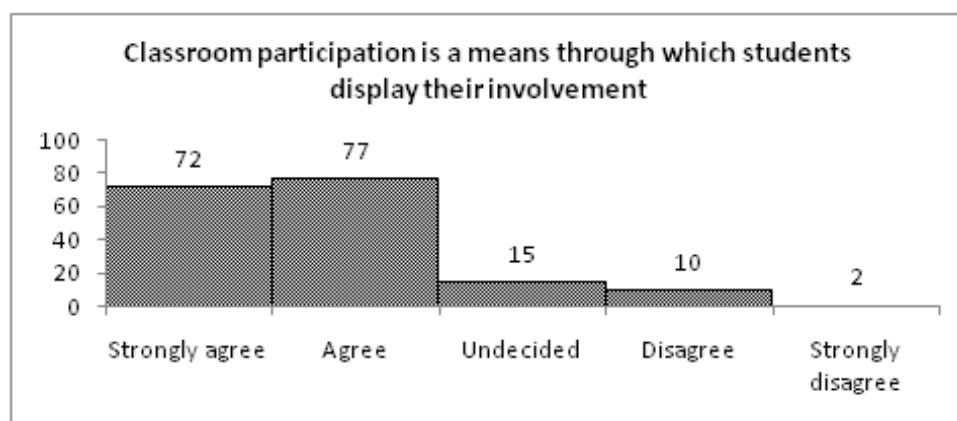


Figure 6: Female students' involvement in Classroom participation

The majority of female students, as shown in figure 6, concurred that participating in class activities demonstrates their interest in EFL lessons.

Figure 7 shows that many female students felt that their experiences with various forms of gender bias at school have an impact on how they participate

in class. Today's kids face significant gender discrimination in the classroom, and numerous studies have demonstrated that professors treat male and female pupils differently (Aina & Cameron, 2011; Garrahy, 2001; Higgins, 2010; Tindall & Hamil, 2004).

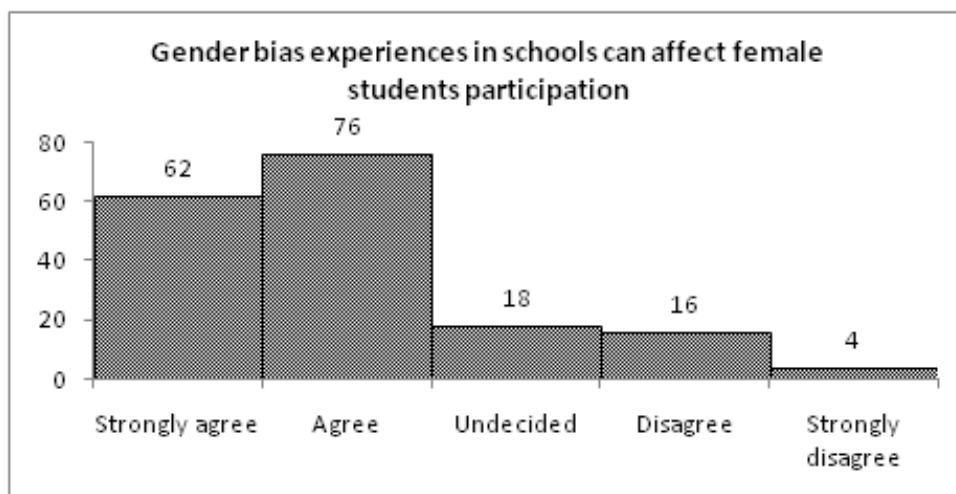


Figure 7: Gender bias experiences in the school

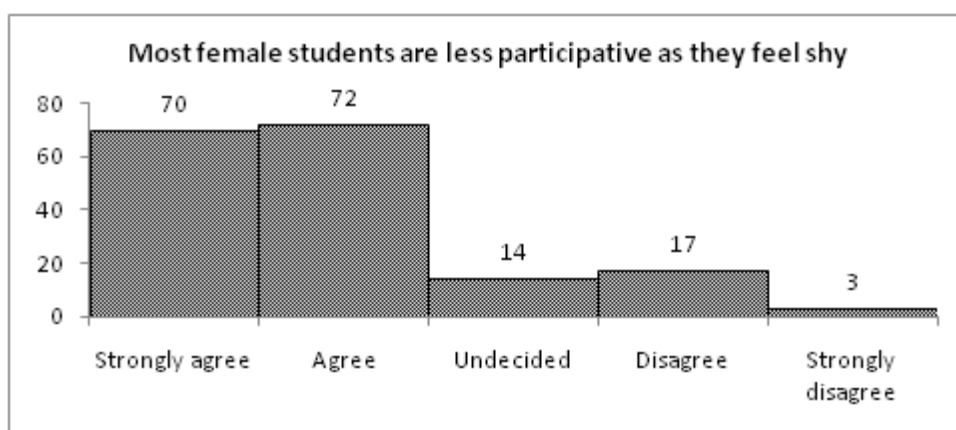


Figure 8: Shyness makes students less participative in EFL classes

Figure 8 indicates that shyness is one of the factors that make female students less participative in the EFL classroom. According to Fassinger (1995) and Howard *et al.* (2002), most female students are less

participative simply because they are afraid of other students, their teacher, or they are embarrassed to stand in front of their colleagues.

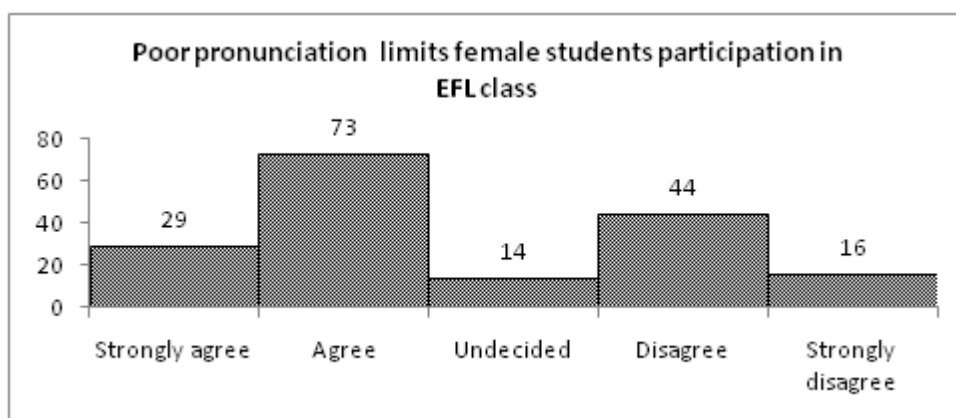


Figure 9: Poor pronunciation of words limits female students' classroom Participation

Figure 9 has shown that inaccurate or poor pronunciation of words is one of the factors that limits female students' classroom participation in EFL class. Performance anxiety and mispronunciation of words make female students feel embarrassed and make them less active participants in EFL classes.

3.2 Result of the questionnaire on EFL teacher's strategies

Table 1: Teachers teaching strategies in EFL classroom

Key: (SA= Strongly Agree, A= Agree, U= Undecided, D= Disagree, SD= Strongly Disagree, N = number, F= frequency)

No.	Items	Frequency and Percentage						
		F/N	SA	A	U	D	SD	TOTAL
1	Teacher's poor teaching strategies affect female students' classroom participation.	N	49	54	22	39	12	176
		%	28	31	13	22	7	100%
2	Girls are more likely to sit quietly unless they are called on by their teacher to respond questions.	N	63	86	9	11	7	176
		%	36	49	5	6	4	100%
3	EFL teachers only choose volunteers to answer questions; they did not give females the opportunity to participate.	N	70	60	11	23	12	176
		%	40	34	6	13	7	100%
4	Our English teacher creates conducive environment to help female students to participate freely in the classroom.	N	26	40	9	80	21	176
		%	15	23	5	45	12	100%
5	Our English teacher encourages me to participate in classroom discussion.	N	38	45	6	73	14	176
		%	22	26	3	41	8	100%
6	Our English teacher makes the lesson fun and interesting to enhance our classroom participation.	N	11	23	7	97	38	176
		%	6	13	4	55	22	100%
7	Our English teacher gives credit for our participation, so I motivated to participate.	N	13	19	1	91	52	176
		%	7	11	1	52	30	100%

The data in the above table indicates how EFL teachers' teaching strategies affect female students' classroom participation.

In item one, 54 (31% of the respondents) agreed that EFL teachers' poor teaching strategies affect their classroom participation. Similarly, 49 (28%) of the respondents strongly agreed that EFL teachers' poor teaching strategies affect their classroom participation. From this data, we can see how teachers' strategies affect female students' classroom participation.

Concerning item two, 63 (36% of the respondents) strongly agreed and 86 (49% of the respondents) agreed that girls are more likely to sit quietly unless they are called on by their teacher to respond to questions. On the other hand, 7 (4% of the respondents) strongly disagree, and 11 (6%) of them disagree that girls are more likely to sit quietly unless they are called on by their teacher to respond to

questions in an EFL classroom. From this data, we can see that a great number of female students sit quietly unless they are pushed by their EFL teacher to participate in the classroom.

According to item three, 70 (40%) of the respondents strongly agree and 60 (34%) of them agreed that their EFL Teachers tend to rely exclusively on volunteers when posing questions, which limits female students' chances to engage. Whereas 12 (7%) of the respondents strongly disagree and 23 (13%) of them disagreed that their EFL Teachers often depend solely on volunteers when asking questions, which limits female students' opportunities to contribute. From this data we can say that EFL teachers did not give equal opportunity for female students to express their ideas on the lessons.

In item four, 26 (15%) of the respondents strongly agree, and 40 (23%) of them agree that their En-

English teacher creates a conducive environment to help female students participate freely in the classroom. Contrastingly, 21 (12%) of the respondents strongly disagreed, and 80 (45%) of the respondents disagreed that their English teacher creates a conducive environment to help female students participate freely in the classroom. However, nine (5%) of those polled selected the option "undecided". From the data, we can see that a great number of respondents said that their EFL teacher did not create conducive environments that helped their female students participate freely in the EFL classroom.

Item five shows that 38 (22% of the respondents) strongly agreed and 45 (26% of them) agreed. 73 (41% of them) disagreed, and 14 (8%) strongly disagreed, that their English teacher encourages them to participate in classroom discussions. On the other hand, 6 (or 3% of them) said they were undecided. From this data, we can see that almost half of the respondents disclosed that their EFL teacher didn't encourage them in the classroom discussion.

When we come to item six, 11 (6%) of the respondents strongly agreed and 23 (13%) agreed. On the contrary, 97 (55%) of the respondents disagreed, and 38 (22%) of them strongly disagreed that their English teacher makes the lesson fun and interesting to enhance their classroom participation. Whereas seven (4%) of the respondents responded that their English teacher makes the lesson fun and interesting to enhance their classroom participation. From this data, we can say that EFL teachers didn't make the lesson fun and interesting enough to increase the students' classroom participation.

According to item 7, 13 (7%) of the respondents strongly agreed, and 19 (11%) of them agreed. In contrast, 91 (52%) of respondents disagreed, and 52 (30%) strongly disagreed that their English teacher rewards their participation, so they were motivated to participate. From this data, we can say that English teachers at this grade level didn't give credit for their students' participation, so their students were not motivated to participate in the classroom discussion.

3.3 Interview Data Analysis

The researchers selected eight EFL teachers to be participants in the semi-structured interview. After analyzing the data gathered from the interview, the researchers divided according to the following themes:

- **Female students participate as well as male students in the classroom discussion**

Almost all eight EFL teachers that were selected for the interview confirmed that female students didn't participate as well as male students in the classroom discussion.

- **Female students' interest in participating in classroom discussion**

The majority of the respondents said that female students are not interested in participating in the classroom discussion in an EFL classroom. Three respondents stated that few female students are interested in classroom discussions and participate in them.

- **Classroom participation and academic achievement of female students in an EFL class**

Almost all of the respondents confirmed that the majority of their female students have less academic achievement in the English language compared with their male classmates. The respondents added that students who actively participated in EFL classrooms had good academic achievement. They believe that female students' poor academic performance is due to their lack of participation in EFL classes.

- **Teaching strategies affect the extent of female students' participation**

The majority of the respondents asserted that EFL teachers' teaching strategies directly affect female students' classroom participation.

- **Factors that affect female students' participation in EFL classes**

All eight respondents assured me in one word that fear is one of the major factors that affect female students' classroom participation. The respondents further explained that, in

addition to fear, there are some other factors that affect female students' classroom participation. These are lack of confidence, lack of self-esteem among female students, shyness, cultural influence, and family background. Fassinger (1995) stated that advanced classroom preparation as well as a student's level of confidence would determine their willingness to participate within the classroom.

- **Possible solutions to alleviate these influences**

The majority of the respondents responded that encouraging female students to participate in the classroom, giving them advice, and telling them the advantages of classroom participation in language learning can be a solution to increasing female students' participation.

3.4 Analysis of the Observation

The data from the observed classes showed that EFL teachers obviously do not provide equal opportunities for male and female students to participate in the classroom discussion. They didn't give just a little chance for female students to participate in classroom discussion. The classrooms observed are totally teacher-dominated, and in most classrooms, there were gender-biased situations. As stated by Aina and Cameron (2011), gender bias experiences that students encounter in schools can affect their participation in classroom activities.

Besides, the teachers didn't use various teaching methods or strategies to motivate and encourage female students to practice the target language. They gave oral and written activities to the students and then asked only two or three volunteer students who raised their hands to respond. The rest of the class, especially the female students, sat idly and became passive listeners.

The classroom led by a female EFL teacher, on the other hand, indicated that the teacher's role in engaging female students in classroom discussion is relatively better. In this classroom, female students' classroom participation is relatively better than that of classes led by male EFL teachers. However, it was observed that some female students did not

volunteer to participate even if they were called by their EFL teacher. They are concerned about communication. According to Fassinger (1995; Howard *et al.*, 2002), communication apprehension makes most female students less participative.

4 Conclusion

- The following conclusions were reached based on the main revelations from the questionnaire, interview, and classroom observation.
- Unless their teacher called them, female students did not participate as freely as male students do in the EFL classroom. There weren't many female students who voluntarily attended EFL classes.
- Most female students lack the motivation and reluctance to participate in class discussions in EFL.
- Most female students feel intimidated to participate in class discussions. They simply sit still and pay attention to their teacher. When the lesson is not clear to them, they don't even ask questions for the briefing. There is gender specific bias in most EFL classes through calling only male students for classroom participation and by giving less attention for female students participation.
- The EFL teacher's teaching method excluded female pupils from the conversation in class. The majority of the classes were taught by the teacher. Since most female students have lower levels of academic success and English language proficiency than male students, they didn't give them the opportunity to participate in the teaching and learning process.

5 Recommendations

EFL teachers are expected to help or motivate female students to become active participants and high achievers in their education because the female population in our country (Ethiopia) is greater than or equal to half of the total population. They can increase female student participation by employing

various strategies, such as making the lesson fun and interesting. Therefore, EFL teachers should design the lesson according to the interests of their female students. EFL teachers should also use positive nonverbal behaviors such as smiling and nodding to acknowledge female students' answers. This can encourage shy and fearful students to participate and share what they feel in the classroom discussion.

Instead of calling only students who raised their hands, EFL teachers should give equal time to male and female students in class discussions. They also need to create a conducive environment and gender-sensitive group formation since it builds female students' confidence and makes them responsible for their learning.

To increase female students' classroom participation, EFL teachers should avoid teacher-dominated classroom situations and instead use a communicative teaching and learning approach. Teachers need to give their students more time to use the language in different ways. Students can easily develop their language competence when they get the chance to use it. Besides, giving credit for students' classroom participation can also increase the number of female participants in the classroom discussion.

Conflict of Interest

The authors of this article confirmed that they have thoroughly read and approved the manuscript to be published in this journal.

Ethical Approval

Consent was sought from the research participants. Confidentiality was maintained in reporting information.

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Cooperative Training as a Means of Implementing Dual Training Model for Sustainable Employment Opportunity in SNNPR, Gedeo Zone

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Abstract

Cooperative training in vocational education is a dual training system developed in collaboration between businesses and TVET institutions. It aimed to provide trainees with employable skills by spending the majority of their courses in practical sessions. The main objective of the study is to explore the role of cooperative training in tracking unemployment in TVET colleges. To achieve this goal, three major research questions were formulated. These are the current cooperative training statuses. How does cooperative training help to reduce unemployment? What factors are influencing cooperative training? To answer these research questions, 385 research participants were involved for both quantitative and qualitative data. Multistage sampling was employed. An embedded mixed research design was used. Both descriptive (frequency, percentage, and mean) and inferential (ANOVA and regression) statistics were implemented to analyze the data. A survey questionnaire, an interview guide, and document analysis were employed as data collection tools. The study identified that, despite its weaknesses, the current status of cooperative training is promising. It is significantly contributing to tracking youth unemployment. However, it is distressed due to a lack of adequate demand assessment, weak collaboration in partnerships, and an inadequate amount of industry and enterprise. It is recommended that TVET colleges plan workshops and trainer training to equip them with the skills needed to conduct demand assessments in collaboration with nearby universities. Likewise, a strong partnership should be maintained with the government and non-government sectors of the zone and regional states to eliminate challenges.

1 Introduction

1.1 Background of the Study

Youth unemployment continues to represent a significant developmental challenge in many developing economies, including Ethiopia. In response, Technical and Vocational Education and Training (TVET) has been increasingly promoted as a strategic instrument for equipping young people with practical competencies that facilitate their transition into productive employment. Unlike general academic education, TVET emphasizes occupation-oriented skill formation that is directly linked to

labor market requirements (Maclean & Wilson, 2009; UNESCO, 2006).

Cooperative training—often described as a dual training model—constitutes one of the most structured approaches within vocational education. This model distributes training responsibilities between educational institutions and enterprises, enabling trainees to alternate between classroom-based instruction and workplace-based practical learning. The rationale behind this arrangement is that sustained exposure to authentic production environments strengthens technical proficiency and en-

hances employability outcomes (European Commission, 2019; Fawcett, Sawi, & Allison, 2014).

Comparative studies indicate that vocationally trained graduates frequently experience smoother school-to-work transitions compared to individuals without occupation-specific preparation (Ryan, 2001; Wolbers, 2007).

In countries where dual systems are well institutionalized, such as Germany and Austria, youth unemployment rates tend to be relatively lower, partly due to strong alignment between training standards and industry demand (Pilz & Wiemann, 2021; European Commission, 2020). These systems integrate apprenticeship contracts, enterprise engagement, and nationally regulated occupational standards to ensure labor market responsiveness.

From a theoretical perspective, three European vocational governance patterns are commonly discussed: the liberal market-oriented model (often associated with the United Kingdom), the state-regulated bureaucratic approach (as seen in France), and the coordinated dual system exemplified by Germany (Greinert, 2004; Fawcett *et al.*, 2014). Among these, the German dual arrangement has attracted particular attention due to its structured cooperation between enterprises and vocational institutions, combining institutional instruction with enterprise-based apprenticeship in a complementary manner.

Historically, vocational education in Ethiopia evolved gradually. Early forms of skill-oriented instruction were introduced during the early twentieth century through mission-based initiatives. Formal technical education later expanded into structured public institutions. More recently, national reform frameworks have aimed to transform TVET into an outcome-based and decentralized system capable of supporting economic growth and poverty reduction (MoE, 2008; Girma, 2009).

The Ethiopian TVET strategy explicitly emphasizes the development of a comprehensive system intended to produce skilled, entrepreneurial, and self-reliant graduates. Central to this reform is the adoption of cooperative or dual training modalities, whereby a substantial proportion of training time

is expected to take place within enterprises rather than exclusively in institutional workshops (MoE, 2008; MoE, 2015). This design seeks to strengthen industry linkage and reduce the mismatch between training output and labor market demand.

The expansion of TVET institutions across regions reflects policy commitment to workforce development. Enrollment levels, training centers, and instructor numbers have increased significantly over the past decade (MoE, 2017). Nevertheless, rapid expansion has raised concerns regarding quality assurance, institutional capacity, and the adequacy of enterprise partnerships. Studies suggest that insufficient demand assessment, weak collaboration mechanisms, and limited industrial absorption capacity can undermine cooperative training effectiveness (Birhane, 2014; Geda, 2021).

Unemployment data further justify closer scrutiny of vocational training outcomes. National urban labor force surveys report considerable unemployment rates, particularly among youth and female populations (FDRE CSA, 2016). Although TVET is designed to mitigate such challenges by promoting employability and self-employment, empirical evidence assessing its measurable contribution to unemployment reduction remains limited and context-specific.

In Southern Nations, Nationalities, and Peoples' Region (SNNPR), particularly in Gedeo Zone, TVET colleges have implemented cooperative training programs for several years. These programs are expected to enhance job readiness and entrepreneurial capability. However, most existing studies in the region have concentrated primarily on implementation challenges rather than systematically evaluating the direct relationship between cooperative training and employment outcomes (Matwos, 2013; Desalegn, 2014).

Institutional and environmental factors may significantly influence the performance of cooperative training systems. Limited availability of enterprises capable of hosting trainees, infrastructure shortages, weak stakeholder coordination, and financial constraints are frequently reported barriers (Melaku, 2019; Dereje, 2018). Without addressing such systemic constraints, the transformative potential of

the dual training model may not be fully realized.

Therefore, examining cooperative training as a mechanism for promoting sustainable employment opportunities is both timely and necessary. A comprehensive analysis of its current implementation status, its contribution to employment generation, and the contextual factors affecting its effectiveness can provide evidence-based insights for policymakers, institutional leaders, and regional planners.

Accordingly, this study investigates the role of cooperative training in enhancing employment opportunities within TVET colleges in SNNPR, with particular emphasis on Gedeo Zone. By employing an embedded mixed-method design, the research aims to generate contextually grounded findings that inform the strengthening of dual training implementation and contribute to strategies addressing unemployment.

1.2 Statement of the Problem

Despite sustained expansion of Technical and Vocational Education and Training (TVET) in Ethiopia, unemployment, particularly among urban youth, remains a persistent socio-economic concern. National labor force surveys indicate that unemployment rates continue to affect a substantial proportion of the active population, with female youth experiencing disproportionately higher rates compared to males (FDRE CSA, 2016). This reality raises important questions regarding the extent to which vocational education initiatives are fulfilling their intended role in enhancing employability.

TVET institutions are expected to address labor market demands by producing competent graduates equipped with practical and entrepreneurial skills. However, structural and institutional limitations have been repeatedly identified as obstacles to achieving this objective. Education sector development reports highlight challenges such as weak stakeholder participation, limited institutional capacity, and insufficient awareness regarding the strategic role of TVET in economic development (MoE, 2011). Furthermore, although cooperative training guidelines stipulate that a substantial proportion of formal training should occur within enterprises, evidence suggests that this expectation

is not consistently realized in practice (MoE, 2015).

Beyond policy-level challenges, broader systemic constraints affect the responsiveness of TVET programs. In many developing contexts, vocational institutions struggle with outdated infrastructure, limited industry engagement, and inadequate adaptation to technological change (Atchoarena, 2002). Such constraints may weaken the alignment between training outcomes and actual labor market requirements, thereby reducing the employment prospects of graduates.

Previous empirical investigations conducted in different Ethiopian regions have explored challenges and opportunities related to cooperative training implementation (Matwos, 2013; Desalegn, 2014; Birhane, 2014). While these studies have contributed valuable insights into operational barriers—such as enterprise shortages and coordination weaknesses—they have given comparatively limited attention to systematically assessing the measurable contribution of cooperative training to unemployment reduction. In addition, many of these studies were conducted several years ago, creating a temporal gap that limits their applicability to current implementation realities.

Recent research also emphasizes the importance of labor market demand assessment and institutional autonomy in ensuring effective vocational training delivery. The absence of structured mechanisms for identifying skill gaps and forecasting labor market needs can undermine training relevance and sustainability (Birhane, 2014). Similarly, limited access to adequate training equipment and mismatches between occupational standards and instructional resources have been reported as persistent constraints in Ethiopian TVET institutions (Geda, 2021).

At a continental level, scholars argue that insufficient prioritization of skills development contributes significantly to unemployment and underemployment in African economies (Inyagu, 2014). Without strong integration between training institutions and productive sectors, vocational systems may struggle to fulfill their mandate of supporting economic growth and job creation. Therefore, strengthening cooperative training models becomes

particularly important in contexts where youth unemployment poses developmental risks.

In Southern Nations, Nationalities, and Peoples' Region (SNNPR), and specifically in Gedeo Zone, cooperative training programs have been implemented across several TVET colleges. These programs are designed to foster enterprise-based learning and enhance graduate employability. However, empirical evidence documenting their actual effectiveness in tracking unemployment remains limited. Questions persist regarding the current implementation status of cooperative training, the degree to which it contributes to employment outcomes, and the institutional and environmental factors influencing its performance.

Given the significant public investment directed toward TVET expansion, failure to critically evaluate the effectiveness of cooperative training could result in inefficient resource utilization. Without empirical assessment, policymakers and institutional leaders may lack reliable evidence to guide reform and strengthen partnership mechanisms.

Accordingly, this study seeks to address the following core concerns:

1. What is the current status of cooperative training implementation in TVET colleges in Gedeo Zone?
2. To what extent does cooperative training contribute to reducing unemployment among graduates?
3. What institutional and environmental factors affect the effectiveness of cooperative training?

By systematically examining these questions, the study aims to generate evidence that informs policy refinement and strengthens the implementation of the dual training model within the regional context.

1.3 Theory

Among three distinct European TVET models, namely the UK liberal market model, the French state-regulated bureaucratic model, and the German dual system model, cooperative training as well as the German dual system model have been

highly encouraged as a type of TVET in enabling the economic development of countries (Fawcett, Sawi, & Allison, 2014).

According to Fawcett *et al.* (2014), cooperative training or the dual-system model of German establishes effective practical learning through apprenticeships, on-the-job training, and internships. Hence, the model is effective in making sufficient numbers of apprenticeship and internship placements for the trainee.

Germany's dual training system, as well as the TVET cooperative training approach, are well defined and have evolved over time in Germany and other countries such as Austria and Switzerland (Pilz & Wieman, 2021). This model was designed primarily to address both the skills shortage and the unemployment problem that many countries face.

The literature suggests important points for the effective implementation of the dual model. The European Commission (2019) states that the dual vocational training system is grounded on training occupations. It refers to training courses that are nationwide and planned in training regulations; they mainly aid in the objective of providing the trainees with vocational requirements. The fundamental objective is to offer them chances for long-lasting employment. Also, the training is to deliver entrepreneurial business skills with qualified skilled labor for an extended period of time. The training is usually undertaken within two conjoining learning sites: the company or enterprise and the TVET institution.

Industry-based training—"the training at the workplace"—has to be a major part of the trainee's training time at the vocational college or institution. That is why in Ethiopia's dual training modality, 70% of training activities are expected to be performed at the workplace or on the company site. Therefore, effective implementation of the dual system implies strong involvement between the enterprise, the government, and the collective partners, including the private and public sectors.

Some findings substantiate that dual-model vocational training has a significant contribution to tracking unemployment. Among these, Saleh (2017)

reveals that vocationally trained graduates were more likely to be employed than those with amateur or no vocational training. Even adult workers with vocational training have a higher chance of being employed full-time than other adult workers who do not have the same training. Similarly, research conducted in China's poorest province, Gansu, identified the pleasing contribution of Germany's dual training model (Postiglionea *et al.* Tang, 2019).

They illustrate Dual models. The German TVET

model highly contributes to addressing six determinant difficulties: graduate employment, the success-related problem of enterprises, internship place constraints, teacher upgrading, quality standards, and poverty mitigation. Provision of an incentive mechanism for enterprises, long-sustaining employment stability, professional career development of trainers, and a well-equipped information system for institutions, selecting systematically, and placing interns are prominent best practices gained from the area in implementing this model.

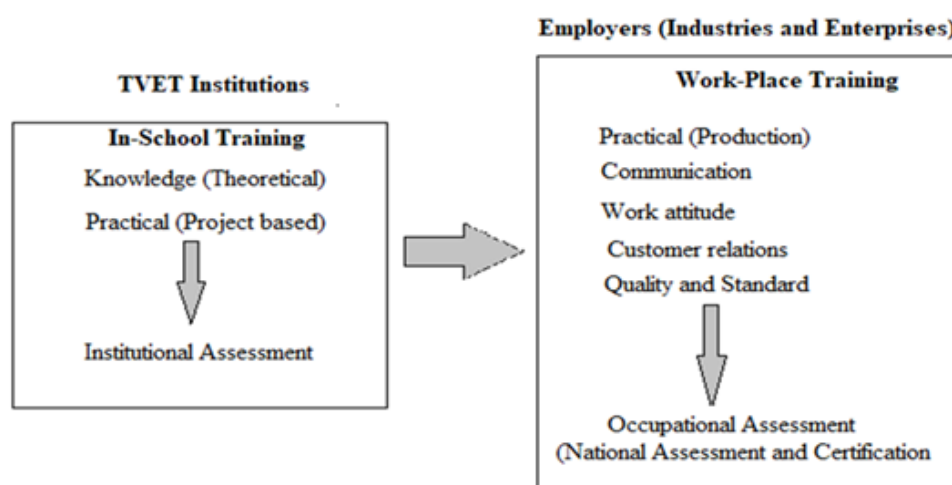


Figure 1: Conceptual framework of Ethiopian Dual Training System

Moreover, Paryono (2017) identified that the German dual-system model meets the labor market demand by contributing to sustainable development, especially in green job formation, which positively aids in sustainable environmental development. According to BMZ (2012), the dual TVET training model had better play a vital role in tracking employment problems by transferring needs-oriented social and personal skills, thereby improving graduate employability.

2 Methodology

TVET leaders, trainers, trainees, and enterprise office experts were chosen for this embedded mixed research using simple random, stratified, and purposeful methods. Purposeful for TVET leaders, a simple random sampling technique for trainers, and strata for trainees were used. Questionnaires and interviews were used in collecting data from the

respondents. The questionnaire and interview were self-prepared based on a review of related literature.

The questionnaire includes 42 questions and four scopes, including the status of cooperative training in TVET (Questions 1–10), the effects of cooperative training in reducing unemployment (Questions 1–9), stakeholder contributions to the effectiveness of TVET (Questions 1–5), and factors affecting the effectiveness of cooperative training (Questions 1–18). This questionnaire was answered on a five-point Likert scale (from strongly disagree to strongly agree, and from very low and very high scales).

The quantitative tools were tested in Gedeb Wereda TVET College, which was not chosen for the main study, and their reliability was scientifically assessed using Chronbach's alpha statistics. Likewise, the reliability tool was reported as having

a 0.81 coefficient using Cronbach's alpha coefficient. According to the literature, a figure of 0.75 or higher is usually used as a rule of thumb to denote an acceptable level of reliability (Singh, 2007). A demographic questionnaire was used to collect data on the demographic characteristics of the participants, including age, sex, educational qualification, and service year. The Dilla University Institute of Education and Behavioural Science's Center for Education Studies and Research approved this study. Finally, the data were analyzed using appropriate statistical analysis such as frequency, percentages, mean, standard deviation, ANOVA, and regression in SPSS version 22.

3 Results and Discussions

3.1 Results

In terms of demographics, more than half of the respondents 193 (52%), are male, and 138 (48%), are female. It affirms the status of female participation in the sector as being in progress and a little bit promising. Likely, the majority, 43 (52%) of leader and trainer respondents, have 1–5 years of service, and only 12 (11% of respondents) have 16 years of service or more. This implies that the majority of TVET workers are less experienced; specifically, trainers have fewer experiences than the leader's group. This suggests that the status of TVET colleges in terms of retaining workers or trainers is

low.

Trainers' educational backgrounds confirm that 31 (60%) of respondents are degree holders, and the rest 15 (30%) of respondents are MA or MSc holders. This data ensured that trainers' educational backgrounds met standards, as the required minimum standard set to be an instructor was at least 30% M.A./MSc degrees and 70% B.A./BSc degree holders (MOE 2006, cited in Wondfraw, 2015).

Out of the 379 questionnaires distributed, 325 were filled out by the participants, representing a response rate of 85%. Most participants, 250 (76%) were trainees, and the rest, 75 (24%), were trainers and leaders.

Hence, Table 1 shows that respondents are "agreed" (mean values range from 3.5 to 4.20), with the statements "Provisions of the entrepreneurship course for trainees" having $x = 3.85$, $SD = .777$, and "Enable trainees to achieve the necessary competencies" having $x = 3.87$, $SD = .741$. However, the other respondents are "undecided" (ranging from 2.70 to 3.40) with two statements that indicate the status of TVET cooperative training. These are "practices of adapting the curriculum to the world of work", with a grand mean score of $x = 2.95$, $SD = .781$, and "TVET industry partnership has been strongly established", $x = 2.94$ and $SD = .759$.

Table 1: Results for Status of Cooperative Training

SN	Variables	No	Descriptive		ANOVA	
			Mean	SD	F	Sig.
1	Provisions of the entrepreneurship course for trainee	325	3.85	.777	3.99	.019
2	Enable trainees to achieve the necessary competences	325	3.87	.741	3.822	.022
3	There is practices of adapting the curriculum to the world of Work	325	2.95	.781	.472	.624
4	TVET industry partnership has been strongly established	325	2.94	.759	.779	.460
5	All training programs are demand driven in the colleges	325	2.10	.711	.034	.967
6	Intensive training is provided for both rural and urban labour market	325	2.10	.695	.226	.798
7	Adequate resource granted to facilitate training	325	2.19	.750	2.782	.063
8	Labour market demands assessments are conducted	325	2.06	.666	.387	.679
9	Skill gaps are properly identified before provision of training	325	1.51	.898	1.43	.241
10	There is enough industry and enterprise space for CT	325	1.46	.869	.328	.720
11	Practice of encouraging through advertising, & financial incentives	325	1.46	1.285	.123	.885
12	Full collaboration during planning of CT with industries ensured	325	1.44	8.09	.239	.787

*Significant at $p < 0.05$. Source: Researchers' Field Survey Result

Note: 1-1.8 strong disagreement, 1.9-2.6 disagreement, 2.7-3.4 Undecided, 3.5-4.02 Agree & 4.21-5.00 strong agreement.

Besides, respondents "disagreed and strongly disagreed" (1.00–1.80) with the eight statements: "All training programs are demand-driven; intensive training is provided for both rural and urban labor markets; adequate resources are granted to facilitate training; labor market demands assessments are conducted; skill gaps are properly identified before the provision of training; there is enough industry and enterprise space for *CT*; the practice of encouraging trainees; and full collaboration during the planning of *CT* with industries is ensured". The grand mean is $x = 2.10, 2.10, 2.10, 2.19, 2.06, 1.51, 1.51, 1.46, 1.46, 1.46, 1.46, 1.46, 1.46, 1.46, 1.46, 1.46, 1.46, 1.46, 1.46, 1.46$.

The result reveals that cooperative training is promising in terms of providing entrepreneurship courses and enabling trainees to achieve the necessary competencies. However, it is constrained by other potential aspects of cooperative training, including granting adequate resources, identifying skill gaps before the provision of training, the unavailability of enough industry, and collaborative planning with industry. Except for items one and two ($p = 0.019$ and 0.022 0.05), the ANOVA test result revealed no statistically significant differences in mean value in all ten cases ($p = 0.624, 0.460, 0.967, .798, .063, .679, .241, .720, .885, .785 > 0.05$). It consolidates the findings as perceived by the majority of respondents.

Supporting this finding, interviewee respondent "B" said that *the available industries, as well as enterprises, are not sufficient for cooperative training in the Geo Zone. The problem is countrywide. Therefore, TVET institutions are forced to provide more training at the college by accessing materials and machines*. Also, respondent "A" asserted that *identifying skill gaps before the provision of training has practical constraints on the side of technical and vocational education and training*.

Table 2 presents the effects of cooperative training on tracking unemployment. Hence, respondents rated "high" (mean values range from 3.5 to 4.20) on variables "graduates' communication and collaborative ability" having $x = 3.83$, $SD = .813$, "graduates' ability to develop adaptable skills to their environment" having $x = 3.81$, $SD = .903$, and "graduates' access to get start-up finance credit" having $x = 3.70$, $SD = .986$. However, the respondents rated "moderate" (mean values ranging from 2.70 to 3.40) on six variables. It includes "graduates' ability to start their own businesses", "ability to use relevant training machines in the local situation", "graduates' trend of getting job opportunities", "graduates' ability to assess the realistic labor market", "graduates' business management skills and openness to risk", and "success of self-employed graduates in a small and micro-enterprise" with grand mean scores $x = 3.02, 2.96, 2.96, 2.94, 2.92$, and 2.90 ; $SD = .83$.

Table 2: Effects of Cooperative Training in Tracking Unemployment

SN	Variables	No	Descriptive		ANOVA	
			Mean	SD	F	Sig.
1	Graduates' Communication and collaborative ability	325	3.83	.813	.966	.382
2	Graduates' ability of developing adaptable skills to their environment	325	3.81	.903	.247	.782
3	Graduates' access to get start up finance credit	325	3.70	.986	.210	.811
4	Graduates' ability of creating their own businesses	325	3.02	.835	.421	.657
5	Ability of using relevant training machines to local situation	325	2.96	.796	.708	.493
6	Graduates' trend of getting job opportunity	325	2.96	.736	.176	.839
7	Graduates' ability of assessing the realistic labour market	325	2.94	.868	.063	.938
8	Graduates' business management skills and openness to risk	325	2.92	.855	2.66	.071
9	Success of self-employed graduate in small and micro enterprise	325	2.90	.818	1.190	.306
10	Graduates' access to land or structures to operate	325	1.91	.874	.319	.727

*Significant at $p < 0.05$. Source: Researchers' Field Survey Result

Note: 1-1.8 very low, 1.9-2.6 low, 2.7-3.4 moderate, 3.5-4.20 high & 4.21-5.00 very high.

Aside from that, respondents were rated "low" (1.0–1.8) on the variable "graduates' access to land or structures to operate," with a grand mean value of $x=1.91$ and a standard deviation of .874 respectively. F (0.966, .247, .210, .421, .708, .176, .063, 2.66, 1.190, and .319; $P = 0.382, .782, .811, .657, .493, .839, .938, .071, .306, \text{ and } .727$, respectively) show that there are no statistically significant differences between the respondents.

Thus, the presented result justifies the effects of cooperative training in tracking unemployment as significant, in which the majority of respondents rated "high" and "moderate" for the given variables that illustrate the graduate's ability to develop adaptable skills and to start their business. Whereas access to land or structures to operate their businesses has been a major challenge for graduates.

Table 3 shows the effect of cooperative training on unemployment tracking using a linear regression model. The linear regression model statistical test result shows $r = .890$ coefficient and $p = .017, 0.05$, as well as [$R = .890; p = 0.017, 0.05$] for the dependent and independent variables. The independent variables are graduates through cooperative training, and the dependent variable is the employment rate in each year. The year encompasses data from

2014 to 2018 for five consecutive years for both variables. The study reveals cooperative training has an estimated 79% impact on increasing the employment rate, and the model is the best fit since $p = 0.17, 0.05$ acknowledges statistical significance. This is happening due to the number of graduates, and the number of employed graduates each year has been increasing across the years.

Thus, based on this data, one can conclude that though unemployment is a serious problem in the area, there is a reality that assures TVET colleges in southern Ethiopia, particularly Gedeo Zone that they have been contributing most to tracking youth unemployment through cooperative training.

Cooperative training or TVET training, according to interview respondent "A", significantly contributes to employment opportunities. Annually, a greater number of graduates have been participating in different job opportunities like construction (paving stone, metal work, *etc.*), greenery, poultry, food preparation, surveying, metal work, and hotel management.

This finding is in line with empirical literature that says youth unemployment is low in countries with well-working dual VET systems (European Commission, 2020).

Table 3: Liner regression on effect of cooperative training in tracking unemployment

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.890 ^a	.793	.741	77.962

a. Predictors: (Constant), Graduate Through Cooperative training

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	93035.259	1	93035.259	15.307	.017 ^b
	Residual	24312.074	4	6078.019		
	Total	117347.333	5			

a. Dependent Variable: Employment Rate

b. Predictors: (Constant), Graduate through cooperative training

Several institution-related factors have been affecting cooperative training in TVET. Table 4 presents institution-related factors affecting cooperative training.

Table 4: Institutions Related Factors Affecting Cooperative Training in TVET

SN	Variables	No	Descriptive		ANOVA	
			Mean	SD	F	Sig.
1	Discrepancy between number of trainees and capacities of enterprises to provide training	325	4.32	1.180	.625	.536
2	Inadequacy of physical facilities, for provision of training	325	3.84	.913	.294	.746
3	Low commitment of TVET leaders	325	3.73	.927	1.852	.159
4	Financial problems of trainee to afford training fee	325	3.14	.824	.114	.892
5	Lack of collaboration among TVET stake holders	325	3.20	2.89	.441	.644
6	Low trainers motivation and Commitment	325	2.37	.933	.776	.461
7	Trainers less qualifications, and pedagogical knowledge	325	2.31	.923	1.652	.193
8	High cost of TVET training	325	2.29	.914	4.78	.009

*Significant at $p < 0.05$. Source: Researchers' Field Survey Result.

Note: 1-1.8 very low, 1.9-2.6 low, 2.7-3.4 moderate, 3.5-4.20 high & 4.21-5.00 very high.

Thus, respondents rated it "very high" (mean values range from 4.21 to 5.00) on the variable "discrepancy between the number of trainees and capacities of enterprises to provide training," with $x = 4.32$ and $SD = 1.180$. Also, respondents rated "high" for "inadequacy of physical facilities, provision of training", and "low commitment of TVET leaders", with $x = 3.84$, $SD = .913$, and 3.73 , $SD = .927$, respectively. Furthermore, respondents rated "moderate" (mean values ranging from 2.7 to 3.4) on "financial difficulties of the trainee in affording training fees" and "lack of collaboration among TVET stakeholders", with $x = 3.14$ $SD = .824$ and $x = 3.20$ $SD = .644$, respectively. Respondents rated "low" for "lack of collaboration among TVET stakeholders," "low trainer motivation and commitment", "lack of trainer qualifications and pedagogical knowledge", and "high cost of TVET training", respectively, with $x = 3.20$, 2.37 , 2.31 , and 2.29 ; $SD = 2.89$, $.933$, $.823$, and $.914$.

The ANOVA test result, F (0.625, .294, 1.852, .114, 441, .776, 1.652, & 4.78), $P = 0.536$, .746, .159, .892, .644, .461, & 193, > 0.05 , authorizes this because there are no statistically significant differences between the respondents' perspectives. However, there is a statistically significant difference for item eight that states "high cost of training" is among the factors influencing cooperative training, considering it has less impact on training.

Likewise, qualitative data confirming this finding says: *Interviewee C said that institutional-related factors like less infrastructure and low commitments of academic and administrative staff members are among the main problems negatively influencing cooperative training.*

Table 5 illustrates work environment-related dynamics that hinder cooperative training. Concerning this, respondents rated a "very serious problem" (mean values range from 4.21 to 5.00) on the variables "insufficient working capital" and "collateral loan requirement by credit and saving organizations" with $x = 4.29$ and 4.23 , $SD = 1.251$ and 1.317 , respectively.

Similarly, respondents rated "major problem" (mean values ranging from 3.50 to 4.20) for five variables, including "lack of marketplace for display or sale, high market competition, lack of infrastructure such as electric cities and water, lack of linkage between market and enterprise, and dissimilarity of activities during training with activities in the world of work", with $x = 3.63$, 3.56 , 3.51 , 3.63 , and 3.58 ; $SD = 0.946$, 1.039 , 1.035 . Furthermore, respondents ranked "minor problem" (mean values ranging from 1.9 to 2.6) for two variables: "nearby raw material availability, insufficient size of production to gain profit, and high level of taxes", with $x = 2.00$, 2.06 , and 2.79 $SD = .669$, $.736$ and $.826$, correspondingly.

Table 5: Work Environment Related Dynamics Affecting TVET Training

SN	Variables	No	Descriptive		ANOVA	
			Mean	SD	F	Sig.
1	Insufficient working capital	325	4.29	1.251	.026	.975
2	Collateral loan requirement by credit and saving organizations	325	4.23	1.317	.131	.878
3	Lack of market place for display or sale	325	3.63	.946	1.785	.169
4	High market competition	325	3.56	1.039	.477	.621
5	Lack of infrastructure like electric city, and water	325	3.51	1.035	.789	.455
6	Lack of linkage between market and enterprise	325	3.63	.955	.061	.941
7	Lack of similarity of activities during training with the activities in the world of work	325	3.58	.925	.795	.453
8	Non availability of raw materials in close proximity	325	2.00	.669	.445	.641
9	High level of taxes	325	2.06	.736	.004	.996
10	Insufficient size of production to get profit	325	2.79	.826	.858	.425

*Significant at $p < 0.05$. Source: Researchers' Field Survey Result.

Note: 1-1.8 not problem, 1.9-2.6 minor problem 2.7-3.4 moderate problem, 3.5-4.20 major problem & 4.21-5.00 very serious problem.

The ANOVA test result, F (.026, .131, 1.785, .477, .789, .061, .795, .445, .004 & .858; $P = 0.975, .878, .169, .621, .455, .941, .453, .641, .425$ & .996, > 0.05), supports this because there is no statistically significant difference between the respondents' perspectives. Thus, it validates that the majority of respondents have an almost similar understanding of environmental-related factors as being among the major dynamics hindering the success of cooperative training in the study area.

Likely, interviewee C said that: *Institutional factors such as fewer infrastructures and low commitments of academic and administrative staff members are serious issues that have a negative impact on cooperative training.*

At the same time, interviewee A said that "absences of motivation as well as an incentive package for enterprise or industry ownership and trainers are among the greatest challenges ever affecting cooperative training".

4 Discussions

The analysis of the empirical results along with the theoretical frameworks included in this research has provided insights into the various issues of cooperative training. As a result of this quantitative and qualitative analysis, important discussions are made that have implications for the improvement

of cooperative training.

The philosophical basis of Ethiopian TVET is grounded in the vision of raising the level of education and creating a self-reliant and innovative society. Moreover, it is primarily focusing on preparing the youth today and in the future as well. To implement this, TVET institutions are expected to address praiseworthy cooperative training, which would maintain a dual training system that demands 30% of theoretical training in the colleges and the rest of the percentage of training in industry workshops. Findings indicate that the current state of cooperative training in TVET colleges is precarious due to a lack of adequate demand assessment, a lack of partnership collaboration, an insufficient amount of industry and enterprise, and a reduced practice of encouraging potential stakeholders.

This finding substantiates the research results of the previous study. According to Aman (2021), the most common challenges trainees face when learning practical skills are a lack of training resources, a mismatch between training equipment and established training standards, and fewer concerns dedicated by the institution to industrial or enterprise collaboration. Equally, there are trainers who are incapable of demonstrating their expertise and knowledge during the practical training of skills. Moreover, there is empirical evidence revealing that in developing countries, states importunately

call for TVET growth, but there are still several limitations deterring this field from accomplishing the demanded standards and accomplishments, such as management systems and financial support (Xiaohui & Ramadan, 2019). This study varies from previous research findings regarding the weakness of demand assessment before the provision of training and the mismatch of the industry with trainee numbers, which are the points of departure from those referred research findings.

Despite its several limitations, cooperative training is significantly contributing to tracking unemployment. Therefore, TVET could be the greatest means to escape poverty. Furthermore, graduates' ability to develop adaptive skills, communication, and collaborative abilities, the trend of getting job opportunities, and getting access to start-up finance credit are encouraging practices. The regression model estimate specifies that 79.3 percent of employment opportunities obtained by TVET graduates are due to employability skills obtained from the training. However, for self-employed graduate entrepreneurs, access to land or structures to operate is not promising.

This may adversely affect TVET's journey to reduce unemployment. Researchers addressed themselves to ten enterprises organized by TVET graduates years ago; almost all of them are suffering due to the absence of places to display their products. It magnifies through cooperative training, which is significantly contributing to employment, but it is bottlenecked by several constraints.

This finding is supported by the literature, which shows that expanding technical and vocational education has a displacement effect on less educated or secondary school-leaving workers. Amazingly, the study reveals a 10% increase in vocational education graduates in the labor market, which minimizes the opportunity of having a formal job by 4.9% for male secondary school graduates (Machikita & Fukunishi, 2017). This elaborate training from technical and vocational education has enabled TVET graduates to get employment opportunities to the advantage of those who have no such training, while at the same time reducing unemployment.

The discussion paper conducted by the University

of California and the World Bank discloses that the effect of TVET cooperative training on employment is positive but adjacent to zero and statistically not significant. Even the positive effects are heavy when training is offered by the private owners of the institutions (Hirshleifer, McKenzie, Almeida, & Rida-Cano, 2014). Similarly, this research reveals the existence of the positive impact of cooperative training on reducing unemployment, which in turn substantiates its positive effect on raising employment opportunities. On the other hand, the study brought the impact statistically significant in reverse to previous findings in advance of the previous study. Further, it is stated that dual vocational education and training are well recognized in Europe and are reputable, for example, in Austria and Germany. Youth unemployment in countries with well-working dual VET systems is low (European Commission, 2020). The informal and traditional rural sectors, in particular, play an important role in providing massive employment opportunities; this necessitates employability skills from technical and vocational education (UNESCO, 2016).

Because of the astonishing nature of technical and vocational cooperative training, several studies recommend the government give it due focus by broadening access, improving funding, and holistically restoring the sector needed to tackle the load of unemployment and create wealth to a great extent (Inyagu, 2014; Jwasshaka & Fadila, 2020; Saleh, 2017; Obidile, Obi, & Ikpai, 2020; Ogbunaya & Udoudo, 2015).

Also, the study identified that institutional and work environment-related factors are among the major dynamics affecting the success of cooperative training. Institutional-related factors like fewer infrastructures, the inadequacy of physical facilities, the lack of a marketplace for enterprise, and low commitments of academic and administrative staff members are serious problems negatively affecting cooperative training. In addition to this, the absence of motivational support as well as an incentive package for enterprise or industry ownership and trainers is among the most serious challenges ever affecting cooperative training. Moreover, the discrepancy between the number of trainees and the capacity of industry and the lack of sufficient

working capital are among the greatest shortfalls. These findings are in line with previous studies. It has been identified that cooperative training has been continuously influenced by insufficient essential resource supply. Subsequently, the cooperative training quality process has been too weak to equip pupils with the needed capabilities (Melaku, 2019). Also, a deficiency of vital facilities, less funding for the programs, weak training quality, ineffective training methods, and poor managerial activities are among the factors negatively hampering cooperative training (Dereje, 2018).

Critique

The study determined that cooperative training was the only means of achieving employment opportunities. In its background section, it has cited some evidence to depict the seriousness of unemployment and the importance of skills development programs in reducing the problems.

The researcher claimed the development of a conceptual framework for a dual training system would serve as a bridge between training institutions and employers. The conceptual framework, however, lacked clear linkage with the principles of hands-on job training and school-based training, which are the major components of dual training programs. A typical framework of the Ethiopian TVET dual system is presented in Figure 1.

The theoretical section referred to three major European training models: the UK liberal market model, the French state-regulated bureaucratic model, and the German dual system model. The study deepened its view of the unfolding German dual training system while discounting the two. For a better understanding of the dual training system, it would have been better had the study discussed the two models in a bit more detail. Furthermore, the pieces of evidence presented for the sole importance of cooperative training in curbing youth unemployment were not enough.

Further education in the UK, Australia, New Zealand, and Canada is conducted to prepare graduates for skilled workers at the middle level of the occupational range (Wheelhan, 2016). Community colleges, in addition to preparing graduates for

upper-division degrees at universities, also provide vocationally oriented qualifications to prepare graduates for specific occupations in the labor market (Dennison 1995; Meier 2013). In British English, the training program is regarded as no more than a market process in which the participants are employees, employers, and partners (Mückenberger 1998, p. 37 etseq.). In French, the production process, by itself, is considered a political entity where the key players are the state and its executors, called *inspecteurs de travail*, on the recognition of the social order; it is more centrally controlled by the state than the market process.

By its nature, cooperative training requires the coordinated efforts of the stakeholders based on a predetermined memorandum. In this regard, the TVET strategy also stated:

To this end, maximum flexibility is given to TVET providers to negotiate and develop relationships with individual employers, groups of employers, or business or sector associations about the organization of cooperative delivery schemes. TVET providers will also be encouraged to venture into more agreements with small companies and the micro-enterprise sector, as these companies represent the target labor market for a large group of trainees (MOE, 2008, p. 31).

Although the study mentioned a lack of cooperation among the stakeholders, it didn't give much attention to how the main actors should work together for mutual benefit. Cooperative training provides an opportunity for both the training institution and the employer (MOE, 2008).

Recent studies conducted in similar areas revealed the primary determinant of the quality of TVET training programs was the unavailability of sufficient industries and enterprises for the implementation of dual training programs. The study gave equal importance to this problem and other factors such as lack of demand assessment and weak collaboration between actors in the sub-sector. Others also concluded several factors determine young graduates' employability. Economic model investigations such as household income, job preference, access to credit, access to training, and cooperative membership were found to have significant impacts

on youth unemployment (Menta, L., & Leza, T. 2020). Furthermore, Demissie, M. M., Herut, A. H., Yimer, B. M., Bareke, M. L., Agezew, B. H., Dedho, N. H., and Lebeta, M. F. (2021) found demographic characteristics, curriculum, institutional characteristics, graduate characteristics, and market and labor market conditions determine graduate unemployment. Other challenges of the sub-sector include perceptions of the TVET program in general and the cooperative training program in particular.

Self-employment is one of the components that it is important to include in the TVET strategy. It requires not only possessing certain skills but also market analysis, product development, work attitude change, and business leadership. The strategy stated, "The TVET executive bodies will also undertake initiatives to strengthen and raise quality in traditional apprenticeship training, as this mode of TVET delivery is particularly effective in preparing youth for self-employment" (MOE, 2008, p. 32). The study did not trace self-employment or the creation of jobs for others.

The 48% participation of female respondents in the study was weak evidence from which to conclude that there is promising progress in the inclusion of females in the TVET sub-sector as a whole. The same analogy applies to only 12% of participants having an experience of more than 16 years of claiming the sub-sector as being challenged by inexperienced workers. It should include and be verified by the country's TVET leaders, trainers, and administrative staff members' statistical data. A report obtained from the Ministry of Science and Higher Education's Federal TVET Agency indicated the sub-sector is still challenged by the low participation of TVET leaders and trainers (MOSHE, 2019–20).

The study, in general, found there are several challenges in implementing a cooperative training program in SNNPR and Gedeo TVET institutes, criticizing the system as obsolete, inadequate, and unable to adapt to the private sector. However, it revealed cooperative training can be used as an important method of reducing graduates' unemployment. For the program to be effective, the TVET institutions must facilitate trainer training to assess demand and closely work with major actors

to overcome challenges. By proclaiming the importance of the study in the improvement of TVET programs and as a means of challenging the policy, the study called for further investigations in the area.

5 Conclusion and Recommendations

Finally, the study can be viewed as a step toward closing the sub-sector's research gap. It raised an important course of inquiry, for unemployment is challenging the country's development while investing huge capital in the training institutions, which could be lost otherwise. It gives better information for policymakers to improve the implementation of cooperative training to ensure the dual training model, which is the major component of the TVET strategy (MOE, 2008). It can finally serve as a base for further studies in the area.

To that end, colleges should collaborate with nearby universities to plan workshops and train trainers to equip them for conducting demand assessments. Likewise, a strong partnership should be maintained with the government and non-government sectors of the zone and regional states to disregard the challenges. Further research on the role of cooperative training in reducing unemployment at regional and national levels should be conducted to generalize the magnitude of its effect.

Conflicts of interest

The authors affirm that there are no conflicts of interest regarding the publication of this paper.

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Ethical Approval

Consent was sought from the research participants. Confidentiality was maintained in reporting information.

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Teachers' and Supervisors' Views of Principal Power in Secondary Schools of Ethiopia

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Abstract

In order to better understand how teachers and supervisors view the uses and sources of power that principals favor, this study took a qualitative approach. Through interviews, qualitative data on three teachers' and three supervisors' views on the uses and sources of power is acquired. Principals employ legitimate power, reward power, coercive power, expert power, and referent power, according to the teachers' and supervisors' analyses of the uses and sources of power. The principal frequently exercised legitimate power, although the others hardly ever did. This study demonstrates that teachers' performance suffers when they only rely on legitimate sources of power, despite the fact that principals use a variety of power sources inequitably. Therefore, it is essential for effective leadership to inform school principals about how to employ various power sources depending on the situation.

1 Introduction

Schools use different techniques to be efficient and accomplish their intended objectives. The actions of the principals are crucial in defining the organizational politics and energizing the teachers. To inspire teachers, principals must be effective and efficient. The objectives of a high-quality education could be internalized to increase school effectiveness. It has to do with the power sources that school leaders in organizations ought to have (Fullan, 2007). Power has frequently been mentioned in literature in relation to concepts like hierarchy, authority, influence, and control. To avoid causing confusion in context, it is appropriate to define related concepts together with the word itself.

According to Barraclough and Stewart (2012), power develops relationally and in context. It is preferable to characterize individuals in relation to others and their connections than to give a clear-cut explanation. Power is defined in relation to its

senses and other people. Similar words for it include "control," "ability," "influence," and "authority." Power is simply defined as a source of authority or a tool for accomplishing tasks (Adam, Alsadi, & Suleiman, 2019). Additionally, Lukes (2021) defined "power" as the actual method by which one agent affects others. A person can only exert power in a society by swaying others and bringing about their desires. All three terms—power, authority, and influence—could overlap. Though sometimes confused with influence, power is sometimes described as a source of capability. Activating sources is a process of influence, which is frequently compared to power. On the other hand, legitimacy or power that has been formalized is known as authority. Generally speaking, authority is defined as lawful power, whereas power is only defined as informal authority (Buchanan & Badham, 2020).

Social psychology typically uses influence tactics as a transformative kind of power to persuade subordinates to take a certain action within an organization.

Influential acts and changes on the subject are typically derived from concepts like control, power, and authority. The term "influence" is used interchangeably depending on the objective (Alrowwad, Obeidat, Tarhini, & Aqqad, 2017). Power, according to Scott & Davis, is the capacity needed for influence. In this view, influence is the process of using power. For instance, if a student complied with a teacher's suggestion, he or she might have been motivated by the expectation of reward for their efforts or by the perception of their social position (Scott & Davis, 2015). As a fundamental idea in leadership, influence may be characterized as the manner of behaviour a leader employs to motivate followers. Thus, it is evident that influence—which is the act of leaders to change the behaviours of others and a type of influential capacity in organizations—is the end outcome of the power process.

Another concept associated with power is authority, which is widely accepted in social contexts as legitimate power. It is a quality of a generally and freely accepted deed because of its legitimacy in organizations (Beetham, 2013). The idea of authority and the process of establishing authority within management and structural subsystems are intrinsically linked to both compliance and disobedience. By definition, authority is simply defined as "rightful power that is vested in a particular person or position, acknowledged as such, and deemed suitable not only by the person who wields the power but also by those over whom it is exercised, as well as by the other participants in the system" (Wrong, 2017). In this sense, the terms "power" and "authority" have been used to refer to notions that are centered on authority, such as manager, supervisor, and subordinate.

Additionally, it is lateral as well as downward, which relies on an informal position as well. When people interact laterally, they are all on the same level of power, and their power-based behaviour is invisible. Depending on their level, downward power interactions could be seen if the individual gets promoted to a higher position (Allen, Porter, & Angle, 2016). There are many levels of legitimacy for authority, which is the use of power to legitimately affect others. This kind of "naked authority" has reportedly

nothing to do with legitimacy (Ricoeur, 2007). The exercise of authority by the group's formal leaders is symbolized by the word "authority." The degree of legitimacy is influenced by how closely it is connected to power. Its closeness to power determines how legitimate it is. In contrast to economic power, which is deemed to be of medium strength, coercion is the least lawful form of power.

Every form of power usage, according to Weber, includes coercion, whereas legitimacy is what confers authority. The way that subordinates view the orders of superiors as legitimate is proof that authority, as opposed to sovereignty, is the capacity to control people freely (Gorun & Gorun, 2018). Purely authoritative relationships could no longer be sufficiently extensive and productive. According to Haber-Curran & Tillapaugh (2015), authority is defined as the process of creating learning organizations that involves dispensing with the conventional authority- and control-based organizational structure. Pfeffer (1992) also emphasized that although formal authority is not significant or effective, leaders could increase their power by employing it. As a result, authority is viewed as more legitimate in organizations and has a more limited definition than power. The statute and the majority of applicable sources of power support its legitimacy, and its members are compelled to submit due to its positional nature. The difference between democratic and authoritarian systems can be distinguished by the separation of the legislative and executive powers.

In democratic organizations, executive power is typically dispersed in accordance with the pyramidal system of authority (Gronn, 2002). According to Brass and Burkhardt (1993), organizations' hierarchical structures are what cause power relations. In an organization, every decision is simultaneously a means of exhibiting power. In this view, power is typically understood to be hierarchical and is described as the control that superiors have over inferiors (Jervis, 2002). Because hierarchy is based on subordinates' strict obedience to superiors, it can breed hostility, opposition, and unhappiness. However, the fundamental dynamics of organizations are hierarchical levels like leadership, control, accountability, and cooperation (Schein & Schein,

2018).

In line with paradigm shifts over time, power has transformed. The paradigms that have become more prevalent over time have changed the ways in which leaders utilize the power bases they need. Due to teamwork, post-positivist methods, and 21st century leadership, leaders favor knowledge over sources of authority-based power (Kilicoglu & Kilicoglu, 2020). Heath (2020) said that actors endeavour to control, decide, and manage organizational behaviour as a form of power play on behalf of the organization.

In order to understand organizational behaviour, it should be obvious who has influence, what it takes to have influence, and what can be done to best utilize power inside an organization. Modern times are more complicated and perplexing since the service sector is so broadly dispersed. Leadership styles shouldn't be rigid in a democratic, multicultural society, and leaders should have a wide range of appeals in their toolkits (Deszca, Ingols, & Cawsey, 2019). Instead of adopting authoritarian philosophies that consolidate all power and make all choices in one way, leaders may find that diverse, numerous, and situational approaches are more suitable.

2 Literature Review

The power source of a principal is a crucial element in influencing the shareholders of the school. Principals of schools frequently exercise their power to carry out instructional activities. However, relying simply on their authority is no longer adequate to meet the demands of our day and guarantee educational excellence. Personal power sources, or the advice and sway they exert over teachers through their expertise and charisma, are critical for improving teaching effectiveness in addition to their legitimate authority as school leaders (Mesfin, 2022).

Studies (Mesfin, 2022; Birhanu, 2020) indicate that school leaders in Ethiopia exclusively exercise the legal authority that comes with their position and do not seek to sway the teachers. This finding shows that school leaders do not use power sources and that the traditional view of management still

rules in schools. To ensure the quality of education, it is necessary to inform the principals about the power sources and how to use them effectively.

Power can be obtained from a number of sources. People can exercise power through their positions of authority, their skills, education, or physical attributes (Kotter, 2010). Focusing on interpersonal power relationships, French and Raven (1959) identified five different categories of power. Legitimate power, reward power, coercive power, expert power, and referral power are some of these power sources.

The ability of a leader in an organization to influence the behaviour of others as a result of their status within the organizational hierarchy is known as "legitimate power." The formal authorization for the use and control of organizational resources that is granted as a result of one's structural position within the organization is referred to as "legitimate power," also known as "official power."

Reward power, which is based on the notion that teachers in schools are rewarded by their principals when they exhibit the desired conduct. It is the principal's authority to reward teachers who do well and follow the rules (Sergiovanni, 2015). Principals usually employ wage, promotion, incentive, or admiration when using their reward power (Marshall & Hooley, 2006), and their power is centered on their control over the reward mechanisms (Friedman, 2002).

The ability to reprimand others is known as coercive power (Lewis, 2013), and principals frequently use coercive power to manage punishment. As a result, other teachers in the school follow the principal's orders out of fear of the consequences. The principal downgrades teachers, appoints them to unpleasant positions, fires them, and leaves without saying goodbye or showing them any gratitude (Jones, 2019).

Competence, expertise, or knowledge are the foundations of expert power (Härtel & Fujimoto, 2014). Expertise is the capacity to exert control over behaviour by using any information, experience, or judgment that other teachers lack and that they see as necessary (Hargreaves & Fullan, 2015).

Referral power is the ability of a principal to affect the behaviour of teachers on the condition that he or she is liked or loved by them (Botha & Fuller, 2021). The teachers in an organization tend to trust and admire a principal with referral power (Berson, Da'as, & Waldman, 2015) and try to resemble him/her or identify with him/her as a result of this respect and admiration (Starratt, 2003).

Power is an important tool in schools that helps teachers work together toward a common objective while also guiding them and maintaining leadership continuity. The manner in which the school leader uses the power source that he or she owns determines the effectiveness of the leadership in the schools (Shields, 2010). Several studies conducted in Ethiopia on the use of power by school leaders have found an increase, which is not surprising given that the usage of power sources in schools has a considerable impact on teachers' effectiveness (Mesfin, 2022; Sintayehu, 2020). According to research on the power sources used by school principals, using power sources not only ensures the school's successful leadership but also increases teacher effectiveness, which benefits educational quality. As a result, a serious issue is raised by the principals' and teachers' opinions on the use of power. The following questions are raised within the context of this research:

1. How far may the principals use their power—legal, coercive, reward, referral, and expert power—and to what effect?
2. What are the teachers' and supervisors' opinions on the power source that the principals use?

3 Research Design and Method

A research design is the research's blueprint. It constitutes how the research is to be conducted, giving answers to the basic questions such as what, when, how, and who, as well as related questions in the research process (Gog, 2015). This research employs a qualitative-instrumental case study research design, which allows the researchers to understand the feelings and interpret the lived experiences of study participants. According to Stake (1995), a qualitative-instrumental case study research design is important to investigate a particular case in order

to gain an in-depth investigation into the researched issue.

By using a qualitative methodology, the researchers can refine their preconceived ideas and extrapolate their thought processes, assessing and evaluating the problems from a comprehensive angle. Because it enabled researchers to learn in-depth details about participants' actions, emotions, wants, routines, feelings, experiences, and a range of other information, a qualitative study design was employed to explain the entire phenomenon (Madrigal & McClain, 2012). In a relaxed situation, the researchers conducted a semi-structured interview to get the data. The interpretive paradigm was employed because it made it easier to comprehend the social environment through individual experiences and subjective meanings.

In this qualitative research, methodology appropriate for investigating and identifying the research problems was included, including population and sampling. The data collection instrument and data analysis technique were presented in the following sub-sections.

3.1 Population and Sampling

The study area is SNNPR, Ethiopia. The study was conducted in three government secondary schools that are found in three zonal towns of the SNNPR: Durme (Kembata-Tembaro zone), Wolkite (Gurage), and Jinka (South Omo). Government secondary school supervisors and teachers were the target population of the study. Thus, the participants of this research were teachers and supervisors of the government secondary schools that are found in the three zones, namely the Kembata-Tembaro, Gurage, and South Omo zones of the SNNPR. The sample for the study was selected by purposive sampling, which allows the researcher to perform a qualitative investigation under study (Creswell, 2013). In this research, six participants were selected, i.e., three teachers and three supervisors, from the three schools.

3.2 Instrument

The interview was conducted in Durme, Wolkite, and Jinka secondary schools with teachers and prin-

cipals working in the three zone towns. Before the commencement of data collection, piloting of the interview was conducted with three participants to revise and refine the interview tool and to minimize the unclear items in the interview questions. The research participants were interviewed using the semi-structured interview instrument prepared for this study, conducted in *Amharic*. We were introduced to the head teachers of these schools by a contact at the EDDA/district education office.

We conducted two semi-structured, in-depth interviews with most of the participants. Interviews with study participants, teachers, and supervisors were transcribed from the audio recordings in the Amharic language, and then the verbatim texts were translated into English. The researchers frequently checked the translations with the actual recorded audio to ensure that the translations were correct and relayed the same concept as the actual audio-recorded document. The interviews, lasting about an hour each, were conducted at the school sites during school hours. Thematic analysis was used to use the sub-dimensions of the power sources of their applicability. Included in the interview guide were questions on the power use and sources of principals that were generally geared towards quality education.

3.3 Data Analysis

Our analytical approach included data immersion, coding, and meaning making through abduction. I reflected on the social dynamics among the agents, how they each contributed to the usage of power, and their perceptions. We noticed repetitions, tensions, and inconsistencies. We re-read the transcripts and wrote short observations and reflections on each participant and school, identifying two objectives and ideas that diverged from the theory and literature. Further analysis drew on theoretical frameworks that had not been considered prior to data generation.

4 Results and Discussions

During the data analysis, two key objectives were taken into consideration. First, the opinions of teachers and supervisors regarding the amount of power used by principals; second, the opinions

of the two participants on the sources of power. The discussion that follows is founded on verbatim quotes. Each quotation is preceded by the codes "teacher 1, 2, and 3" and "supervisor 1, 2, and 3."

Power Applications

Teacher 1 claimed that when it comes to the power that principals exert, it is common for them to do so excessively. This is as a result of the principal power coming from above (a political appointee). His assignment was not made by colleagues. The principal who abuses this position tends to take on an authoritarian personality. Ethiopia's principal appointment and selection process has been decentralized for the past 30 years. Principals are chosen by the district or *wereda* education office depending on their affiliation with the ruling Ethiopian People's Revolutionary Democratic Front (EPRDF).

Supervisor 1 clarified that principals in positions of authority are given a dual duty after they are appointed to the post in relation to this point. The first task is to carry out their regular government duties, such as their administrative or teaching and learning duties. The second objective is to implement the policies and strategies of the ruling party in the school environment. I and my colleagues believed that the members of the ruling party holding various positions in the schools were spies. We think that the principal's main responsibility is to collect information from the school community and provide it to the party official. The influence of ruling party politics on school leadership tends to prevent them from exercising discretionary authority. Political body intervention in school leadership is considered a challenge in the teaching-learning process since every managerial activity and teaching-learning process are carried out under the close supervision of the political bodies.

Teacher 2 added the following clarification:

Principals are unable to completely discharge their duties due to politics. Teachers and principals have less authority to make judgments and implement changes in schools because all decisions pertaining to the business of the school are made by higher-ranking government authorities. Additionally, there are political bodies at the school that

will rule on a few minor issues.

From the above data, it can be said that the education system is not autonomous. As a result, both the principals and teachers may hesitate to relinquish their power to empower students through the affordance of spaces for students to exercise creativity, independent thought, and critical reflection on the structures and norms that shape their lives out of a possible fear that their status or power may be undermined. This could cripple the teaching and learning process. Moreover, such practices go against the education and training policy (MOE, 1994). The policy clearly articulated that education is secular. Despite not being politically secular, the school is ironically secular in terms of religion.

Supervisor 2 describes the extent to which principals bully, harass, or verbally abuse teachers. His influence is unwavering. Teacher 3 overestimated the degree of personal power used by principals while underestimating the reliance on positional power. He asserts that the overwhelming majority of teachers are very unhappy with their principals.

The principle was similarly described by supervisor 3 as follows:

When you are not responsive to his influence, he is verbally abusive, embarrasses you in front of others, and is less supportive. You have no idea what is expected of you, and if you do something wrong, you are in big danger. He acts impulsively, and no one is consulted before making decisions. He favors a few people.

The information above indicates that the principals exercise an excessive level of power. Negative power is used when teachers and students only express their fear for the person in control and refuse to communicate in any other way. Such a misuse of power could make principals feel uneasy and make their colleagues disrespect him. The power that principals should strive for, however, is that of those who recognize that they have the ability to positively influence students and teachers on a daily basis (Smith & Squires, 2016).

Sources of power

Teacher 1 described how the school principal understood the sources of power:

The principal's legitimacy served as the main source of power. Compared to other power sources, this sort of expression appeared more frequently at top levels, and this power reflected administrative chores and activities while also providing a legal foundation granted by their positions.

According to the data presented above, legitimate power was the most frequently used organizational power source in schools, as determined by principals. These results demonstrate that Ethiopian secondary schools are supported by legal power. Principals use this power to carry out tasks and direct others to carry out activities that are necessary for their roles as leaders of the school. Teachers are aware that the principle has the power to provide directives and directions within the range of this power. Teachers are therefore required to follow these instructions. Even if lawful power makes it easier to apply management procedures in the school, its overuse can lead to conflict, opposition, and dissatisfaction.

In a similar vein, Supervisor 1 provided the following justification for the legitimate sources of principal power:

A school principal cannot afford to overlook every issue. Due to this, the practice of tolerance, which aims to sustain teachers' cooperative behaviour by evoking feelings of reciprocity, has the drawback of potentially damaging the principal's reputation as an impartial leader.

Accordingly, the school's culture of cooperation may be harmed by the abuse of power there. The results may be detrimental to morale and collaboration. Excessive use of legitimate power can take many different forms, such as asking teachers to perform personal favors or errands for you, forcing teachers to falsify information, interfering with a colleague's capacity to execute their job well, and bullying.

In general, both of the above participants (under objective 2) come to an agreement on the most applied

power sources being legitimate power. Schools are organizations where informal relationships are more intensive and where superior-subordinate relationships are more flexible compared to other organizations. Leading the legitimate processes required by the directives and guidelines required at schools is critical for the schools' survival (Rapaport & Ashkenazi, 2019). However, when the legitimate power required to operate the process rises to levels that can damage the informal relationships at school, it will harm the school structure and make it harder for teachers and administrators to find middle ground. Therefore, school leaders should be careful when using legitimate power and abstain from its excessive use.

Generally, within the boundaries of their legitimate power, principals have the power to reward teachers in a variety of ways. This power also extends to non-monetary awards, so it is not just restricted to monetary ones. Utilizing this kind of power is crucial if we want to keep teachers' passion alive, improve their performance, and identify the teachers who stand out. However, it's critical to remain consistent and remember your own requirements. Excessive usage of reward power may have a negative effect on teachers' interactions and job satisfaction. In fact, teaching has become a challenging profession in recent years.

Teacher 2 provided the information below on the school principal's use of coercive power:

Principals are more likely to talk their way out of issues at the school. When he noticed an undesirable behaviour, the principal invited the teacher to speak with him one-on-one in an effort to determine the cause of the issue. Additionally, he chooses to discipline by using his body language when he sees a teacher who does not put much effort into the school, is late for class, or does not complete a task. He gives the teacher a hard look.

Similarly, Supervisor 2 explained the principal basis of coercive power in the following way:

Most of the time, principals prefer to discuss an issue with the teacher rather than solve it right away, waiting for the problem to be forgotten with the passage of time. He relates this to the fact that when

you intervene shortly after a problem emerges, the teacher has a propensity to overreact, which makes the arguments worse. The school's principal keeps walking through the halls, stopping by the teacher's room to provide an oral warning. Another teacher claimed that rather than go through the issue with the principal, who becomes insulted, the principal chooses to avoid interaction with the teacher.

The two participants above strongly emphasize that excessive use of coercive power can occasionally lead to the predicted behaviour. Even though it is one of the less frequently used power sources, using rewards excessively can encourage people and maintain desired behaviours. Indeed, it should come as no surprise that principals' rewards play a critical role in motivating the teaching-learning process to increase student performance and make greater contributions to school improvement.

On the contrary to the above two participants, teacher 3 described the principal's sources of power:

At each event where teachers are present, the principal acknowledges them. Teachers frequently receive certificates from the principal, while administrators frequently recognize the best students. Treatment is given fairly. Everyone who works hard is rewarded.

Similar to teacher 3, supervisor 3 said that principals use coercive power. Since it is often used, coercive force leaves people with a bad impression. There have been reports of discontent and aggressiveness following coercion-based behaviour in schools. In educational institutions, coercion is also not viewed favorably. Since the majority of power rests with the principals in overly bureaucratic organizations, teachers may feel less empowered (Mathibe, 2007).

In general, teachers must be respected as professionals and given recognition for the academic success of their students if we are to preserve our profession and our children's futures. Many things need to be fixed and enhanced. As a school leader, you can influence some of these variables. It is within your power to reward your personnel. Moshel and Berkovich (2021) argue that top leaders use more legitimacy, coercion, and rewards than middle-level leaders. Hence, as school leaders assume positions

of power and dominance relative to teachers and students, it is essential that they conceptualize their roles and responsibilities in relation to the position of power they occupy relative to other members of the school community. They must also develop the skills necessary to act effectively in these roles.

5 Conclusion

Power plays a fundamental role in school organization. Some principals behave in such a way that teachers' lived experiences indicate that they are abusing their position or the privileges they have in the schools. The misuse of power has an impact on teachers' interpersonal relationships, emotional health, and leadership abilities and disempowers them. As a result, the teaching profession is essentially unprofessionalized. A social capital structure that enables collaboration between principals and teachers is what is required. As a result, they will be better able to use power in a way that is advantageous to all students and behave meaningfully in their own, distinctive school circumstances.

The way forward

The development of a national educational leadership program is essential. We advise that the MOE continue the discontinued school leadership program for principals, which is of more immediate importance. The program ought to provide a nuanced understanding of power rather than taking a "one size fits all" stance. The significance of picking exercise strategies that best fit the unique "historical, cultural, and institutional backdrop" of their school must become clear to principals. In addition, principals must foster a culture free from fear and treat teachers fairly. This ought to inspire the latter to seek guidance or administrative assistance on issues like taking risks and considering potential growth while keeping certain goals or objectives in mind. Principals' lack of emotional intelligence can be addressed by in-service training programs that deal with the complex concerns of many forms of power, both on a personal and a social level.

The development of principals' self-awareness, self-management, internal locus of control, emotional and leadership competences, leadership styles,

building and maintaining successful relationships, and human rights are a few examples of possible topics. This should cover how the abuse of power endangers efforts to establish secure workplaces, lowers productivity, and erodes trust. It should also emphasize how strong relationships between leaders, teachers, and students are facilitated by effective leadership that values diversity and upholds social justice. Teachers should have at least annual opportunities to express their views on issues relating to leadership in the school. They could then raise problems related to the principals' use of power through mechanisms such as annual job satisfaction external committees to create and maintain a school climate that supports teachers and ensures that their morale remains high.

A wellness program for teachers is also necessary to aid them in overcoming the challenges brought on by incidents of disrespect, conflict, and exploitation. A framework for social capital should be used to create effective social networks that can involve both internal and external stakeholders. These could encourage teamwork and motivate staff to build the social capital required to develop into leaders who can be held accountable for high-quality education. This may help us comprehend and interpret why some principals are able to "get it right" while others lack the skills necessary to form a habit that denotes an embodied style of carrying out leadership.

Teachers will be more capable of overseeing and enhancing teaching and learning if principals distribute power and provide them with chances to grow and realize their leadership potential. Principals will gain a better grasp of how a lack of positive power relationships can impede progress.

Declaration of Competing Interest

This research was exclusively funded by Dilla University. The university will not take any responsibility for the results beyond reporting purposes. The researchers are affiliated to Dilla University as teaching and research staff. We also confirm that intellectual property rights (IPR) and other ethical principles were adhered.

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Availability of the Data

We would like to inform the journal managers that a set of field data is available and will be shared whenever requested.

Ethical Approval

Consent was sought from the research participants. Confidentiality was maintained in reporting information.

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Educators' Academic Integrity: The Case of Three Selected Universities in the Southern Region of Ethiopia

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Abstract

The main objective of this study is to investigate the status and features of academic integrity among educators of universities in southern Ethiopia. The study designed to achieve the objectives used quantitative approach where cross-sectional survey design was implemented. Three hundred fifty five respondents were selected for the study using multistage sampling method. The data were gathered using an academic integrity scale measuring honesty, trust, respect, fairness, and responsibility. The data gathered were organized and analyzed using SPSS – version – 24. Descriptive and inferential statistical techniques were used to analyze the data. The finding of the study revealed that significant number of the respondents (35.5%) was moderate in their academic integrity; the academic integrity of 24.8 percent of the respondents was low; 22.1 percent of them were poor in their academic integrity; 16.1 percent of them demonstrated high academic integrity while the percent of the respondents who demonstrated very high academic integrity was 1.5 percent of the total participants. Moreover, multiple linear regression analysis revealed that all honesty, trust, respect, fairness and responsibility determine academic integrity equally. As educators' academic integrity contributes for educational quality in higher institutions, universities should design and implement a program to change educators' academic integrity mindset, and find out and address factors that can it.

1 Introduction

Educating people about the vitality of education in human life seems redundant. Many people are tired of listening to the issue, as it is common to hear education scholars and laypersons talking about education, most commonly criticizing quality of education negatively everyday. Daily activities of blames and counter blames of key stakeholders in education system have resulted in burnout state of mind due to unresolved stress for long period of time (Sarafino & Smith, 2011). Parents blame schools, schools blame parents, scholars criticize education system, politicians aggrandize their educational policies, teachers blame students and so many other dynamics and interplays are common in

education discourse. But quality can be affected by a number of factors such as faculty administrators, staff and students (Tefera & Kinde, 2019)

These days, breaches in academic integrity have been reported on media, during public gatherings, and personal conversations and many scholars have been researching academic dishonest to forward ways to contain the practices (Almutairi, 2022; Solomon W. Feday, 2017 & Gillespie, 2003). Other things being constant, the honor and integrity of higher institutions in producing qualified, disciplined and productive citizen is being challenged by prevalence of academic misconducts both from teachers and students. However, many teachers are heard blaming students' misbehavior in schools,

exam rooms and in their relationship with their instructors for deterioration of academic honesty in schools and universities. For instance, teachers reported that cheating and plagiarism are common in students' work (Jones, 2001 & Etter, Cramer & Finn, 2006). Many researchers have been focusing on studying problems of integrity as students' dishonest (Tefera & Kinde, 2019; Solomon, 2017; Mabratu, 2014; Devis, Grover, Becker & McGregor, 1992 & Greene & Saxe 1992) and fewer of them addressed the breach of integrity by teachers.

The problem of academic integrity cannot be only a problem of students as there are many stakeholders in higher education and teachers are one of them. Teachers of academic institutions can also have contributions for the challenges. Efforts, courage, perseverance, motivation and commitment they made to equip their students with the required skills and knowledge should be examined to identify whether they are up to the standards or not. The preparation they make, the effort they exert to teach and assess achievements, materials they produce for students, time they invest for teaching, and the like look problematic because significant numbers of teachers seem relied more on gaining more income to survive in their personal life than the life of their students. But "a good teaching comes from the identity and integrity of the teacher. . ." (Palmer, 2007; P. 13).

Academic staffs can play significant role in deterioration of education quality because of problems with commitment, trust, honest, fairness, respect and responsibility because their positive impacts on students comes only if they have developed sense of ownership which encourage them to maintain the essential ethics of academic integrity that are vital for achieving education qualities at different levels (CIA, 1999). Some findings indicated that the status of rules and norms of the academia in higher institutions is failing to align with the expected social contracts (Jones, 2001) of ensuring academic integrity, which reflects the core values in a society such as mutual respect, trust, honesty, transparency, fairness and accomplishing own responsibilities. It is assumed that establishing and maintaining academic integrity is a fundamental element in the process of assuring quality of edu-

cation in Ethiopian higher institutions than other materialistic components.

Hence, the concept of quality education and its components, status, threats and challenges should be points of analysis on continuous bases even though its meaning is blurry and argumentative one (Sayed & Ahmed, 2011) from various perspectives. Scholars should continue researching issues in education to come up with better understanding and practices in the area as quality of education is determined by attributes of educators, students, education policy, curriculum, teaching-learning settings, educational leadership and parents of the learners. However, researching how all these components impact education quality and at all parts of the world at a time is difficult if not impossible. The point of focus in this paper is specific to explaining academic integrity of educators assuming that it can be one of the factors that can determine quality education (CIA, 1999).

Academic integrity is vital to theoretical studies and institutions where students, teachers and administrative staffs develop sense of trust, fairness, respect, honesty and responsibilities in their learning, teaching and administrative services in order to produce ethically sound, morally upright, trustworthy and well-mannered graduates that can serve as good professional and behavioral models in the larger society. However, scientific writings, scholarly speeches, public conversations and the general public complain serious problems in academic integrity very vividly. Challenges and problems of Ethiopian education quality mainly emerge from increasing prevalence academic dishonesty. The status of academic integrity in higher institution is best explained by CIA as follows, which may be true in Ethiopian context too.

Higher education and society benefit when colleges and universities have standards of integrity that provide the foundation for a vibrant academic life, promote scientific progress, and prepare students for responsible citizenship. Many institutions, however, have neither defined academic integrity nor expressly committed to it. Others explain academic integrity merely by listing behaviors that are prohibited rather than by identifying values and behaviors to be promoted (CIA, 1999, P. 4).

Critical look into trends of public behaviors indicates that there have been deteriorations of personal, institutional and national integrities and that was why Montefiore and Vines (1999; PP. iii) asserted that "... a widespread collapse of confidence in the integrity of public life presents peculiar dangers for societies. . ." Societal morals and ethical behaviors have been transforming, changing, being substituted and discarded to the level of challenging human co-existence and what we have been witnessing in the public spheres in our country, Ethiopia, are a clear indication that personal, institutional and public integrities are under clear threat. Schools, work places and interpersonal communications are ridiculed by breaches of honesty and trustworthiness, lack of fairness, absence of respect and deterioration of responsibilities. Academic dishonesty in education institutions, rampant corruption in governmental and private organizations, rambling frauds in public services and disgusting interpersonal communication are all intriguing quest to know about and solve them. Researching integrity in its academic, political and social contexts sounds more than ever before because of the challenges we are encountering as a nation. Above all, it is convincing to research academic integrity because educational institutions are establishments where generations are scaffolded to be a good citizen. Academic integrity is essential in instructional process because it helps to focus on highest standard of excellence in learning and to develop ethical decision making perspective (Guerrero-Dib, Portales-Derbez & Heredia-Escorza (2020).

Based on the gaps of studies described above, the researcher paused the following research questions: (1) What is the level of academic integrity among university academic staff, and (2) How much educators are honest, trust, respectful, fair and responsible in their academic behavior; and (3) How much honest, trust, respectful, fair and/or responsible determine academic integrity. Assuming that studying educators' academic integrity and describing its prevalence and features will have immense contributions for enhancing quality education as theoreticians, policy makers and practitioners learn more out it. Hence, the major objective of this study

is to describe prevalence and features of academic integrity among university educators.

Conceptualizing Academic Integrity

As described by Bretag (2016), Macfarlane, Zhang and Pun (2014) and others, the concept of academic integrity is very multifaceted and defined by scholars from various disciplines and it is not easy to explain in concise and agreed up on way. In order to minimize the complex interpretations of the concept, these scholars have tried to define it operationally in line with the issue they have intended to research or write on.

In many of the literature reviewed for the purpose of this study, it is defined operationally and descriptions of the concept given below are indications of how varied the interpretations are. For instance, the following interpretations of academic integrity are extracted from various literature.

In ICAI define academic integrity as "a commitment to six fundamental values: honesty, trust, fairness, respect, responsibility, and courage" (ICAI, 2021: P. 4).

"Academic integrity is an important part of the education process, which is a commitment and moral code in the academic world based on the fundamental values of honesty, trustworthiness, fairness, respect and responsibility" (Sunawan, Nugroho, Sutoyo & Susilawati, 2019: P. 219)."

"Academic integrity entails commitment to the fundamental values of honesty, trust, fairness, respect, responsibility, and courage" (Fishman, 2014; cited in Holden, Norris & Kuhlmeier, 2021: P. 1).

Essentially, the definitions emphasized values, commitment, honesty, trust, fairness, respect and responsibility demonstrated by stakeholders of education mainly teachers, students and administrative staffs of educational institutions. Based on these definitions, academic integrity can be conceptualized as educators' commitment to these values in their scholarly engagements in higher institutions in the context of the current study.

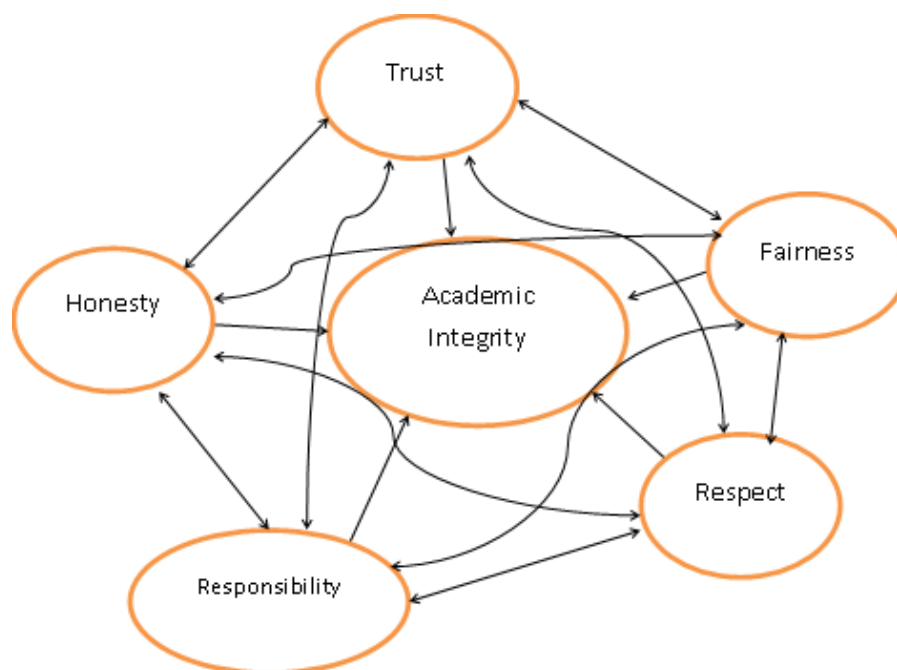


Figure 1: Conceptual framework

Perspectives on Integrity

Various literature described integrity from different points of view (Cox, Caze & Levine, 2021; Huberts, 2018; Schöttl, 2015 & Macfarlane, Zhang & Pun, 2014) but Stanford Encyclopedia of Philosophy is inclusive in presenting the perspectives. In Stanford Encyclopedia of Philosophy revised by Cox, Caze and Levine (2021) discussed integrity as the integration of self, maintenance of identity, standing for something, moral purpose and a virtue. However, Brenkert (2004) and Montefiore (1999) concluded that interpretation of the concept of integrity is still argumentative and needs further clarification and range of various viewpoints, from those describing integrity as wholeness to those scholars who defined integrity as model moral behavior, or integrity as individuals value of behaving in line with certain national and international codes and laws (Six & Huberts, 2008).

Integration as Maintenance of Identity: The underlying assumption of these perspectives is focused on commitments, “identity conferring commitment” as coined by Cox, Caze and Levine (2021), in interpreting integrity and they describe integrity in terms of how persons recognize themselves with most deeply held life convictions. In this sense, the term commitment is nearly defined as set of

promises, convictions, intentions and relationships of one’s trust and expectancy that can be displayed intentionally, unintentionally, in private or with the knowledge of others and with commitment to institutions, people, traditions, principles, causes, projects, ideals, and others (Cox, Caze & Levine, 2021). Integrity as integration of identity perspective is mainly implied in the works of (Williams, 1973).

According to Williams (1973) identity conferring commitment is equivalent to life identity, very existence, of a person or his/her character and people lacks meaning of living unless they are driven forward by the conatus of needs, life scheme and curiosity. In this approach, integrity is not explained in terms of conformity or compliance to the intentions of others but it is primarily viewed as an individual’s persistently held truth. Not all commitment to persons, object, values and concepts are permanent and they are subjected to unavoidable conflicts and dynamics of changes. Realizing this nature of commitment of integrity, philosophers have explained various aspects of integrity to differentiate pillars commitment in an individual’s integrity (Cox, Caze & Levine, 2021) as a person’s commitment to honesty, trust, respect, being fair and taking responsibility (Waters, 2022).

Self-Constitution View of Integrity: In the self-constitution view of integrity, the central point in interpreting integrity are views of one's present self and future self. Integrity constitutes both the intention to behave on principle in accordance with rationales confirmed by oneself as one behaves and his/her future self, and having a comprehensible lifelong intention and the courage to realize it. One must perform on set of one's rational and approved future self that reflect the issue satisfactorily. There is hypothetical appropriate correlation between one's current plan and future actions that defines one's integrity (Cox, Caze & Levine, 2021).

A prominent advocator of this view of integrity is Christine Korsgaard. In her work entitled *Self-Constitution: Agency, Identity, and Integrity*, Korsgaard (2009) explained integrity in constructivist Kantian perspective. According to the author, integrity is not described in terms of aspired and imagined excellence of one's very existence in life in which failure to reach the ideals in life result equated with absence of integrity, loss of life or lost self. In her explanation of the moral law is the law of self-constitution, it is implied that integrity, which makes a person a good person, is the result of mechanism by which one make intra-active, interactive, consistent, unified and wholistic self and someone's continuance of himself/herself into well and good at being a person.

Integrity as Standing for Something: This perspective of integrity can be called Calhoun's perspectives because she was Cheshire Calhoun who explained integrity as a social virtue where an individual value behaving in accordance with the role s/he has in his community. Contrary to explaining integrity in terms of one's self-integration and identity which is mainly a private personal issue and quality of one's care of the self, integrity is largely a social virtue and interpreted in line with an individual's relationship with others in a given society (Calhoun, 1995). According to Calhoun (1995), integrity is both consistent confirmation of one's personal values and striving to find out best and acceptable decisions acceptable by members of the community. Integrity is an issue of owning appropriate respect, a process of confirmation of what a community regards as worth doing and

valuable and respect for the judgment of others.

Integrity as Moral Purpose: This can be called moral integrity as one can conclude from the works of Ashford (2000) or Halfon (1989), Utilitarianism, Integrity and Partiality and Integrity: A Philosophical Inquiry respectively, analyzed by Cox, Caze and Levine (2021). Even though there are variations among scholars in this category in ways of defining integrity in terms of moral integrity, their explanation of integrity centers morality.

For instance, as described by Halfon (1989) in a process through which a person is dedicated to search a moral life using his/her intellectual obligation that urges them to understand the needs of such a life in living. According to him, a man of integrity is the one who has conceptual clarity, logical consistency, impart relevant empirical evidence, enforce limitations on their behaviors, seeks a commitment to do what is best in a community, and keen to recognize and evaluate pertinent moral deliberations (Halfon, 1989). Ashford (2000) also described integrity as objective perception of the real moral obligation and a person integrity is the one who cannot be morally mistaken.

Integrity as a virtue: Virtue is the center of description and explanation of integrity. The concept of virtue is defined by various philosophers and writers contextually. For instance, MacIntyre (1981) defined virtue as learned value that a person possesses and realize in practice that helps the person to attain goods of life. According to this perspective, integrity is a dynamic process of change where a person's convictions, values, beliefs, commitments, knowledge, desire and other personal virtues undergo changes in life through a strongly successful self-examination (Cox, Caze, & Levine, 2021). In this perspective, integrity is also explained as a virtue of self-monitoring, moral emotions or emotions of self-assessment such as regret, remorse, guilt and shame (Pugmire, 2005; cited in Cox, Caze, & Levine, 2021).

Taking the explanations of these the perspectives are vital in understanding the essence of integrity in the context of educators in higher institutions. One's commitment, being principled, moral upright and social values, directly or indirectly, constitutes the

values (honesty, trust, respect, fairness, responsibility and courage) identified by CIA (1999) as pillars of academic integrity. For instance, the intention this study was to measure educators' commitment to being honest, trustworthy, respectful, fairness and taking responsibility.

2 Methodology

Conceptually, integrity and its components: trust, fairness, respect, sense of responsibility, and honesty are constructs common to human personality despite their variations in magnitude. It is believed to be a cross-cutting issue that demands objective investigation and utilization of the knowledge being generated. Hence, the study was framed and executed as per the principles, assumption and methodologies of positivism. Quantitative was the appropriate approach because it enabled us the researcher to conceptualize the study procedures and have standard instrument to measure the level of educators' academic integrity.

It was assumed that the best research design preferred for this study was cross-sectional descriptive where major values of academic integrity was investigated by collecting data from educators teaching in Dilla, Wolayita and Bonga universities in southern Ethiopia as it helps to take samples from different sects of a population at a time and generalize knowledge generated based on the sample descriptions taken from the population.

2.1 Procedure

All educators working in eight universities (Hawassa, Dilla, WolayitaSodo, Arba-Minch, Bonga, Jinka, MizanTeppi and Wolkitie Universities) in SNNPR of Ethiopia were population of the study but Dilla, Wolayita and Bonga were randomly selected as study site and academicians teaching in these universities were the target population. Then, the three universities were randomly selected after all the eight universities were purposively categorized into four categories as first, second, third and fourth generation universities. At the time of data collection, academic staff of Dilla, Wolayita and Bonga universities were 1154 (Sources, Dilla University Academic Programs), 1143 (University Official website, 2022) and 295 (Biniam Genet

& Amanuel Shibiru, 2020). The total population size was 2592. Then, sample size was determined using the formula (Kothari, 2004) mentioned below where all the figures were added. Finally, educators are selected using systematic sampling technique.

$$n = \frac{N * Z^2 * P * Q}{e^2(N-1) + Z^2 P * Q}$$

Where, n = the sample size; N = Number of educators in the selected universities; Z = the standard normal value at the required confidence level (1.96) at confidence level 95%; P = an estimate of the population proportion, which is 0.5; $Q = 1 - P$ and e = the maximum acceptable error margin or the confidence interval which is expressed in decimal (0.05).

$$n = \frac{2592 * 1.96^2 * 0.5(1-0.5)}{0.05^2(2592-1) + 1.96^2 * 0.5(1-0.5)}$$

Hence, the sample size is calculated is 335 (334.685).

Then, the number of participants from each university was calculated proportionally as follows:

$$\begin{aligned} n(\text{Dilla University}) &= \frac{1154}{2592} * 335 = 149; \\ n(\text{Wolayita University}) &= \frac{1143}{2592} * 335 = 148 \\ n(\text{Bonga University}) &= \frac{295}{2592} * 335 = 38 \end{aligned}$$

Then, systematic sampling technique formula ($K = N/n$, where K , N and n represent systematic sampling interval, population size and sample size respectively) was used to identify specific participants from each university and every 8th instructors, assistant professors, associate professors and technical assistants in the lists where selected and made to participate in the study.

Finally, letter of permission for data collection was granted from Dilla University Research and Technology Transfer Vice President Office and Research and Dissemination Office of the three Universities for communicated for the purpose. Then, the selected participants were communicated through their departments in person and made to fill the data collection instrument after the necessary explanations of the purpose the study and consent were made. Then, they took a week to complete the questionnaire. First, from 15-22 June 2022 GC., data were collected from the selected educators from Dilla University. Then, from 10-16 July 2022

GC. data collection was made at Wolaita University. Finally, from 14-23 August 2022 GC., data collection was conducted at Bonga University.

2.2 Instruments

A questionnaire having three sections was used in the study. The first section contains introduction and consent while section two includes demographic data. The third section was a scale items adapted to measure educators' academic integrity. Academic integrity scale (AIS) having 17 items and seven rating levels: very appropriate (5), appropriate (4), neutral (3), inappropriate (2), and

very inappropriate (1), which was constructed by Ramdani (2018) was adapted and used to measure educators' levels of academic integrity in this study. The scale has five subscales: honest (5 items), fairness (4 items), respect (3 items), trust (3 items) and responsibility (2 items). Ramdani (2018) claimed that the scale has a total reliability coefficient of the scale 0.866 with interrelated and single dimensional of the five aspects. Using pilot test of the instrument on 32 instructors from Hawassa University, it was found that the scale items have Cronbach alpha reliability of 0.923. Moreover, summary of item and scale statistics of the final study are given in table 2 below.

Table 1: Summary Academic Integrity Item Statistics

	Mean	Min	Max	Range	Max/Min	Variance	Scale	N of Items
Item Means	2.938	2.149	3.937	1.788	1.832	.239	Mean=49.95;	17
Item Variances	.961	.553	1.717	1.163	3.104	.112	SD=12.699	17
Inter-Item Covariances	.533	.304	1.300	.996	4.278	.027		17
Inter-Item Correlations	.571	.355	.917	.562	2.581	.012		17

The data generated using survey questionnaires were organized, coded and analyzed, using SPSS version 20. Descriptive statistical techniques like frequencies, measures of central tendencies and measures of dispersion were used. To interpret the sampled educators' scores of academic integrity, the raw data was transformed to standard scores and ranges of determining levels of academic integrity were developed in line with the area under normal curve. Theoretically, academic integrity scores of the respondents were dichotomized as very high (>2 St. Deviation), high (1 through 2 Std. Deviation), moderate (0 through 1 St. Deviation), low (-1 through 0), poor (-1 through -2 St. Deviation) and poor (< -2 St. Deviation).

In the analysis, interpretation and presentation of the results, questions: (1) What is the level of academic integrity among university academic staff; (2) How much educators are honest, trust, respectful, faire and responsible in their academic behavior; and (3) how much honest, trust, respectful, faire and/or responsible determine academic integrity were presented in their order in here one after the other.

3 Results

All the respondents were contacted in person and 100% response rate was secured, i.e. all the 335 respondents returned the questionnaire they were given to fill. Accordingly, 293 (87.5%) males and 12 (12.5%) females with age ranges of 18 – 24 years (8, 2.7%), 25 – 45 years (299, 89.3 %) and more than 45 years (27, 8.1%) have participated in the study. The instructors were selected from 8 colleges/institutes/schools/faculties and 40 departments have participated in the study.

Among the respondents, 278 (83%), 34(10.1%), 13 (3.9%), 9(2.7%) and 1 (0.3%) were MA/MSc graduates, assistant professors, PhD holders and associate professors respectively. Most of them, 114 (34%), have served for 11 to 15 years while 98 (29.3%) had work experience of 6 to 10 years; 66 (19.7%) have been working for more than five years; 33 (7.3%) of the respondents have been engaged in work for more than 16 to 20 years; and 24 (7.2%) of the respondents had work experience of more than 20 years. Out of the total respondents, 283 (84.5%) respondents have attended HDP (higher

Table 2: Frequency distribution of respondents' college/institute/school/faculty

No.	Faculty/School/College/Institute	Frequency	Percent (%)
1	Education and behavioral sciences	28	8.4
2	Engineering and Technology	128	38.2
3	Social Science and Humanities	36	10.7
4	Law	6	1.8
5	Medicine and health sciences	56	16.7
6	Agriculture and natural resources	35	10.4
7	Natural and computational sciences	26	7.8
8	Business and economics	20	6.0
	Total	335	100.0

Diploma Program), on-job one year pedagogical training program intended to equip instructors with some teaching skills and behaviors but 52 (15.5%) of them did not attend the program at the time of data collection. Moreover, 50 (14.9%) of the respondents were position (any) holders and most of them, 285 (85.1%) respondents were fully engaged in teaching and other related roles.

The study revealed that significant percent of the respondents, 35.5 percent, was neutral in their responses to the statements provides to measure their levels of academic integrity. For instance, in the case of the first item of integrity scale, about 43 percent of the respondents do not agree that honesty starts with a person; 33.1 percent reacted as neutral

while 23.8 percent of them responded being trustful to oneself is appropriate and very appropriate. Significant number of the respondents, about 33.8 percent of them took a statement “honesty trains us to believe in our abilities” as very inappropriate or inappropriate; 22.7 percent were neutral in their response while 43 percent of the respondents reacted as appropriate and very appropriate.

In general, cumulatively, the number of those respondents who reacted to the ideas presented in the scale as very inappropriate and inappropriate was more than those who reacted as appropriate and very appropriate. For more details, refer to table 3 below.

Table 3: Frequency distribution of respondents' responses for each item in the academic integrity scale

No	Items	Frequency/Percent				
		1	2	3	4	5
H1	For me to be honest it starts from myself.	83/24.8	61/18.2	111/33.1	36/10.7	44/13.1
H2	Honesty trains us to believe in our abilities.	30/9	83/24.8	76/22.7	93/27.8	53/15.8
H3	I really appreciate friends who do the tasks with their own ability.	11/3.3	59/17.6	78/23.3	102/30.4	85/25.4
H4	I am sure that any work done honestly results will be satisfactory.	91/27.2	85/25.4	108/32.2	46/13.7	5/1.5
H5	Originality of ideas is an important thing to have when writing.	10/3	112/33.4	123/36.7	81/24.2	9/2.7
F1	I am happy to pass the course material to my friend.	4/1.2	76/22.7	115/34.3	106/31.6	34/10.1
F2	I am glad when a friend asks my idea in doing the lecture work.	2/6	54/16.1	124/37	113/33.7	42/12.5
F3	I am active to participate in academic activities inside and outside of the campus.	8/2.4	93/27.8	158/47.2	63/18.8	13/3.9
F4	I love studying other people's research results.	30/9	96/28.7	157/46	47/14	5/1.5
R1	All students have equal opportunities to get involved in campus activities.	2/6	45/13.4	142/42.4	109/32.5	37/11
R2	Regular academic evaluation is very important in the learning process.	—	34/10.1	68/20.3	118/35.2	115/34.3
R3	Trusting each other's friends is a solid foundation for collaboration on campus.	2/6	50/14.9	140/41.8	140/41.8	3/9
T1	I like to discuss how to cite the reference sources that lecturers present in the classroom.	30/9	124/37	158/47.2	19/5.9	4/1.2
T2	For me preparing the material before the lecture is a natural thing.	29/8.7	119/35.5	163/48.7	16/4.8	8/2.4
T3	I enjoy discussing college assignments with friends.	61/18.2	113/33.7	114/34	40/11.9	7/2.1
R1	Getting a scholarship is like having a responsibility to serve the nation.	29/8.7	119/35.5	154/46	24/7.2	9/2.7
R2	I feel a good image of campus is a shared responsibility.	127/37.9	102/30.4	47/14	47/14	12/3.6

Note: very appropriate (5), appropriate (4), neutral (3), inappropriate (2), and very inappropriate (1).

The mean value of the respondents' responses to the items in the scale is between 2 (inappropriate) and 4 (appropriate). As reported in table 4 below, the mean scores of academic integrity scale and

its sub-scales: honest, fairness, respect, trust and responsibility are 49.95, 14.70, 12.33, 10.61, 7.56 and 4.75 respectively.

Table 4: Summary of descriptive statistics of academic integrity and its subscales (N = 335)

Measures	Academic integrity	Honesty	Fairness	Respect	Trust	Responsibility
Mean	49.95	14.70	12.33	10.6	7.56	4.75
Median	52	15	12	10	8	5
Mode	59	18	13	10	9	3
SD	12.70	4.84	3.01	2.43	2.30	1.92
Range	53.00	18.00	13.00	10.00	12.00	8.00
Minimum	26.00	6.00	6.00	4.00	3.00	2.00
Maximum	79.00	24.00	19.00	14.00	15.00	10.00

The ideal lowest and highest scores for the scale are 17 and 85. Out of the respondents, 10 (2.99%) of them has scored 50 (about the mean value), 157 (46.9%) scored below the mean value and 174 (51.94%) scored above the mean value. The descriptive statistics for honest subscale revealed that 140 (41.8%) of the respondents have scored 14 and below while 37 (11%) of them scored approximate to the mean value, 14.70, while 158 (47.16%) of the respondents scored above the approximate mean value. In terms of fairness, 134 (40%) have scored less than the approximate mean value; 34 (10.1%) scored the mean value; and 167 (49.85%) of them scored above the mean value. In terms of respect, the descriptive statistics revealed that 190 (56.7%) have scored score of ten and below; 6 (1.8%) scored 10 and 11 that is close to the mean value 10.61; and 139 (41.49%) scored above 11. In the case of trust, 155 (46.3%) scored below 7.56, 54 (16.1%) scored 8 which is approximate to the mean value, 7.56; and 126 (37.61%) scored above the mean value. Moreover, statistics of the responsibility measure shows that 142 (42.4%) of the respondents scored 4 and below; 93 (27.8%) scored 5, which

is approximate to the mean value 4.75; and 100 (29.85%) of them scored above 5.

However, interpreting a raw score without norms of reference may not sound in terms of statistical assumptions there was a need to find out a standard domain to compare the academic scores of the respondents. Hence, other things being constant, to formulate standardized intervals to equate the academic integrity scores of the respondents, the raw data were converted to standardize scores and the following classes of the standard score were developed based on the assumptions of the area under the normal distribution because the researcher unable to find reference norm to interpret the scores obtained the academic integrity scale used in this study. As depicted in table 5 below, the majority of the respondents (35.5%) had moderate academic integrity; the academic integrity of 24.8 percent of the respondents was low; 22.1 percent of them were poor in their academic integrity; 16.1 of them demonstrated high academic integrity while the percent of the respondents who demonstrated very high academic integrity was 1.5 percent of the total participants.

Table 5: Frequency distribution of standard scores of the respondents' academic integrity

Z-scores interval	Corresponding score interval	Frequency	Percentage	Level of Academic integrity
> 2	> 74.95	5	1.5	Very high
1 through 2	62.65 – 74.95	54	16.1	High
0 through 1	49.95 – 62.65	119	35.5	Moderate
-1 through 0	37.25 – 49.95	83	24.8	Low
-1 through -2	< 37.25	74	22.1	Poor
< -2	None	None	None	Very poor

Similarity, scores of the sub-scales of the academic integrity: honesty, fairness, respect, trust and responsibility were converted to standard scores as given in tables 6, 7, 8, 9 and 10 below. About 32 percent of the respondent had moderate level of

honesty in their academic behavior and 19.1 percent of them measured as having high level of honest. However, 26.3 and 22.4 percent demonstrated low and poor levels of honesty respectively.

Table 6: Distribution of standardized honesty scores of the respondents and their levels

Z-scores interval	Corresponding score interval	Frequency	Percentage	Level of honesty
> 2	> 24.38	—	—	Very high
1 through 2	19.54 – 24.38	64	19.1	High
0 through 1	14.84 – 19.54	108	32.2	Moderate
-1 through 0	9.86 – 14.84	88	26.3	Low
-1 through -2	5.02 – 9.86	75	22.4	Poor
< -2	None	None	None	Very poor

As indicated in table 7 below, 34.9 percent of the respondents were moderate in their level of fairness while 29 percent demonstrated low level of fairness.

Moreover, 20.3 percent of the respondents demonstrated poor level of fairness and 13.6 scored high fairness.

Table 7: Distribution of standardized fairness scores of the respondents and their levels

Z-scores interval	Corresponding score interval	Frequency	Percentage	Level of fairness
> 2	> 18.35	6	1.8	Very high
1 through 2	15.34 – 18.35	44	13.1	High
0 through 1	12.33 – 15.34	117	34.9	Moderate
-1 through 0	12.33 – 9.32	97	29.0	Low
-1 through -2	9.32 – 6.31	68	20.3	Poor
< -2	< 6.31	3	0.9	Very poor

As reported in table 8 below, 36.7 percent of the respondents demonstrated low level of respect but 32.5 percent scored moderate level of respect.

About 19 percent were poor in their level of respect while 10.7 percent score high level of respect.

Table 8: Distribution of standardized respect scores of the respondents and their levels

Z-scores interval	Corresponding score interval	Frequency	Percentage	Level of respect
> 2	> 18.35	—	—	Very high
1 through 2	15.34 – 18.35	36	10.7	High
0 through 1	12.33 – 15.34	109	32.5	Moderate
-1 through 0	12.33 – 9.32	123	36.7	Low
-1 through -2	9.32 – 6.31	65	19.4	Poor
< -2	< 6.31	2	0.6	Very poor

As depicted in table 9 below, the majority of the respondents (38.2%) of the demonstrated moderate level of trust in their academic behavior, 13.1

scored high and 1.5 very high but 24.5 and 21.8 percent of them displayed low and poor level of trust.

Table 9: Distribution of standardized trust scores of the respondents and their levels

Z-scores interval	Corresponding score interval	Frequency	Percentage	Level of trust
> 2	> 12.16	5	1.5	Very high
1 through 2	9.86 – 12.16	44	13.1	High
0 through 1	7.56 – 9.16	128	38.2	Moderate
-1 through 0	5.26 – 7.56	82	24.5	Low
-1 through -2	2.96 – 5.26	73	21.8	Poor
< -2	< 2.96	3	0.9	Very poor

In the table 10 below, the majority of the respondents (39.1%) demonstrated moderate responsibility, 15.5 percent had high level of responsibility and only 3 percent of them revealed very high

level of responsibility but significant percent of the respondents, 33.7 percent, depicted low level of responsibility and only 8.7 percent scored poor level of responsibility.

Table 10: Distribution of standardized responsibility scores of the respondents and their levels

Z-scores interval	Corresponding score interval	Frequency	Percentage	Level of responsibility
> 2	> 8.59	10	3	Very high
1 through 2	6.67 – 8.59	52	15.5	High
0 through 1	4.75 – 6.67	131	39.1	Moderate
-1 through 0	2.83 – 4.75	113	33.7	Low
-1 through -2	0.91 – 2.83	29	8.7	Poor
< -2	< 0.91	—	—	Very poor

As indicated in table 11 below, Honesty, fairness, respect, trust and responsibility have significant positive correlation with each other and academic integrity. The leaner multiple regression analysis

result revealed that honesty, fairness, respect, trust and responsibility determine academic integrity ($R^2 = 1$) when they are combined together.

Table 11: Correlation and Linear multiple regression result coefficients academic integrity and it's sub-scales

	AITOTAL	Honesty	Fairness	Respect	Trust	Responsibility
AITOTAL	1.000	.919	.889	.830	.838	.848
Honesty	.919	1.000	.804	.679	.633	.678
Fairness	.889	.804	1.000	.686	.633	.660
Respect	.830	.679	.686	1.000	.678	.626
Trust	.838	.633	.633	.678	1.000	.896
Responsibility	.848	.678	.660	.626	.896	1.000

Coefficients ^a						
Model		Unstandardized Coefficients		Standardized Coefficients		Sig.
		B	Std. Error	Beta	T	
1	(Constant)	3.233E ⁻⁰¹⁴	.000		.000	1.000
	Honesty	1.000	.000	.381	147982637.747	.000
	Fairness	1.000	.000	.237	93257291.048	.000
	Respect	1.000	.000	.191	86321630.906	.000
	Trust	1.000	.000	.181	53468654.877	.000
	Responsibility	1.000	.000	.151	44498490.776	.000

a. Dependent Variable: AITOTAL

4 Discussion

In this study, it is found that university educators' level of academic integrity and its subscales described as very high, high, moderate, low, poor and very poor. The majority of the respondents (35.5%) had moderate academic integrity; the academic integrity of 24.8 percent of the respondents was low; 22.1 percent of them were poor in their academic integrity; 16.1 of them demonstrated high academic integrity while the percent of the respondents who demonstrated very high academic integrity was 1.5 percent of the total participants. Even though not academic integrity is not conceptualized as it did in this study, Behera (2022), in his work on "academic integrity and university teaching: A triangulation study on University teachers," argued that like their students, teachers are engaged in academic dishonest in the form of not neglecting their responsibilities, unfair judgment, motivate cheating, disclosure of exam questions before exam schedule, plagiarizing research works, discriminating students and receiving money from students to award marks but his objective was not to describe the level of academic integrity as it is conceptualized in this study. Moreover, Federal

Ethics and Anti-Corruption Commission (2013) and Plummer (2012), cited in Solomon (2017), reported collaboration of lecturers of higher institutions with cheaters which in turn affects public perception towards teaching profession.

In terms of specific components of academic integrity studied, the study revealed that about 51.1 percent of the respondent had moderate and high levels of honesty in their academic behavior but 48.7 percent demonstrated low and poor levels of honesty. The existing literature show that honesty is the most researched aspects of academic integrity and many scholars have explained it from different perspectives in the context of educational system but many of them focuses on students' academic dishonest and the role of teachers in containing the practices and it has been researched with negative interpretation and mindset: perception, prevalence, causes and techniques of academic dishonest, for instance, Solomon W. Feday (2017). They also focus on advising teachers to be honest in their teaching. Hence, it is difficult to discuss the current finding in line with the previous ones.

The current study found that 48.5 percent of the re-

spondents were moderate and high in their level of fairness while 49.3 percent of the respondents demonstrated low and poor level of fairness. The study depicted that 55.7 percent of the respondents demonstrated low and poor levels of respect but 43.2 percent scored moderate and high level of respect. According to the results of the current study, the majority of the respondents (51.3%) of the demonstrated moderate and high levels of trust in their academic behavior but 46.3 24.5 percent of them displayed low and poor levels of trust. Moreover, the majority of the respondents (54.6 percent) demonstrated moderate and high levels of responsibility but significant percent of the respondents, 42.4 percent, depicted low and poor levels of responsibility.

Limitations

The first challenge of this study was inability to find standardized levels of academic integrity along which the raw scores obtained in the study can be rated and the researcher was obliged to transform the raw scores to standard scores and levels were set to judge the raw scores. Secondly, comparing and contrasting the findings of the current study with other previous research result was challenged due to absence prior research results describing the nature of academic integrity among university teachers both at local and national levels. The recent study by Almutairi (2022) on “effect of academic integrity of faculty members on students’ ethical behavior” did reveal description of the nature and level of academic integrity among the faculty members.

5 Conclusion

The finding of the current study revealed that academic integrity of university educators can be explained at various levels where 1.5 percent, 16.1 percent, 35.5 percent, 24.8 percent and 22.1 percent scored very high, high, moderate, low and poor academic integrity. The findings of the current study has immense implications on intervention, promotion and development of academic integrity in higher institutions because academic integrity in general and the educators’ in particular is vital in teaching learning process because it determines development of scholarly communities and creation of strong civic engagement (ICAI, 2021). It influences

moral and ethical behaviors of students (Almutairi, 2022) and learners’ self-identity (Robert & Hai-Jew, 2009; cited in Almutairi, 2022). Moreover, it helps learners and teachers freedom to build new ideas, knowledge and creative works, and to respect and acknowledge the work of others in their academic behavior (www.uow.edu.au).

Hence, Teachers should be honest, fair and trustworthy in their academic exercises and behaviors (Behera, 2022). Stimulating culture of academic institutions - from the higher leaders to supportive administrative staffs and students, and family to the larger society should make integrity their daily discourse. They have to organize seminars, workshops and trainings on regularly bases. It is possible to enhance academic integrity by developing academic environment, enlightening teaching, enhancing institutional support for instructional process, and working to reduce institutional challenges in academic arena (Gallant, 2008, p. 89).

Moreover, universities need to have continuous, specific and applicable academic integrity development policies and strategies. Finally, factors that affect academic integrities should be studied so that universities work on it to reduce their impacts.

Data Availability

The data collected and analyzed to discuss academic integrity in this study are available on request from the author. The data cannot publicly available due to ethical issues.

Conflict of Interest

This research was funded by Dilla University and the author declares no competing of interest.

Ethical Approval

Consent was sought from the research participants. Confidentiality was maintained in reporting information.

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