

The Implementation of Cooperative Learning In the Classroom: Pedagogical Implication.

¹Amoakwah, Albert*, Boe-Doe, Kennedy ², Dr. Maison, Sally Regina²,
³Dr. Isaac Atta Kwenin

¹ Holy Spirit Anglican Basic School, Assin Fosu

² Department of Education Studies, Foso College of Education.

³ Department of Business and Social Sciences Education, University of Cape Coast.

*Corresponding Author: Amoakwah, Albert.

ABSTRACT.

The employment of cooperative learning is in tandem with making learners' efficacious and pragmatic in this present society. Since teaching has evolved in making learners the linchpin of all instructional activities, it demands of the teacher to utilize cooperative learning in the classroom setting. This current study inquired about the implementation of cooperative learning in the classroom. A convenience sampling technique was employed for 34 public school teachers. Data were collected using cooperative learning questionnaires. Data were interpreted using descriptive statistics. The outcome of the study divulged that, basic School teachers had adequate knowledge base of cooperative learning. The impugn that clouded the employment of cooperative learning in the classroom included teachers' meager knowledge of cooperative learning strategies, large class size in terms of learner's population, inadequate teaching and learning resources, poor classroom seating arrangement. The study recommended that teachers must employ seating around arrangement in the classroom. Also, adequate teaching and learning resources should be provided in schools, continuous professional development should be instilled to hone teacher's knowledge base on cooperative learning.

Date of Submission: 10-06-2024

Date of Acceptance: 22-06-2024

I. Introduction

Learners' capabilities to solve daunting tasks, cooperate, think critically and communicate effectively are the contemporary skills the schools are obliged to teach to enable learners to deal more effectively with the impugn and complex problems that are attributes of the twenty-first century (Keramanti, & Gilles, 2022). The aftermath of every classroom instruction is to enhance learners to make significant meaning from the strands and sub-strands learnt in the lesson. This concur with the assertion of (Farrant, 1980; Moore, 1999), that, the outcome of an efficacious teaching is to bring about desirable changes in behavior and attitudes of the learner.

Planning classroom instruction subsumes a lot of factors that makes the lesson effective and achievable. According to Nkrumah (2022), a good classroom instruction encompasses the content standards, indicators, performance indicators of learners, instructional procedures, performance assessment, background of the learners, interest, abilities, and the available resources. These varied elements of teaching espoused must correlate with lesson clarity, instructional variety, learner's success rate, teacher task orientation, and learner's engagement in the learning process (Borich, 2016).

The accomplishment of the content standards, indicators, and core competencies of a lesson hinges on the teacher's abilities and adroitness to utilize multifarious instructional methods and strategies that will make the lesson specific, measurable, achievable, relevant, and time bound. The core competencies are the skills and knowledge learners are expected to earn at the end of every lesson (NaCCA, 2018). These core competencies subsume personal development and leadership skills, communication and collaboration, cultural identity and global citizenship, creativity and innovation, critical thinking and problem solving, and digital literacy. These competencies are what the world of work reckon as an epitome for development and sustainability.

Erstwhile, the teacher was dubbed as the doyen of all knowledge and skills in the educational context. This made the teacher to be the authoritarian in the instructional process. Specifically, classroom instruction was mostly dominated by the teacher (REC, 2009), a single communication channel that made learners passive participants in classroom activities who depends on the commands of the teachers (Dorji, Yangzom, & Tenzin, 2021). Currently, the dominant role of the teacher in the educational context had swinged to the learners, making them the pintle of all activities in the instructional process. The teacher plays a peripheral role in assisting learners to overcome an impugn they encounter in their learning process. The inadequacy of learners'

interaction and mutual relationship in and outside the confines of the learning environment is a huge canker that stifle learners' academic progression in the instructional processes in many schools (Rocco, 2010). This alludes to employment of the conventional methods of teaching. The conventional method of teaching places the teacher at the fulcrum of all instructional processes (Beck, 2000). This method stifle learner's creativity and initiation skills in all academic processes in and outside the learning ambience.

For every lesson to flourish, there is the need for the teacher to consider learners interest, abilities, background and their level of comprehension. It requires of the teacher to incorporate pluridimensional strategies that will entice and salivate learners' interest and desire in the instructional process. Incorporating cooperative learning strategies in our instructional routine is an attempt to induce learner's engagement, participation and enhancement of their social skills. Cooperative learning strategies is an instructional approach that ameliorate learners' academic progression and also create a mutual responsive learning ambience that aid learners to successfully achieve the content standards, indicators and core competencies of a lesson (Slavin, 2010).

The researchers' observation in majority of schools in the Assin Fosu Municipality divulged that the incorporation of cooperative learning strategies in teachers' instructional activities is very deficient. This makes classroom instruction monotonous and uninteresting. Hence, to sublime classroom instruction in basic schools, the study sought to enquire on the implementation of cooperative learning strategies in schools.

1.1 COOPERATIVE LEARNING

Within the learning ambience, instructional processes are intended at achieving the content standards and indicators of the lesson. The notion of active and efficacious classroom engagement is espoused by a lot of researchers. (Slavin, 2010; Gillies, 2016) both accentuates vehemently that, encouraging collaboration in classroom instruction induce learners' achievement. (Chen, & Gonyea, 2008), posited that, learners' engagement denotes learners' level of optimism, attention, passion, and interest that are displayed when learners exhibit adequate comprehension and competencies after a lesson, which extends to the magnitude of enthusiasm they had to learn and make development in their educational endeavor. The manner we teach and learn in this current dispensation has been modified through the influx of cooperative learning (Johnson, & Johnson, 2009). According to Slavin (1983), one of the distinguishing attributes of cooperative learning is building cognition which subsumes concept formation, logical reasoning, remembering, problem solving and thinking in the social contexts. In furtherance, academic development of learners, points out at widen individual capabilities and social skills for efficacious inter-personal relationships.

Cooperative learning is an instructional group learning procedures constructed on the tenet that learners learn better when they learn together (Johnson, Maruyama, Johnson, Nelson & Skon, 1981). Secondly, cooperative learning is an instructional procedure that denotes small, and similar groups of learners working assiduously together to accomplish a common objective and learners work collaboratively to learn and are liable for their colleague's learning as well as their own (Kagan, & Kagan, 2009). Similarly, (Slavin, 2011), defines cooperative learning as a teaching method in which teachers plan and organize learners into similar groups, which learners work collaboratively to aid one another to attain the academic content. More, cooperative learning is the sequential structuring of the learning ambience, so that learners learn together to achieve a common goal (Johnson, & Johnson, 1983). In addition, cooperative learning is a pedagogic strategy in which learners are the dominant creators of skills and knowledge in the instructional process instead of inactive recipient of skills and knowledge (Liang, 2002). Sharan (1994), evince that, cooperative learning is a learner-centered and group-based approach to classroom instruction.

The desire to enhance critical thinking and problem-solving skills, communication and collaboration skills on issues of urgent need has maximized (Ismali, & Allaq, 2019), swinging the concentration from individuals' efforts to group work (Leonard, & Leonard, 2001). In cooperative learning ambience, learners are confronted with a myriad of problems that are both emotional and socially. This make learners to collate data and evidences that makes them well equipped to defend and voice out their views on the impugn they erstwhile encountered. Within this context, learners have the latitude to develop their own ideas to solve issues at hand. Learners have the privilege to dispense their ideas with their peers, exchange diverse tenet, approbate divergent views and thoughts and are dominantly engaged in the instructional process (Amanda, Sumitro, Lestari, & Ibrohim, 2024).

Further, cooperative learning denotes a relevant modification from the teacher-centered milieu to a learner-centered classroom. In cooperative learning environment, the following qualities are been exhibited.

- *Material are arranged based on the objectives of the lesson.*
- *Learners become creators of their own skills and knowledge.*
- *Learners autonomously collaborate and dispense knowledge on a given task.*
- *Teachers serves as organizers, facilitators and guide of group work.*

In a nutshell, there is a validation that cooperative learning groups accomplish higher retention level of ideas and data than learners who work solely (Johnson, & Johnson, 1986). This alludes that the incorporation of

cooperative learning strategies in classroom instruction elucidate learner's active engagement in instructional activities.

Spencer Kagan (2009), accentuated the four principals of cooperative learning.

- Positive interdependence. It is the prime tenet of cooperative learning. When learners are not grouped and organized as a unit, the accomplishment of learning goals is meager. Learners must be responsive for their own learning and members of the group as usual. To ensure the attainment of positive interdependence, group members must work assiduously together to attain their objective or goal. When learners positively depend on others vis-à-vis working for each other, positive interdependence is attained at the highest summit. Positive interdependence produces higher productivity and accomplishment (Hwong, Johnson & Johnson, 1993; Johnson & Johnson, 2008).

- Individual accountability. Individual accountability is the second principle of cooperative learning. Individual accountability denotes the achievement of the goal of the group based on individual learners' performance. When few group members perform the learning task, the spirit of individual accountability is not attained. Individual accountability is accentuated when individual members of a group performance is accessed based on the standard of performance. The feedback from learner's performance is usually assessed by the individual and also the group members to identify the attainment of the group goal. The feedback provided by members of the group aid to identify each group member level of attainment on a given task (Johnson, & Johnson, 1999).

- Equal participation. Equal participation as a feature of cooperative learning refers to giving learners' the laxity to participate fully in classroom activities. This principle posits that, when learners are given the opportunity to take responsibility for their own learning, they are able to engage and bond smoothly with their peers. The accomplishment of assigned task is easily solved.

- Simultaneous interaction. The fourth principle of cooperative learning is simultaneous interaction. This principle thrives on the overall engagement of learners in the learning environment. For successfully accomplishment of assigned task, there is the total need of learners to learn from other group members. Simultaneous interaction correlate with the smooth reciprocal relationship among learners in the learning ambience. This aid in the development of class spirit or bonding as well as dispensing information equally among learners: develop problem-solving skills, digital literacy skills and communication skills.

Cooperative learning is vehemently grounded on social interdependence theory (Deutsch 1949; Johnson; 1970, 2003; Johnson & Johnson, 1989, 2005) and Social constructivism theory (Vygotsky, 1978). Social Interdependence theory is a theory that thrives on the accomplishment of individual goals by working collaboratively to solve an assigned task (Johnson & Johnson, 2005). The fundamental premise of this theory is structured on how individual learners supplement the efforts of their colleagues to determine the outcome of a task assigned (Deutsch, 1949). Social interdependence theory has two opposite side thus positive (Cooperation), and negative (Competition). Positive interdependence is achieved when individual learners cooperatively affirm to work together to accomplish an assigned task or problem. This results in the promotive interaction which builds the spirit of cohesion and simultaneous interaction among members of a group. Negative interdependence occurs when individual learners perceive that they can solely achieve the goal of a group. With negative interdependence there is obturation in the attainment of group goal.

Findings from Johnson & Johnson (2009), divulged that positive result of social interdependence are acknowledged as self-esteem, social support, psychological health and efforts to attain. The social interdependence theory provides a fountain for the implementation of cooperative learning strategies in classroom instruction. This theory is in consonance with development of higher-order thinking skills, on-task behavior, authentic assessment, and transfer of knowledge. Johnson & Johnson (1989), evince that maximized performance is accomplished through cooperation rather than competition. This theory is affiliated with reciprocal and mutual relationship in which skills, knowledge and attitude is built. Hence, incorporating cooperative learning strategies in classroom instruction should subsume binding learners to learn from each other through interactive, and cooperative manner.

Social constructivism theory accentuates the social-cultural and cooperative aspect of learning (Terwel, 1999). This theory connotes that comprehension, meaning and significance of our society is developed through joint effort of other individuals. Vygotsky (1978), posit that, social constructivist view knowledge as what learners do in collaboration with other learners, peers and teachers. In social constructivism, learner's comprehension is formed not only through suitable engagement with the physical world but through interaction with other people. This theory conceive that dispensing individual perspectives results in learners building knowledge together. Social constructivists view learning as a dominant procedure where learners make their own enquires to create new knowledge to solve a problem. This theory affirms that knowledge and skills is built through cooperative processes. This aligns with Vygotsky (1978), who posit that learning is a dominant process that is continuous: from a lower level to a higher level. This continuous movement operate within the zone of proximal development. The zone of proximal is an arena between what a learner can do individually with the aid of a more knowledgeable person. This alludes that improving learner's performance behoves on the teacher to employ varied cooperative learning strategies that ameliorate learner's comprehension in a lesson.

Shunk (2000), assert that peer collaboration, group work and reciprocal teaching is the antidote to maximize learner's performance in classroom instruction. It also emphasizes the relevance of learners' social interaction with knowledgeable others in context. The above theories eulogies the need to infuse cooperative learning strategies in classroom instructions in schools.

1.2 Purpose of the study

The purpose of the study was to inquire on the cooperative learning strategies employed by teachers and the challenges that obturate the implementation of cooperative learning strategies. Specially, the study sought to (i) examine teachers' knowledge on cooperative learning. (ii) identify the types of cooperative learning strategies teachers' use in their institutional process. (iii) Find the challenges that hamper the implementation of cooperative learning strategies in our schools

1.3 Research question

The following research questions will guide the study:

1. What is teachers' level of knowledge on cooperative learning?
2. What are the cooperative learning strategies employed by teachers?
3. What are the challenges that obturate the implementation of cooperative learning in schools?

II. Methods.

Research Design

Descriptive Survey design was utilized for this current study. The significance of this research design has been acknowledged by academicians that subsumes Ponto Julie (2015), who affirm that descriptive survey design collates adequate information from a sample of respondents. This research design allows for a multifarious approach to collect valid data and make use varied methods of instrumentation. The fundamental goal of this research design was to dilate the attribute of the respondents involving the study. the researcher used this design to find out the implementation of cooperative learning in basic schools.

2.1 Population

The population for the study consisted of 34 teachers in the public basic school in the Assin Fosu Municipality. These respondents were utilized for this study because of their availability. The motive for selecting these respondents in the Assin Fosu was due to the fact that most of the teacher's had obtained the requisite qualification (master's degree, bachelor's degree, diploma in basic education). All the 34 teachers were conveniently sampled in this research.

2.3 Instrument for data collection.

Questionnaire was employed to collate data for the Study. The questionnaire was a self-reports inventory with a four-point Likert-type scale titled the implementation of cooperative learning in the classroom. The questionnaire was in three folds. Section A demanded respondents to give a bio-graphic data about themselves which included sex, experience and educational requirement. Section B examined respondents' level of comprehension on cooperative learning. Section C indicated the type of cooperative learning strategies teachers' employ in their instructional activities whilst Section D also examined the challenges that obturates the smooth implementation of cooperative learning in the classroom. The items in Section B and D were scrutinized on 1 to 4 Likert type scale (1=very inadequate, 2=Inadequate, 3=Adequate, 4 = very Adequate; 1 = Strongly Disagree, 2= Disagree, 3 = Agree 4 = Strongly Agree). The weights were summed up to get the average for the acceptable mean value (1+2+3+4 = 10; 10/4 = 2.5). Therefore, mean value of 2.5 denote that respondent agree with the statement and a mean value from 1.00-1.74 meant the respondents strongly disagree or had very inadequate knowledge, about cooperative learning, a mean value of 1.75-2.49 meant respondents had inadequate knowledge about cooperative learning, a mean value of 2.50-3.24 denoted that respondents had adequate knowledge of cooperative learning whilst a mean value of 3.25-4.00 meant that teachers had very adequate knowledge of cooperative learning. The employment of questionnaire was acknowledged because it ensured an extensive coverage of respondent views and enhanced the researcher to contact the respondents smoothly. It enhanced the respondents to answer the items quickly. On the other side of the coin, it consumes a lot of time and energy.

III. Discussion of findings

This chapter outlines the outcome and discussion of this study. The presentation of the outcomes subsumes: teachers' level of knowledge on cooperative learning, cooperative learning strategies teachers' employ in their instructional processes, and the challenges teachers encounter in implementing cooperative learning in the classroom.

Statements	Very	Adequate	Inadequate	Very Inadequate	Mean	Standard
------------	------	----------	------------	-----------------	------	----------

	<i>Adequate</i>					<i>Deviation.</i>
1.In cooperative learning, teachers rank learners in a group.	19	15	01		3.56	0.50
2.Cooperative learning is the pedagogic use of small groups of learners to maximize their own and each other's learning.	21	12	01		3.58	0.55
3.Learners working together to achieve a common goal produces higher achievement.	27	07			3.79	0.41
4.In selecting learners for cooperative learning, teachers use deck of cards to group learners.	12	16	04	02	3.12	0.84
5. Teachers serve as facilitators who guide learners to carry out their own activities.	22	11		01	3.58	0.65
6.Learners work together to accomplish a goal.	27	07			3.79	0.41
7.Teachers make pre-instructional decision for the lesson.	21	11	02		3.55	0.61
8.Achievement is a priority in cooperative learning.	17	15	02		3.44	0.61
9.The type of interdependence of determines the instructional outcome.	13	17	03	01	3.25	0.74
10.Development of social skills is one of the elements of cooperative learning.	24	07	03		3.62	0.65

Table 1: Teachers' knowledge of cooperative learning.

Source: Field Data, 2024.

The outcome from **Table 1** pointed out that, majority of teachers (N=34, M= 3.58, SD=0.65) indicated that, teachers serve as facilitators who guide learners to carry out their own activities. This statement conforms with the findings of Nguyen and Tran (2023), accord that in cooperative learning, teachers acts as organizers and counselors of group work. The tenet of cooperative learning denotes giving learners the latitude to construct knowledge and solve challenging task. Teachers play a peripheral role while learners' serves as prominent players in the instructional process. It could be inferred from the outcome that, most of the basic school teachers had adequate comprehension in cooperative learning, they inhold most indispensable skills in organizing and implementing cooperative learning. Skills such as knowledge on the principles, elements, as well as the learning strategies in cooperative learning were outstanding.

More, it is further divulged that majority of teachers accord that development of social skills is one of the elements of cooperative learning (N=34, Mean = 3.62, SD=0.65). This validate with the findings of Tran (2013), connote that cooperative learning aids learners to imbibe relevant social skills that encompasses acknowledging divergent views of other peers, speaking politely to others, questioning cooperatively, and listening attentively to others views. These significant skills ensure that learners coordinated efforts yields the achievement of their goals. In addition, majority of teachers (N=34, M = 3.79, SD=0.41) indicated that, learners working together to achieve a common goal produces higher achievement. This concur with the findings of Johnson and Johnson (2014), posit that in cooperative learning the conscious joint efforts of learners results in higher achievement. Also, another majority of teachers (N=34, M=3.79, SD=0.41) pointed out that, learners work together to accomplish a goal. This in line with the findings of Nguyen and Tran (2023), assert that in cooperative learning, learners collaborate with their peers to achieve common a goal. They iterated that learners' ability to correlate with each other to build team spirit vis-a-vis mutual relationship which leads to critical thinking, dispensing information, and building significant social and communication skills.

According to Siegel (2005), the effective implementation of cooperative learning was underpinned by several factors. These are lesson objectives, materials available, interest of learners' lesson plan, performance assessment, age of the learners, prior knowledge learners, time available and methods of teaching; and continuous professional development of teachers. Similarly, Antil, Jenkins, Wayne and Vadasy (1998), discovered that the implementation of cooperative learning by teachers was manipulated by continuous in-service training. These alludes that teacher's continuous professional development of cooperative learning accumulated teachers' level of knowledge on the implementation of cooperative learning. The outcome reveals that teachers had a favorable experience using cooperative learning in their instructional process.

The Implementation of Cooperative Learning In The Classroom: Pedagogical Implication.

Cooperative Learning Strategies.	Most of the time	Occasionally	Rarely	Never	Mean	Standard Deviation.
1.Inside-Outside circle	06	21	06	01	2.94	0.69
2.Jigsaw	07	15	11	01	2.82	0.79
3.Think-Pair-Share	26	06	02		3.70	0.57
4.Pair Check	07	17	06	04	2.79	0.91
5.Rally Robin	05	13	08	07	2.48	1.00
6.Student Team Learning	14	10	06	04	3.00	1.04
7.Learning Together	17	08	02	07	3.02	1.19

Cooperative Learning Strategies
Source: Field Data, 2024

From **Table 2**, basic school teachers were assigned to point out the frequency of each of the types of cooperative learning strategies they employ in the classroom. It is explicit from Table 2 that, 26 teachers indicated that, the prevalent cooperative learning strategies employed by teachers was think-pair-share. 17 teachers also utilized learning together. 14 teachers also employed student learning together. The least cooperative learning strategy was rally robbin. On the contrary, 11 teachers indicated that, they rarely utilized jigsaw. 8 teachers rarely employed rally robbin. 6 teachers both rarely utilized inside-outside circle, pair check, and student team learning.

Statements	Strongly Agree	Agree	Disagree	Strongly Disagree	Mean	Standard Deviation.
1.Inadequate teachers' knowledge on the types of cooperative learning strategies.	10	17	07		3.08	0.71
2.Inadequate time allotted on the timetable.	22	10	02		3.58	0.60
3.Large class size derail the implementation of cooperative learning strategies.	22	09	03		3.55	0.66
4.Convectional seating arrangement does not permit cooperative learning.	18	12	03	01	3.38	0.77
5. Inadequate teaching and learning resources stifle the implementation of cooperative learning.	25	08	01		3.67	0.63
6.Classroom becomes rowdy.	11	14	04		3.05	0.77
7.Poor attendance of learners disrupt cooperative learning.	16	14	04		3.35	0.69

Challenges teachers 'encounter in implementing cooperative learning.
Source: Field Data, 2024

The outcome from **Table 3** indicated that, majority of the respondents (N=34, M=3.67, SD=0.63), affirm that inadequate teaching and learning resources is a challenge for the implementation of cooperative learning. With cooperative learning, learners are given the laxity to create and build their knowledge through joint effort but the insufficiency of teaching and learning resources derail the implementation of cooperative learning. This aligns with the finding of Morges (2019), posit that, there is unavailability of instructional materials to practice cooperative learning in the classroom. In addition, majority of teachers (N=34, M=3.58, SD = 0.60) pointed out that, inadequate time allotted on the timetable stifle the implementation of cooperative learning. This is accordant with the findings of Keramati and Gillies (2022), posit that insufficient time obturates the smooth implementation of cooperative learning. They iterated that, cooperative learning implementation require maximum time in order to judge the worth of the strategy and learners' outcome. The insufficiency of time undermines the implementation process.

Another major challenge concerning the implementation of cooperative learning is large class size (N = 34, M= 3.55, SD=0.66) This concur with the finding of Moges (2019), posit that large class size makes it impossible to ensure the smooth implementation of cooperative learning in our various classrooms. Aschalew (2013), also posit that large class size is a challenge that hinder the implementation of cooperative learning. Furthermore, respondents (N=34, M=3.38, SD=0.77) highlighted that convectional seating arrangement in the classroom does not permit the implementation of cooperative learning. This conforms with the findings of Habtewold and Bezabih (2018), posit that the physical set-up of the classroom does not aid in the smooth implementation of cooperative learning. Morges (2019), also assert that poor classroom seating arrangement does not provide the space for learners to perform their own task.

IV. Conclusion

It can be summarized that majority of basic school teachers are competent enough in implementing cooperative learning in their various classroom. They therefore had adequate comprehension on the knowledge base of cooperative learning, its element and principles. Although, the employment of various cooperative learning strategies by teachers in their classroom activities was very low. With the exception of think-pair-share and learning together strategies, it appears that teachers were novice with the rest of the cooperative learning strategies which did not aid to accomplish the enhancement of cooperative learning in the classroom.

On the other side of the coin, cooperative learning is targeted at making learners to build and create their own comprehension, competencies and knowledge for themselves through the joint efforts of their colleagues and teachers, it became torrid for learners to attain such goals. Large class size does not permit the implementation process. Another impugnant that hindered cooperative learning included inadequate teaching and learning materials, poor seating arrangement and inadequate time. The implication is that learners were unable to build their knowledge and also achieve their goals. All these factors impeded the smooth implementation of cooperative learning in the classroom.

V. Recommendation

It is recommended that the standard base curriculum is underpinned by the tenet of making learners the pintle of all instructional process. This denote that the implementation of cooperative learning and its strategies should be the core goal for the teacher in planning instructional activities. With this, classroom seating arrangement must be modified by employing seating around arrangement and the horse shoe seating arrangement style that will enhance appropriate collaboration in the classroom context. More, adequate teaching and learning resources should be provided to the schools, so that learners can manipulate it and build up their knowledge and skills. The class size should be the standard requirement of Ghana Education service, that is 35 learners in a class. Finally, continuous professional development training should be geared toward more practical activities to sublime teacher's comprehension and competencies.

Reference

- [1]. Aschalew, T. (2013). Teachers Perception and Practice of Active Learning in Haramaya University. *An International Multidisciplinary Journal*. 1(6). pp. 370-390
- [2]. Antil, L. R., J. R. Jenkins, S. K. Wayne, and P. F. Vadasy. (1998). "Cooperative Learning: Prevalence, Conceptualizations, and the Relation between Research and Practice." *American Educational Research Journal* 35 (3): 419-454.
- [3]. Amanda, F.F., Sumitro, S.B., Lestari, S.R., & Ibrohim. (2024). Enhancing Critical Thinking and Problem-Solving Skills by Complexity Science-Problem Based Learning Mode. *Multidisciplinary Journal of Educational Research* 14, (1), 96 – 114
- [4]. Beck, L. L., & Chizhik, A. W. (2008). An experimental study of cooperative learning in CS1. In *Proceedings of the 39th SIGCSE technical symposium on Computer science education* (pp. 205-209). New York: ACM
<http://dx.doi.org/10.1145/1352135.1352208>
- [5]. Borich, G. (2016). *Observation skills for effective teaching* (7th ed.). New York, NY: Taylor & Francis.
- [6]. Chen, D., R. & Gonyea, G., & Kuh. (2008). Learning at a Distance (Electronic Version). *Journal of Online Education*, 4, (3).
- [7]. Deutsch, M. (1949). A theory of co-operation and competition. *Human Relations*, 11, 129-152.
<http://dx.doi.org/10.1177/001872674900200204>
- [8]. Dorji, P., Yangzom, & Tenzin, J. (2021). "Application of Kagan's Cooperative Learning Structures to Maximize Student Engagement: An Action Research," *Journal of Education, Society and Behavioural Science*. 54-64. DOI: <https://doi.org/10.9734/jesbs/2021/v34i330317>.
- [9]. Farrant, J.S. (1980). *Principles and practice of education*. Longman Group Ltd., London.
- [10]. Gillies, R, M. (2016). Cooperative Learning: Review of Research and Practice. *Australian Journal of Teacher Education*. 41 (3)
- [11]. Hwong, N., Caswell, A., Johnson, D. W., & Johnson, R. (1993). Effects of cooperative and individualistic on prospective elementary teachers' music achievements and attitudes. *Journal of Social Psychology*, 133(1), 53-64.
<http://dx.doi.org/10.1080/00224545.1993.9712118>
- [12]. Habtewold, C., & Bezabih, A. (2019). Challenges of Cooperative Learning Scheme at Secondary Schools of Wolaita Zone. *International Journal of Science and Research*. 8 (10).
- [13]. Ismail, A.A.S & Allaq, K.A. (2019). The Nature of Cooperative Learning and Differentiated Instruction Practices in English Classes. *Sage Open*. 1-17.
- [14]. Johnson, D., Maruyama, G., Johnson, R., Nelson, D., & Skon, L. (1981). Effects of cooperative, competitive, and individualistic goal structures on achievement: A metaanalysis. *Psychological Bulletin*, 89, 47-62.
- [15]. Johnson, D. W., & Johnson, R. T. (1989). *Cooperation and Competition: Theory and Practice*. Edina, MN: International Book Company.
- [16]. Johnson, D.W., & Johnson, R. (1999). *Learning together and alone: Cooperative, competitive, and individualistic learning* (5th ed.). Allyn & Bacon.
- [17]. Johnson, D. W., & Johnson, R. (2005). New Developments in Social Interdependence Theory. *Genetic, Social, & General Psychology Monographs*, 131(4), 285-358. <http://dx.doi.org/10.3200/MONO.131.4.285-358>
- [18]. Johnson, D. W., & Johnson, R. T. (2008). Social Interdependence Theory and Cooperative Learning: The Teacher's Role. In R. M. Gillies, A. Ashman & J. Terwel (Eds.), *Teacher's Role in Implementing Cooperative Learning in the Classroom* (pp. 9-37). New York, U.S.A: Springer. http://dx.doi.org/10.1007/978-0-387-70892-8_1

- [19]. Johnson, D., & Johnson, F. (2009). *Joining together: Group theory and group skills* (10th ed.). Upper Saddle River, N.J: Pearson Education
- [20]. Johnson, D.W. & Johnson, R.T. (2009). An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning. *Journal of Educational researcher*, 38(5), pp. 365-379.
- [21]. Kagan, S., & Kagan, M. (2009). *Kagan Cooperative Learning*. San Clemente, CA: Kagan Publishing.
- [22]. Keramati, M.R., & Gillies, R. (2021). Teaching cooperative learning through cooperative learning environment: a qualitative follow-up of an experimental study. *Interactive Learning Environments*, DOI: 10.1080/10494820.2022.2100429
- [23]. Leonard, P. E., & Leonard, L.J. (2001). The collaborative prescription: Remedy or reverie? *International Journal of Leadership in Education*, 4(4); pp. 383–99.
- [24]. Liang, T. (2002). *Implementing Cooperative Learning in EFL Teaching: Process and Effects* (Doctoral dissertation, National Taiwan Normal University). [Online]
Available: http://www.asian-efl-journal.com/Thesis_Liang_Tsailing.pdf (July 17, 2009)
- [25]. Moore, K.D. (1999). *Middle and secondary school instructional method* (2nd ed) Boston: McGraw-Hill Companies.
- [26]. Moges, B. (2019). Practices and Challenges of Cooperative Learning in Selected College of Arsi University: As a Motivational Factor on Enhancing Students' Learning. *Universal Journal of Psychology* 7(1): 1-17
- [27]. National Pre-tertiary Education Curriculum Framework for developing subject curricula. National Council for Curriculum and Assessment (2018). Accra, Ghana.
- [28]. Nkrumah, I. K. (2020). *Foundations of Educational Psychology*.
- [29]. Nguyen, H., & Tran, H. (2003). Applying Spencer Kagan's cooperative learning approach in non-majored engagement in English classroom.
- [30]. Ponto, J. (2015). Understanding and Evaluating Survey Research Translating research into practice. 6(2).
- [31]. Rocca, K.A. (2010). Student participation in the college classroom: an extended multidisciplinary literature review. DOI: Available: <https://doi.org/10.1080/03634520.903505936>
- [32]. Siegel, C. (2005). Improving a research-based model of cooperative learning. *The Journal of Education*.98 (6),339-349.
- [33]. Sharan, S. (1994). Cooperative learning and the teacher. In S. Sharan (Ed.), *Handbook of cooperative learning methods* (pp. 51-64). London: Greenwood Press.
- [34]. Shunk, D.H. (2000). *Learning theories: An educational perspective* (3rd ed). Upper Saddle River, NJ: Prentice-Hall.
- [35]. Slavin, R. E. (1983). When does cooperative learning increase student achievement? *Psychological Bulletin*, 94, 429-445.
- [36]. Slavin, R. E. (2010). Cooperative learning. In E. Baker, P. Peterson, & B. McGaw (Eds.), *International encyclopedia of education* (3rd ed.). Oxford, England: Elsevier.
- [37]. Slavin, R. E. (2011). Instruction Based on Cooperative Learning. In R. E. Mayer & P. A. Alexander (Eds.), *Handbook of Research on Learning and Instruction*. 344-360. New York: Taylor & Francis.
- [38]. Terwel, J. (1999). Constructivism and its implications for curriculum theory and practice. *J. Curriculum Stud.*, 31: 195-199. DOI: 10.1080/002202799183223
- [39]. Tran, V.D. (2013). Theoretical Perspectives Underlying the Application of Cooperative Learning in Classrooms. *International Journal of Higher Education*.2(4).
- [40]. Vygotsky, L. S. (1978). *Mind in society* (Edited by M. Cole, V. John-Steiner, S. Scribner, & E. Soubberman). Cambridge, MA: Harvard University Press.