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Exploring Teachers' Lived Experiences of Cooperative Learning in Ethiopian Higher Education Classrooms: A Phenomenological-Case Study

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Abstract: A growing body of research indicates that teaching is the most important determinant of student learning in higher education (HE). However, HE teachers have a persistent challenge to transform pedagogical practices from a teacher-centered to a student-centered approach. In this study, the authors employed a phenomenological-case study design to examine the teachers' lived experiences with cooperative learning (CL) pedagogies as applied in the undergraduates' classrooms in a large public university in Ethiopia. The authors collected the relevant data from two teacher participants through both reflection and a semi-structured interview, along with document analysis of course-related material. The teacher participants felt that their involvement in the CL lessons gave them insight to understand strategies used to implement CL and practical learning opportunities on how to use it as one variant of student-centered teaching methods. As the teacher interviewees suggested, the CL lessons helped them change their mindset from traditional lecture-based teaching to a student-centered approach and transform their pedagogical practices. The results of this study suggest that CL pedagogies offer teachers with professional development opportunities for a meaningful transformation of their roles in HE classrooms. Additionally, the results have important practical implications for many HE institutions (HEIs) and their teachers who work with undergraduate students.

Keywords: cooperative learning; Ethiopia; higher education; management; civil engineering; lived experience

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1. Introduction

"*Learning*" is the prime purpose of education, and this is often stated in the value statements of many higher education (HE) systems worldwide. Similarly, teaching denotes the most important school-based determinant of student learning [1]. Consecutive years of effective teaching can significantly improve students' long-term outcomes [2]. Various pedagogic approaches exist to promote quality teaching so that teachers can transform classrooms into more engaging and more supportive learning environments, and one such approach is structured small-group learning. Structured small-group learning, which is referred to as "*cooperative learning*" (CL) pedagogy, provides teachers with alternative approaches to teaching that effects meaningful change on the cognitive, affective and psychomotor domains [3,4]. An extensive body of research provides evidence on the effectiveness of CL to improve the quality of teaching and learning in HE [5,6].

Research at the undergraduate level indicates that CL is more effective than traditional forms of teaching in terms of promoting quality learning demonstrated in students' greater academic achievement, more positive attitudes towards learning, and increased social outcomes [7–9]. In this study, the CL was used as an approach to small-group work, a quality improvement tool, and a professional development opportunity for teachers [10].

Research shows that teacher characteristics such as formal education, years of experience, cognitive skills, and entry exam performance only explain a small fraction of the variation in student learning [11]. Recent evidence highlights the crucial role teaching practices play in explaining this variation [12]. For example, meta-analyses found that better teaching practices are associated with improved learning outcomes [13]. Moreover, a study of CL found those designed to advance teaching practices also resulted in increased student learning [14,15].

1.1. Rationale

Enrollment in HE in Africa, Ethiopia included, exponentially increased over the last two decades or so [16]. This massive enrollment expansion, however, does not guarantee quality learning. The evidence for this originates from research that reveals a large proportion of students who graduated in different major fields lacking essential competencies, which scholars labeled it the 'global learning crisis' [17].

Effective teaching practices, for example, student-centered pedagogies are needed to tackle the learning crisis, among others [18]. However, most HE systems in sub-Saharan African countries do not regularly utilize student-centered pedagogies to curb this, partly because they do not know how to adequately utilize them [19]. This failure is also related to poor teacher training programs, which lead to poor teacher quality [20]. The situation is exacerbated by a prevalence of ineffective professional development programs, which tend to be theory-based and rarely provide actionable guidance for teachers to improve their practice [21,22]. Without a reliable support, even experienced HE teachers struggle to distinguish between effective and ineffective teaching [23].

In the Ethiopian HE system, teachers most often use teacher-centered pedagogies, which are characterized by a high degree of teacher control, student's minimal engagement [24] and lack of influence or power [25–28]. Additionally, teachers continue to use instructional practices that are not effective at promoting quality learning. One reason for these shortcomings appears to be with the mismatch between policy intention to promote student-centered pedagogies while not having a corresponding focus on how to cope with the challenges of implementation [22].

In response to these, conducting intervention studies in teaching, learning and assessment in Ethiopian HE has become common [15,29–34]. However, while these are excellent initiatives, these alone were often found to be insufficient to achieve deep and lasting quality in university teaching and learning 7. Additionally, research shows that the in-service teacher professional development program that has been implemented has not brought about the anticipated changes in teachers' pedagogical practices, meaning the program has not been potent as planned [22,35,36].

Regardless of this, the actual implementation across universities has several problems, including minimal awareness among the stakeholders, shortage of facilities, and rudimentary level of application of active learning and continuous assessment [37]. Compounded by these and others, quality teaching and learning has been compromised in Ethiopian HE [38,39]. In response to this challenge, previous studies show that the implementation of CL intervention across a range of disciplines in the College of Natural Sciences and the College of Social Sciences, revealed that students who attended undergraduate courses in the CL pedagogies scored higher in several measures of process and outcome qualities [15,39,40]. Based on this, researchers suggest the need for expanding the research landscape to include other colleges and departments, investigating the potency of the pedagogic intervention for wider applications and functions [41]. The purpose of this research project was to examine the effects of the CL pedagogic intervention on aspects of undergraduate students self-regulated behaviors, engagement, and academic success to fully understand the complexity of the pedagogic intervention as applied by teachers in the College of Business and Institute of Technology. Moreover, the other purpose was to explore the lived experience of those involved in the process and identify the factors surrounding the implementation of CL.

1.2. Objectives of the Study

1.2.1. General Objective

This study aims to explore the implementation of CL as applied in the undergraduate classes, identifying the individual and institutional contexts surrounding implementation.

1.2.2. Specific Objectives

The specific objectives of this study include:

- Develop appropriate instructional designs that could improve the quality of undergraduate students learning in Business and technology education in Universities in Ethiopia.
- Identify the factors surrounding the implementation of the CL intervention while applied in the university classrooms in Ethiopia.

1.2.3. Research Questions

- What are the teachers' lived experiences and interpretation of their pedagogical practices and social experiences as participants in the CL intervention program in the HE classrooms in Ethiopia?
- What aspects of the CL program do teacher participants feel important to reinforce their commitment to meet their facilitation roles and what else do hinder them?
- What are the factors associated with the implementation of CL in the actual classrooms in the HE in Ethiopia?

2. Literature Review

2.1. Social Interdependence and Social Learning Theories as Foundations for CL Pedagogies

The two foundational theories of CL include social interdependence theory (SLT) and social learning theory (SIT). The basic premise of SIT is that the type of interdependence structured in a learning situation determines how individuals interact with each other, which, in turn, determines the outcomes achieved in the end [42]. Similarly, according to SLT, people learn social behavior by observing and imitating the behavior of others. The Eminent Psychologist Albert Bandura developed the SLT, signifying that individual learn new behaviors, attitudes, and emotional reactions from their interactions with others in a social context [43]. Both SIT and SLT provide an integrated view of learning, including knowledge, beliefs, and social and participatory aspects of learning [44]. The heart of the matter in these theories is the importance of process over the content of education [45].

2.2. The Five Elements of CL

The CL is a distinctive pedagogic approach that originates from SIT [7] and SLT [43]. According to these theories, interactions with others play an important role in the teaching and learning process. Hence, learners' interactions with other people—teachers, peers, and parents form the base for learning.

In fact, cooperation requires creating carefully structured small groups so that students work cooperatively and maximize each other's learning [3]. In the literature on this field, cooperation has been defined as the presence of joint goals, mutual rewards, shared resources, and complementary roles among members of a group [10,46], and these ensure goal, reward, or resource interdependence, respectively. The essence of cooperation is working together towards a common goal seeking outcomes that are beneficial to an individual as well as other group members [42]. According to SIT, individuals' cognition, and motivation originate in contexts and, consequently, relate closely to the external world. The orientation corresponding to social interdependence theory suggest that individuals' development happens in an overarching sociocultural system that represents a considerable relationship between individuals and their physical, cognitive, and social worlds [47].

There are five basic elements that distinguish the CL from other social learning approaches. These include positive interdependence, promotive interaction, individual accountability, social or interpersonal skills, and group processing [48]. In fact, positive

interdependence exists when group members are linked together in such a way that one cannot succeed unless others do [10]. Individual accountability happens when each group member understands that they are responsible for completing the assigned tasks and assisting others to complete their fair share [5]. Students need to be familiar with social skills such as listening politely, disagreeing and taking turns to work in groups properly.

2.3. How CL Supports Students Learning

There are numerous studies in the literature confirming the effectiveness of CL for students learning, academic achievement, and psychosocial development [49,50]. Studies over the past decades indicate that cooperation, compared with competitive and individualistic efforts, tends to result in higher academic achievement [51], greater interest in learning [14], more positive interpersonal relationships, social development [52], and greater psychological health [42]

2.4. The Benefits of CL for Teachers as a Pedagogical Tool

CL has several benefits for teachers participating in the program. These included opportunities to: receive group feedback, clarify new experiences with colleagues, enhance personal commitment, and validate professional identity. Louws, Meirink [53] several principles that teachers should be aware of in implementing CL in their classrooms. Additionally, they should understand the essence of cooperation. Furthermore, they should build teams and assist different groups to independence by delegating responsibility for learning.

2.5. Teachers' Beliefs and Practices as Theoretical Framework

In this study, teacher beliefs and practices serve as a theoretical framework. The concept of teacher beliefs [54] signifies the beliefs regarding learning and teaching, and teacher practices include those pedagogical activities of teachers [55]. Teacher beliefs are often supported by subjective experience. For example, a teacher's engagement in a professional learning program results in increased quality of pedagogical practices [10,56], which is explained in terms of cognitive and social perspectives. Cognitive perspectives represent changes in teachers' beliefs. Teachers' beliefs primarily shape their decisions during the planning of their lessons and implementing their plans in the classroom [57]. Social perspective considers professional learning for social development [44].

Although the change in teachers' beliefs and practices has been investigated, there is minimal research that has examined change in university teachers' beliefs and practices after their initial experience with student-centered pedagogies in the undergraduate classrooms. This study addresses this prevailing gap by focusing on the experiences of two teachers who collaborated and implemented CL pedagogies, and the corresponding changes made to their pedagogical practices over two weeks.

3. Materials and Methods

In this study, the authors used a phenomenological-case study design, comprising of document analysis, and semi-structured interview responses and reflections from two intervention teachers. By combining phenomenological approach with the case study method, the researchers understood intricate pedagogical practices and salient students' behaviors; and the essence and underlying structure of the CL [58]. When this design is applied in this study context it provides a distinctive feature where case studies are amalgamated in real-life situations. Hence, unification produced rich and holistic evidence of CL pedagogic practices.

The researchers selected a phenomenological-case study since the elements found within the methods fit with the theoretical framework of the study. Indeed, phenomenology is often used to describe aspects of teaching [59]. Our understanding is that teachers' professional learning experiences are situated within the professional learning space. Hence, the

phenomenological approach that orients prolonged stay in the field supported a thorough examination of the cases in the CL classroom context.

3.1. Study Participants

The type of sampling used in this phenomenological-case study was purposive sampling, particularly criterion sampling. Criterion sampling involves the identification and selection of cases that meet some predetermined criterion of importance [60]. Hence, the teacher participants were selected based on criteria, including whether the teacher was a full-time teacher, interested, and offered a single major course for two classes of the same student cohorts in the second semester. In the end, only two teacher participants were selected based on the criteria. The small sample size, that is, two teacher participants, was intentional to examine each experience in-depth [61].

The two teachers who participated in the implementation of the CL pedagogies both volunteered with one being a woman and one a man. Both of them had master's degree. In terms of teaching experience in university, one of them had five years teaching experience, while the other one had three years of experience. Both of the teachers participated in the induction program the university usually prepares for beginning teachers after recruitment. Hence, they had experience in attending training on instructional skills and learning assessments. Additionally, one of them was involved in the higher diploma program (HDP) for higher educators training while the other was not.

3.2. Study Context

The study was restricted into Jimma University (JU), Ethiopia. The study was conducted in the College of Business and Economics and Institute of Technology, JU. Teachers for the two undergraduate courses in two different disciplines participated in this CL study. The two courses included: (1) Management: 'Risk Management and Insurance' (Course Code: Mgmt 3193) and (2) Civil Engineering: 'Foundation Engineering I' (Course Code: CENG 3131)

3.3. Tools for Data Collection

Documents (Course syllabus and CL lesson plans).

The authors used documents such as course syllabus and lesson plans as a data source. These documents were personal documents guiding the classroom teaching. The authors examined these documents based on the criteria of a CL framework.

Reflections and note taking.

The authors used reflective field notes to develop insight for interpreting data from the study participants that explained what was gained from the study [62]. Field notes were written immediately after leaving the pre-lesson meetings and CL practices in the classrooms.

Semi-structured interview guide.

In-depth interviews were conducted to collect data from the participating teachers on their views and comments about the pedagogical practices and students learning experiences. What the students achieved as a result of their involvement in the intervention programs was also discussed. The interview (Appendix A) consisted of broader questions like (1) how the participant teachers perceived the nature and use of CL pedagogic pedagogies and those contextual factors associated with the implementation process, (2) their experiences during the implementation process, (3) planning, preparation and execution of the program, and (4) the opportunities and challenges he/she sought while attending the intervention program, and (5) their recommended suggestions for better quality CL program.

3.4. Description of the CL Intervention

The CL activities consisted of five different activities: Think-pair-share, Think-share-pair-create, paired heads together, pyramiding, and group investigation. The entire in-

tervention ran for two weeks, a lesson (50 min) or two per day and a total of 3–4 lessons per week for a total of six to eight lessons. The start of a CL activity included an individual thinking and writing tasks to help make students aware of the importance of constructing their own learning. While this activity stimulates interest and facilitates further pair discussions, it also encourages each student to be individually accountable for one's own learning.

The researcher also introduced some books and articles on CL and its applications and benefits for the teachers to read. These books and other most recent articles were found useful for the teachers as they assisted them to improve their management of the classroom, giving clear ideas on using cooperative learning and implementing it in the classroom effectively.

Following the workshop, the researcher asked the teachers to train their students in the basic skills of CL before beginning the first class. The researchers provided assistance for the teachers to instruct the students in social skills for group work. The workshop included working together to develop group goals, sharing resources and rewards, proposing good arguments and cooperation.

Prior to intervention.

Before the start of this CL pedagogical practices, the first author gave a staff development workshop on the different CL pedagogies for the two teachers. The content of the training includes SIT, the concepts of CL, the five-elements of CL, the different types of CL, empirical evidence on the effects of CL on teaching and learning, the teacher's roles in the CL classrooms, practical considerations for implementation and evaluation of undergraduate students learning in the CL classrooms.

Cooperative learning (Training Program).

The researcher organized a training workshop for one day to train the teachers and have a consultative meeting how to proceed with the CL lessons. Johnson and Johnson [63] maintain that teachers have to be familiar with the basic skills to implement cooperative learning properly. For example, the teacher should be able to form cooperative groups, monitor the process and outcomes of the group experience, and explain the expectations for the group as well as individual members. The researcher invited the teachers to attend the workshop to clarify the basic skills that needed to be developed to ensure that the cooperative learning intervention was correctly implemented.

A CL training program used in a previous study of the principal author was used by the researchers to train the teachers who taught the experimental groups in this study. Johnson and Johnson [9] pointed out that the use of training on CL pedagogies assists teachers to be more proficient in providing learning experiences. The use of training assists teacher participants to equip with the CL pedagogical knowledge and skills [64]. An overview of the training program is outlined as follows:

- CL groups (training program, both teachers and students).
- Introduce some books and articles on CL.
- Social networking via internet
- Cooperative design of lessons and formative assessment tasks

3.4.1. Data Collection Procedure

The researchers collected the relevant data from the study participants after obtaining written consent from the teachers as well as student participants in the respective colleges and departments. The participating teachers were involved in a pre-scheduled interview. Each session of in-depth interview took an average of 20–30 min.

3.4.2. Data Analysis and Presentation

The study involved document analysis and thematic analysis. With the help of document analysis, the authors interpreted the substantive contents to give meaning around CL pedagogies [65]. The qualitative data obtained from interviews and reflections were recorded and further transcribed. Then, the results condensed as per the themes and sub-

themes emerged from the data. Teachers' views and comments on the intervention program were systematically analyzed to see patterns of similarities and differences. The principal author independently coded each transcribed interview line-by-line. The interview was reviewed and expanded immediately after data collection. Additionally, the researcher took field notes to capture some features of the CL program and provide a holistic view on the program under study.

The researcher accurately captured the teacher participants experiences from the interviews [66]. For interpretation purposes, the teacher participants experiences were compared with the empirical literature to examine their experiences from a comparative perspective. By comparing the teacher participants experiences of professional learning against the common professional learning experiences in HE more generally, the researcher arrived at a much clearer understanding of the realities of professional learning experiences of the teacher participants in using CL pedagogies in the HE classrooms.

4. Results

This section provides the major findings of the study based on the data collected from documents and teachers' reflections and responses to semi-structured interviews. For simplicity, the results are divided into three sections. These include results of document analysis, results of reflections, and results of semi-structured interview.

4.1. Results of Document Analysis

The first course 'Foundation Engineering I (Code: CENG 3131), was a four-credit hour course offered in the second semester of the 2017/2018 academic year. It is clear from the course syllabus that this course had four contact hours per week with a double lesson per day. Hence, in the two weeks of intervention time, the students in the intervention groups had exposure to the CL lessons for nearly eight hours over the course of the intervention period. A further exploration of the course outline verified that the course had both theoretical and practical components. A critical examination of the course outline indicated that the course did not have CL as a small group pedagogy as part of the teaching methods applied for the course. Additionally, the assessment of the course did not have an in class small group or out of class small group activities as an assessment approach.

The second course, 'Risk Management and Insurance (Code: Mgmt 3193), was a three-credit hour course in the academic year in 2017/2018, Semester 2. A similar examination of the other course (Risk Management and Insurance) revealed almost the same feature. This course is a three credit hours course with three contact hours. As stated in the course outline, the course delivery methodology indicated lectures and other methodology, but not the use of small group CL pedagogies.

The teachers reported that lesson plan preparation and deliberate small group (4–5 members) practices worked best for them. In this study, the teachers applied different CL strategies such as the jigsaw method, think pair share and formulate–share–listen–create to enhance student's engagement. Appendices B and C present sample lesson plans with CL pedagogies.

4.2. Reflections on the CL Training and Classroom Practices

Participant teachers of the CL program had a half day training on the CL techniques separately using individualized approach to staff development. Each teacher was taught individually because their schedules did not line up, making it impossible for the researchers to meet with both the teachers at the same time. The two teacher participants reported that the training was interesting and relevant. They appreciated the essence of CL instruction and how it differed from the usual group work or discussion they used occasionally. During the training, the teacher participants commented that CL did not occur in any staff development or other teaching and learning experiences they have had in the past. Hence, the program was new for them. However, both teachers were quite hesitant about the how it could be implemented in the actual classrooms.

4.3. Results of Semi-Structured Interviews with the Teachers Participants

Thematic analysis of the interview data revealed the following five major themes. These themes emerged through comparison of the researcher individually coded interviews and through discussing observation notes and teacher participants reflections Figure 1.

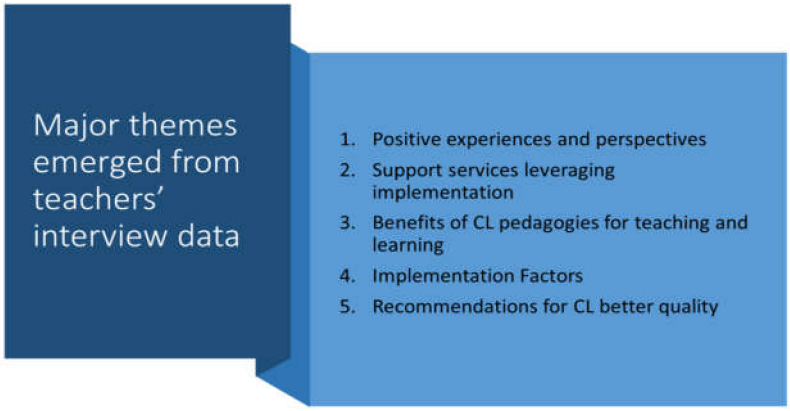

Figure 1. Major themes emerged from teachers' interviews and reflections.

4.3.1. Positive Experiences and Perspectives

The teachers interviewed had positive experiences with the CL. As one of the teacher interviewees stated, two things were critical as a positive experience:

> "My teaching experience in the intervention group was really successful (the objectives were successfully achieved) and in each and every activity the five-essential element[s] of cooperative learning positive interdependence, individual accountability, face-to-face interaction, social skill, and group processing were considered." (Interviewee 1)

Additionally, the other interviewed teacher recognized the importance of social interdependence for the students' learning and the key role interaction plays in promoting engagement, self-regulated learning, and outcomes.

> "What it seems new for me were evaluating students by students like for instance assignments have been evaluated by themselves which was so interesting. [Also,] during presentation most of the question were forwarded from the students to students. I [was] really impressed by the group processing capacity, engagement, and independent learning aspect of students. They managed challenging tasks [that] require critical thinking, actively participated in the discussion, and searching additional materials to enhance their level of understanding." (Interviewee 2)

In terms of pedagogical practices, the data from the teachers' interviews showed that the teachers used a range of CL pedagogies. These included, among others, challenging their perspectives, asking more cognitive and metacognitive questions, and scaffolding student learning. In turn, in their interactions with each other, the students deeply engaged in learning through analysis and synthesis of ideas and perspectives and discussing the points raised by the teacher. In the processes of implementing the CL, it became clear that, there are areas of strengths of the CL pedagogies than the traditional lecture-based instructions, as per the teachers' interview results. The teacher participants found the following important, for effective implementation of CL pedagogies: tailor-made capacity building for students, willingness and commitment shown on the part of the teachers and their students, and creativity and easy adaptation with the CL approach and ownership and commitment.

4.3.2. Support Services Leveraging Implementation

Teacher participants expressed their views regarding the importance of support services in implementing CL pedagogies. As they said, provision of academic and social support and proximity with the students was found important to enhance student's participation in the specific CL activities. They also viewed positively the support they received from the researcher on how to go about the CL lessons. The teacher participants viewed the support as important to leverage implementation of the CL pedagogies.

4.3.3. Benefits of CL Pedagogies for Teaching and Learning

The teachers felt that their involvement in the CL lessons gave them opportunities to better understand the strategies used to implement CL and practical learning opportunity about the ways and means how to incorporate active learning methodologies and different assessment techniques. With the help of the CL lessons, the teachers were able to change their mindset from traditional lecture-based teaching methodologies to active learning methodologies.

One of the teacher participants commented that the students were capable of accomplishing several learning tasks. As the teacher comments:

> "At the start of the CL lesson, my students were slow in accomplishing the given CL tasks and it took them more time than I planned for each activity. However, with repeated practice and follow-ups they get improved. It was interesting that during the CL lessons my students attempted to make sense of what they are learning by relating it to prior knowledge and by discussing it with others. In addition, using a variety of CL activities my students understanding of the subject and their active involvement in the learning process continually improved. Also, during the CL lessons they became motivated to support each other and had better interest for learning." (Interviewee 1)

The same teacher saw the professional learning experience with the CL pedagogies positively. As this interviewed teacher states:

> "As compared to the professional development experiences I have so far, the CL lesson was an exciting experience, which helps me to test the practicability of student-centered approaches and its impact on students in terms of leadership, problem solving, and communication." (Interviewee 1)

The other teacher also added the following benefits for both the teacher and students.

> "For me, the intervention is an important and the best option to ensure a smooth flow of ideas between students and teachers. It increases good interpersonal communication with my students and discussion skill for me. The intervention program generally increased student motivation to learn because they can raise questions and any ambiguity, they want to ask without any fear of the group member as well as to the [teacher] during the discussion session." (Interviewee 2)

Additionally, this same interviewed teacher states why the students did not feel positive about the CL pedagogies at the start and how that was changed through the process.

> "At the start, especially when I gave my students small group discussion or think-pair-share to generate ideas in the classroom my students disliked that as they preferred lecture. However, by repeating the CL lessons and giving them continues awareness, my students interest and values for discussion and small group activities improved. This disinterest happened at the start of the CL lessons because the CL methods were new for them at undergraduate level." (Interviewee 2)

Moreover, the same teacher (Interviewee 2) highlighted that "compared to teaching in a lecture, teaching during the CL lessons was more participatory. For example, ideas shall be forwarded from different directions (i.e., from student to teachers, from teachers to students and from students to students)."

Following in-depth interviews with the teachers it became clear that the teachers believed CL pedagogies were important strategies to promote students' engagement in the learning activities, take more responsibilities for their learning, and develop an understanding of course materials and the development of social skills.

Teacher participants felt that most of the students were interested in the CL activities and most of them effectively discharged their duties assigned by the teachers. For example, teacher participants reported that they actively participated in the group discussion sessions. They also achieved higher level of thinking analysis and synthesis to accomplish tasks assigned. This was mainly because, as the interviewed teachers state, their students were interested to get involved in the CL processes and there were smooth relationships between student and teacher as well as between students to student. The interviewed teachers had the opinion that most of their students willing participated in the CL lessons and would like to continue using the CL pedagogies in the future.

4.3.4. Implementation Factors

Positive Factors

Preparing and using lesson plans: The teacher participants disclosed that preparing and implementing the lesson plan helped them to be well organized and become more confident when delivering instruction via the CL pedagogies. As they stated, the CL program helped them devise possible CL strategies, way of implementation and the assessment criteria's to be used. Teacher participants commonly agreed that they improved pedagogical practices through the implementation process. One of the teacher participants says:

> "As I went through the CL pedagogic processes, over the two weeks, my pedagogical experience was improved, by identifying problems and generating solutions through a cooperative effort. These solutions were then, immediately applied in the subsequent CL lesson, leading to improvement of pedagogical practices in the classroom." (Interviewee 2)

Similarly, the second teacher participant viewed that successful implementation of the CL pedagogies depends on three main ingredients.

> "1. The teacher's desire and determination to grow professionally through continual reflection and self-development. 2. The teacher's willingness to change and develop positive attitudes towards the CL pedagogical practices. 3. The researcher's encouragement and support to the teacher participants, assisting their attempts to improve pedagogical practices." (Interviewee 1)

As a result of the teachers' participation in the two classes, the importance of continual learning was recognized. This allows not only important research findings to be communicated but also best practices to be shared so that initial evidence generated to change assumptions about PD practices and allow deeper understanding of the professional learning experiences.

Establish group goals: Effective implementation of CL involves establishment of group goals, as well as individual accountability. As the teachers' interviews revealed, teacher participants applied different strategies to establish and maintain group cooperation and individual accountability. For example, one of the teacher participants (Interviewee 1) reported that defining group goals and objectives was common before the start of the CL activities. In order to create individual accountability, this same teacher developed a model that enhance CL environment by providing responsibility for each and every member of the group as leader, note taker, timekeeper, and facilitator and rapporteur. As another example, the second teacher (Interviewee 2) reported that discussion improved by focusing on key points and provision of opportunity for the students to manage their own duties and responsibilities while preparing for presentation or working on brainstorming questions in small group.

Using different CL strategies: Interviewee 2 reported that, in the CL classes, the teacher participants used different CL strategies. In one of the courses, the teacher included a

discussion with a peer, responding to questions raised during the lesson, presentation on specific topics, brainstorming questions in a small group, and marking assessment results of students' friends in another small group. For example, a CL session of this same teacher about marking assessment works of students in another small groups led to a discussion about the criteria for judging the quality of work. This assessment discussion that happened before the small group activity demonstrated a positive influence on how the students directed themselves and managed the small-group activities. Additionally, the discussed criteria offered a guiding framework to use in the future and highlighted the roles and responsibilities of teachers and students in improving assessment.

In the other course, the teacher (Interviewee 1) included the following: The Jigsaw, think-pair-and-share, paired-heads together, and the group investigation. Additionally, this same teacher (Interviewee 1) used real-world problems, preparing case application questions that directly express the real-world practice to relate theoretical issues with practical. As groups of students conducted the jigsaw, for example, the teacher moved around the room and randomly questioned individuals about the concepts they were supposed to demonstrate a good grasp of the materials studied in their experts' groups.

Similarly, the second teacher (interviewee 2) designed assignments that allow prioritizing, categorizing, and problem-solving so that students had room for varied interpretations to enhance problem-solving and critical thinking skills. Hence, in that CL class, the students had an opportunity to reflect on and demonstrate their thinking in a new situation. By trying to identify their sources of evidence, the teacher better understood where their difficulties raised and altered the facilitation accordingly and led the students toward better understanding of the concept.

Negative Factors

The teachers' interviewees felt that disruptive student behavior, off-task behavior and time constraints were the factors that hindered the successful implementation of CL pedagogies. However, the teachers used an approach aimed to minimize the effect of each factor by making observation, assigning additional tasks, and minimizing simple and redundant activities.

At the institutional level, as the teacher participants highlighted, infrastructure and facilities, room arrangements, and wider application and recognition were the major issues that needed solutions.

As the teacher interviewees noted, challenges at the individual level included primarily time/busy schedule. Additionally, at the individual level, teacher interviewees reported the presence of few students' resistance to engage. As one of the interviewed teachers noted:

> "Even if most of the students were interested and actively engaged in the CL activities I prepared, there are also some students who were reluctant to actively participate in the CL activity. Thus, effort is expected from teachers in the future so as to devise strategies to change the mind set of those students." (Interviewee 2)

According to the teacher participants interviews, using smart class made the intervention as easy as possible. However, the group arrangement, facilitating student-to-student evaluation and daily preparation for the CL activities were areas that the teachers' interviewees found difficult to execute.

4.3.5. Recommendations

The teacher interviewees believe that technologies should be used for the facilitation of teaching and learning. Particularly, smart classrooms should be modified to fit with the demands of CL (small group learning) activities. They pointed that, the technological tools were primarily used for the administration and other regulatory mechanisms rather than for the prime purpose of teaching and learning. One of the teacher interviewees strongly recommended that technological devises should be made available to the primary purpose of facilitating the teaching and learning. In terms of utilization, the teacher participants

of the interview felt that professional development opportunities and wider application would help to scale up the implementation of CL at the program level or college level. Hence, they suggested awareness and large-scale implementation as this has practical implications.

5. Discussion

Student-centered pedagogies are often seen as a policy panacea [67], proposed as a solution to a myriad of problems surrounding the implementation of quality teaching [68]. However, a collection of studies indicates the incongruities between policy rhetoric and lived teacher realities [19]. For example, scholars frequently cite teacher capacities and their working environments as problematic barriers [20]. Yet, PD becomes geared towards preparing teachers, tending to emphasize factual information, which can be communicated to teachers in a didactic fashion. This approach to PD is popularly known as the 'training' model. This predominant 'training' model has been criticized in the PD literature for over two decades because learning cannot simply be transferred in a discrete package, yet flexible or well-designed it may be [44,69,70].

A key finding from this study is that teacher participants shifted gears with initial cognitive dissonance transformed into eventual adaptation and pleasure in using the CL pedagogies. Hence, with this research, the authors offer an alternative approach to PD, based on the notion of authentic professional learning [71], with implications for enhancing the support to HE teachers, as the teacher participants executed in this study, continuing to learn through their professional lives.

According to SLT, something that has been learned does not mean that it will result in a behavioral change [43], affecting improvement in classroom practice. This is true in this study context because the study participants reported that teaching effectiveness workshops such as teaching induction training brought little change to their classroom practices. Contrary to this, they described their participation in the CL programs as more productive because they changed classroom practices considerably, following their participation in a PD program of CL pedagogies.

In looking at the lesson plans, there was a lot of reliance on lectures than student-centered pedagogies. The teachers did not trust the students to do the learning on their own. That is the hardest thing in relation to doing CL well-letting go of teacher control and trusting the students to learn the material. Additionally, it all takes longer. The teachers still had a way to go in truly buying into CL, at least judging by the lesson plans that were analyzed. This suggests that additional barriers, specifically relating to teachers' beliefs in student-centered pedagogies and use of technology for teaching and learning, may still be a factor [72]. This initial step to introducing CL pedagogies into the HE classrooms by teachers was promoted to aid a shift in discourse and focus from delivering and evaluating professional development programs to understanding and supporting authentic professional learning [71,73].

Those teachers who participated in the implementation of the CL pedagogies have been positive about their experiences. The teacher interviewees specifically appreciated the role of the five elements of CL pedagogies and the positive responses sought from their students. Empirical evidence supports this claim [74]. For example, researchers sought several benefits of the CL pedagogic approaches [75], indicating that success was the result of following the fundamental elements of the CL pedagogic model. Specifically, the intervention teachers realized that they did five things in concert, including a persistent focus, building relationships with the researcher and students, consistent implementation guided by a lesson plan, capacity building via a more informal platform, and negotiating with the researcher and students how to go about it.

In practice, this means refocusing the way courses are offered differently than the business as usual model [76]. Like many other HE teachers, these teachers had too many "top" priorities, however, they demonstrated commitment to the implementation of CL lessons. Thus, the instructors put the implementation of the CL lessons as their top

priority (non-negotiable) tasks. Focus and persistence ensure that these priorities are not going to be discarded along the way. The history of curriculum reform in Ethiopian HE has generated a kind of even this shall pass away mindset among higher education teachers [77]. Some colleagues call this phenomenon "innovation fatigue." Any attempt to curb this notion requires that everybody in the institution has the greatest commitment, along with institutionalizing the proposed pedagogic reform instead of individual effort. However, priorities alone do not suffice unless a positive relationship has been developed between those who are on the front line to put the new pedagogic approach into effect, including the researcher (academic developer) and teacher [73]. This helps to address one of the systemic deficits or failures of professional development practices [22,36], and frame professional development that makes a difference not only on the teachers' pedagogic practices but also on students' learning [24,71].

Cognizant of these, in this study, the researcher and the course instructors set out a strong sense of two-way partnerships and collaboration. This required providing significant leeway to individual teachers to experiment with novel approaches to implementing CL pedagogies and focusing significant efforts on investments in designing and implementing CL in a more creative way.

By focusing on the teacher's freedom to creatively devise implementation strategies and techniques, it was also possible to raise teacher ownership, accountability, and commitment. What we did was establish a positive rapport communicating best practices and sharing those lessons learned. This latter approach means that if the intervention teacher faced difficulties, the researcher shared experiences and the other teacher's accomplishments to help him/her improve.

The last element of the strategy involves identifying and promoting best practices. In the current trend of the HE operations in Ethiopia, teachers are islands [78]. Due to this, teachers have faced two problems. The first is that the idea about effective teaching and learning does not become systematic. The other problem is that poor teaching can remain entrenched because good practices are not being disseminated [19]. A big part of the strategy we have had has been to increase communication, share best practices, and foster a culture of teamwork [79]. To that end, the researcher created a more cooperative professional environment, while also acting as a facilitator for the teaching and learning innovation.

The final outcome of these has been the successful completion of the CL program on the scheduled timeframe. this in turn helped to create a culture of mutual commitment, which is completely absent in the previous training-based professional development model [80]. The authors did not expect to be perfect in their attempts, and this study showed that pedagogic changes can be accomplished in the Ethiopian HE system, so long as there are mutual ownership and interdisciplinary efforts than the usual regulatory mechanism such as quality assurance [81–83].

Study Limitations

Future research should include more disciplines and measures of individual and institutional characteristics across the entire Business and Economics and Technology fields. Perhaps inclusion of wider demographic indicators and curricular issues could be collected to fully understand the relative effectiveness of the CL pedagogies in future studies and examine the mediating and or moderating effects of those factors. Another limitation to the study was the small sample size. This could be overcome with further research in the area.

6. Conclusions

This project, and in particular the implementation of CL pedagogies in the actual classrooms of the two courses, offers illustrative examples of student-centered teaching approach to course delivery. Given this fact, the results obtained in this study can be taken as a litmus test that demonstrates the possibility of realizing improvement in teaching practices and influences through implementing CL pedagogies in the actual classrooms.

The positive improvements exhibited in this research has been the result of a thoughtful and evolving strategy based on three key principles that the researcher and the course teachers strived to put in place. These include: a persistent focus on improved learning, collective capacity building linked to results, and a progressive partnership and collegial support between the teacher and the researcher, as well as the teacher and students attending the course. Specific efforts made in each course have embodied these key principles, based on continuous learning from implementation.

It is clear from the findings of this study that CL pedagogies can be successfully applied in the HE classrooms, particularly in the courses of Management and Civil Engineering major fields, provided that teachers are motivated, empowered, and supported. If the HE sector chooses to use and support CL pedagogies, a number of issues need serious attention, relating to learning facilitation, management, and assessment. Above all, shared responsibilities are needed to enable HE teachers, to become a professional community of practice.

Many PD programs remain as occasional updates of information delivered in a didactic manner, separated from engagement with authentic work experiences. This orientation essentially disregards the value of situated learning. However, the findings of this study and others indicate that effective PD is based on the idea that professional learning is continuous, active, social, and related to practice [21,84]. Indeed, PD is a social construction influenced by contextual realities. As the findings of this study indicate, several implementation factors have a significant influence on the CL pedagogical practices in Ethiopian HE classrooms. The authors argue in support of the idea that professional learning embeds within professional life. Hence, promoting the value of focusing on continual learning holistically [71]. The authors believe that such a direction allows the complexity of learning in the PD context to be understood in greater detail.

7. Implications for Educational Practice

This study findings provides supporting evidence that CL activities should be one of the recommended modes of delivering instruction in HE classrooms. Overall, Colleges of Business and Economics and Technology Institutes, as well as other disciplines could apply CL as pedagogy to help undergraduate students learn better. The findings of this study justify the recommendation that HEIs should deemphasize business as usual or lecture-based instructions and instead promote the implementation of CL pedagogies.

The knowledge base pertaining teaching and learning in HE in Ethiopia is relatively recent and much of it is based on professional preference than what is known to be effective. Under this influence, the evidence reported in this study is crucial, if the institutions want to have more than the latest fads driving the HE system in Ethiopia [39]. As the findings of this study suggest, it is only as the staff developers/researchers work closely with the teachers that their pedagogical practice can begin to open new opportunities to bring about change in the quality of teaching practices and student learning and developmental outcomes.

Additionally, the results may show how teachers think about the CL activities, i.e., whether or not the activities provided them with a high degree of understanding of what CL is, how it could be accomplished in their own subjects, and how they could work with CL in an interdisciplinary way. From the practical perspective, the results may reveal how the participants do the job, whether or not they have been motivated.

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Appendix A. General Information

This interview is designed to assess academic staff reactions to the intervention aspect of his/her course in the undergraduate program in Ethiopia. To achieve this objective, your honest response to the individual interview is very much needed. Hence the researchers kindly request your cooperation. The information you provided will be used anonymously and will only be reported in a comprehensive manner. All your information supplied will be confidential and used only for the purpose of this study. Before proceeding to the interview questions first let me have information about your personal details.

Qualification (Degree) _____

Academic Rank _____

Years of Experience in University teaching in Ethiopia _____

Have you taken any training or course (pre-service and/or in-service) in effective teaching and/or learning assessment (For example, induction training for new university teacher, HDP, or other)? Yes or no.

If yes, please specify that_____

1. How do you feel about the teaching experience you had in the intervention group? Which aspect of your experiences did you value most?
2. How did you make preparation for the intervention aspect of your course? (A sample Lesson plan would be appreciable)
3. Did you treat the intervention group differently from the comparison group? If yes, how? How did your students experience the intervention aspect of your course?
4. What did you benefit out of your involvement in the intervention aspects of your course in the undergraduate program? For example, to what extent do you think your experience at the intervention program has contributed to your development as a university academic staff member?
5. What were the best aspects of your involvement in the intervention of your course? Which aspects of your intervention were in need of improvement?
6. What factors facilitated your teaching in your intervention group? And which aspects hindered your teaching in the intervention group?
7. Overall, how successful and satisfied were your students and you with your involvement in the intervention aspects of your course?
8. What do you suggest for achieving better quality intervention in your course?
9. What further research is needed in order to improve the quality of teaching and learning in your course?
10. Do you have any other comment with regard to the intervention program you did participate?

Appendix B

An Example Lesson of CL activities in the Course Risk Management and Insurance.

Course Name: Risk Management and Insurance **Course Code: MGMT 3193** **Credit Hours: 3**	**Department of Management**	**Class Year: III** **Number of Students** **Female: 23 Male: 43 Total: 66**

Lesson topic/s

- **Meaning of reinsurance**
- **Reason for reinsurance**
- **Types of reinsurance agreements**
- **Application of treaty reinsurance**
- **Legal framework of reinsurance in Ethiopia**

Lesson Objectives

At the end of this lesson students will be able to:

- **Analyze reinsurance practice.**
- **Prioritize the reason for reinsurance.**
- **Differentiate the types of reinsurance agreements.**
- **Integrate types of reinsurance agreements with real world practice.**
- **Analyze the reinsurance legal framework of Ethiopia**

Learning material and resources

- **Materials needed: lecture note, discussion questions and legal framework of reinsurance.**
- **Other Resources: Flash and LCD projector**

Lesson details

Time (100 min)	Lesson Content	Student's Task	Teacher's Role
0–15	**Interactive lecture** • Brief summary about insurance company's operation **Statements of the lesson objectives** • Analyze reinsurance practice • Prioritize the reason for reinsurance • Differentiate the types of reinsurance agreements • Integrate types of reinsurance agreements with real world practice • Analyze the reinsurance legal framework of Ethiopia **Introducing the Lesson topic:** Reinsurance application and its legal framework.	Attentively listen lecture, take notes, and respond questions, if any?	Highlighting important points about the Absorption Law and encouraging students' active participation.
15–30	**Interactive lecture** • Concepts and application of reinsurance • Reason for reinsurance	Attentively listening to lecture, take notes, and ask questions, if any?	Providing detail descriptions about the different parts of an optical instrument.

Time (100 min)	Lesson Content	Student's Task	Teacher's Role
30–45	**(Formulate-Share-Listen-Create)** **CL Activity 2:** 1. What is reinsurance 2. Why insurance companies need reinsurance Students are supposed to: • **Formulate** responses to the question individually • **Share** responses with a partner • **Listen** carefully to partner's answer • Work together to **create** a new answer through discussion	Students are supposed to listen, think, pair and share to identify as many parts of an optical instrument as possible. They can also ask questions for clarity.	Pose the question of what is reinsurance and why insurance companies need reinsurance and take suggestions from students, forming pair groups based on gender, if possible? Make sure that everybody actively participates in the required activities, moving around, encouraging and supporting students to keep going with their work.
45–70	**Interactive lecture** • Types of reinsurance agreement • The reinsurance legal framework of Ethiopia.	Attentively listen to lecture about types of reinsurance agreement and reinsurance legal framework of Ethiopia take notes, reflect ideas, and ask questions, if any?	Provide useful explanations and some illustrations on the different types of reinsurance agreement and legal framework, asking questions and monitoring students' participation.
70–85	**Closure to the lecture** • Give a brief summary of the reinsurance agreement and its practical application.	Attentively listen to the summaries given, take notes and pose questions that were not clear in the session.	Providing a brief summary of the lesson on the concepts of reinsurance and its application providing opportunity for students to ask questions, and introducing the next lesson.
85–100	**Assessment** • How will you know what students have learned? • By asking question • Informal assessment of students individual and pair works and on the spot feedback • Observation		

Note: Time—Estimate how long each part of the lesson will take.

Homework Given:

1. **Prioritize the reason of reinsurance?**
2. **Review the reinsurance legal framework of Ethiopia?**
3. **Differentiate**
   - **Quota-share treaty**
   - **Surplus-share treaty**
   - **Excess-of-loss treaty**
   - **Reinsurance pool**

Additional Notes (Teacher Notes)

- **Lecture note**
- **Review questions**
- **Providing suitable sources for the lesson for further investigation**

Appendix C

An Example Lesson of CL activities in the Course Engineering Foundation I.

Course Name: **Course Code:** **Credit Hours: 3**	**Department of Civil Engineering**	**Class Year: 3** **Number of students Female: __** **Male: __** **Total_____**
Lesson topic/s 1. Monochromatic and Polychromatic lights 2. Sources of monochromatic and polychromatic lights 3. Characteristics of monochromators and detectors		
Lesson Objectives What will students learn through this lesson? • Describe the nature of monochromatic and polychromatic lights. • Identify the sources of monochromatic and polychromatic lights. • Discuss the characteristics of monochromators and detector		
Learning material and resources • Materials needed. • Other Resources		

Lesson details

Time (50 min)	Lesson Content0978107493	Student's Task	Teacher's Role
0–10	Interactive lecture A brief summary of the previous lessons about source of radiation Statements of the lesson objectives Introducing the Lesson topic: wavelength selector and detector.	Attentively listen lecture, take notes, and respond questions, if any?	Highlighting important points about the Absorption Law and encouraging students' active participation.
10–20	**Interactive lecture** On the wavelength selector	Attentively listening to lecture, take notes, and ask questions, if any?	Providing detail descriptions about the different parts of an optical instrument.
20–30	**(Formulate-Share-Listen-Create)** **CL Activity 2:** What the structure in diagram 1 looks like? and what did students know about the structure? 1. What is a monochromatic light? 2. What is a polychromatic light? 3. Name a source of monochromatic light. 4. Name the source of polychromatic light. Students are supposed to: **1.** **Formulate** responses to the question individually **2.** **Share** responses with a partner **3.** **Listen** carefully to partner's answer **4.** Work together to **create** a new answer through discussion	Students are supposed to listen, think, pair and share to identify as many parts of an optical instrument as possible. They can also ask questions for clarity.	Pose the question of what are the different parts of an optical instrument, and take suggestions from students, forming pair groups based on gender, if possible? Make sure that everybody actively participates in the required activities, moving around, encouraging and supporting students to keep going with their work.

Time (50 min)	Lesson Content0978107493	Student's Task	Teacher's Role
30–42	**Interactive lecture** Discussing on the monochromators and detector in detail	Attentively listen to lecture about the sources of OI, take notes, reflect ideas, and ask questions, if any?	Provide useful explanations and some illustrations on the different sources of OI, asking questions and monitoring students' participation.
42–45	**Closure to the lecture** Give a brief summary of the lesson on wavelength selector and detectors.	Attentively listen to the summaries given, take notes and pose questions that were not clear in the session.	Providing a brief summary of the lesson on OI component parts, sources, materials, providing opportunity for students to ask questions, and introducing the next lesson.
45–50	Assessment 1. How will you know what students have learned? 2. Informal assessment of students individual and pair works and on the spot feedback		

Note: Time—Estimate how long each part of the lesson will take.

References

1. Pascarella, E.T.; Terenzini, P.T. *How College Affects Students: A Third Decade of Research*, 1st ed.; Jossey-Bass: San Francisco, CA, USA, 2005.
2. Griffin, C.P.; Howard, S. Restructuring the college classroom: A critical reflection on the use of collaborative strategies to target student engagement in higher education. *Psychol. Learn. Teach.* **2017**, *16*, 375–392. [CrossRef]
3. Smith, K. *Engaging Students through Active and Cooperative Learning*; University of Wisconsin–Platteville: Platteville, WI, USA, 2006.
4. Yamarik, S. Does cooperative learning improve student learning outcomes? *J. Econ. Educ.* **2007**, *38*, 259–277. [CrossRef]
5. Smith, K.A.; Sheppard, S.D.; Johnson, D.W.; Johnson, R.T. Pedagogies of engagement: Classroom-based practices. *J. Eng. Educ.* **2005**, *94*, 87–101. [CrossRef]
6. Springer, L.; Stanne, M.E.; Donovan, S.S. Effects of small-group learning on undergraduates in science, mathematics, engineering, and technology: A Meta-Analysis. *Rev. Educ. Res.* **1999**, *69*, 21–51. [CrossRef]
7. Johnson, D.; Johnson, R.; Smith, K. The state of cooperative learning in postsecondary and professional settings. *Educ. Psychol. Rev.* **2007**, *19*, 15–29. [CrossRef]
8. Johnson, D.; Johnson, R.; Smith, K. Cooperative learning returns to college: What evidence is there that it works? *Change* **1998**, *30*, 26–35. [CrossRef]
9. Johnson and Johnson. Social interdependence theory and university instruction—Theory into practice. *Swiss J. Psychol.* **2002**, *61*, 119–129. [CrossRef]
10. Gillies, R. *Cooperative Learning: Integrating Theory and Practice*; SAGE Publications: Thousand Oaks, CA, USA, 2007.
11. Richardson, M.; Abraham, C.; Bond, R. Psychological correlates of university students' academic performance: A systematic review and meta-analysis. *Psychol. Bull.* **2012**, *138*, 353–387. [CrossRef]
12. Yin, H.; Wang, W.; Han, J. Chinese undergraduates' perceptions of teaching quality and the effects on approaches to studying and course satisfaction. *High. Educ.* **2016**, *71*, 39–57. [CrossRef]
13. Ma, M.Y.; Lu, X.X. The effectiveness of problem-based learning in pediatric medical education in China A meta-analysis of randomized controlled trials. *Medicine* **2019**, *98*, e14052. [CrossRef]
14. Williams, C.; Perlis, S.; Gaughan, J.; Phadtare, S. Creation and implementation of a flipped jigsaw activity to stimulate interest in biochemistry among medical students. *Biochem. Mol. Biol. Educ.* **2018**, *46*, 343–353. [CrossRef] [PubMed]
15. Tadesse, T.; Gillies, R. Nurturing cooperative learning pedagogies in higher education classrooms: Evidence of instructional reform and potential challenges. *Curr. Issues Educ.* **2015**, *18*, 1–18.
16. Mohamedbhai, G. Massification in higher education institutions in Africa: Causes, consequences and responses. *Int. J. Afr. High. Educ.* **2014**, *1*. [CrossRef]
17. Arum, R.; Roksa, J.; Cook, A. *Improving Quality in American Higher Education: Learning Outcomes and Assessments for the 21st Century*; Jossey-Bass: San Francisco, CA, USA, 2016.
18. Daouk, Z.; Bahous, R.; Bacha, N.N. Perceptions on the effectiveness of active learning strategies. *J. Appl. Res. High. Educ.* **2016**, *8*, 360–375. [CrossRef]

19. Schweisfurth, M. Learner-centred education in developing country contexts: From solution to problem? *Int. J. Educ. Dev.* **2011**, *31*, 425–432. [CrossRef]
20. Tabulawa, R. *Teaching and Learning in Context: Why Pedagogical Reforms Fail in Sub-Saharan Africa*; CODESRIA: Dakar, Senegal, 2013.
21. Kennedy, M.M. How does professional development improve teaching? *Rev. Educ. Res.* **2016**, *86*, 945–980. [CrossRef]
22. Piper, B. *Student-Centered Pedagogy's Causal Mechanisms: An Explanatory Mixed Methods Analysis of the Impact of In-Service Teacher Professional development in Ethiopia*; Harvard University: Cambridge, MA, USA, 2009.
23. Pillis, E.D.; Johnson, G. First, do no harm: Effective, ineffective and counterproductive teaching methods. *J. High. Educ. Theory Pract.* **2015**, *15*, 58.
24. Tadesse, T.; Manathunga, C.; Gillies, R. Teachers' pedagogical practices and students' learning experiences in an Ethiopian university setting. *Asian J. Univ. Educ.* **2020**, *16*, 205–225. [CrossRef]
25. Fisher, R.; Swindells, D. The development priorities of Ethiopian higher education teachers. *J. In-Service Educ.* **1998**, *24*, 307–315. [CrossRef]
26. Desta, D. Observations and reflections of the higher education teachers on the quality of teaching and learning in higher education in Ethiopia. *Ethiop. J. High. Educ.* **2004**, *1*, 63–82.
27. Zerihun, Z.; Beishuizen, J.; Van Os, W. Student learning experience as indicator of teaching quality. *Educ. Assess. Eval. Account.* **2012**, *24*, 99–111. [CrossRef]
28. Tadesse, T.; Manathunga, C.; Gillies, R. Making sense of quality teaching and learning in the higher education in Ethiopia: Unfolding current realities for future promises. In Proceedings of the 9th ICED Conference: Across the Globe Higher Education Learning and Teaching, Bangkok, Thailand, 23–25 July 2012; Chulalongkorn University Printing House: Bangkok, Thailand, 2012.
29. Kenea, A. Students' reactions to active learning methods in selected classrooms of Addis Ababa University. *Ethiop. J. Educ.* **2009**, *24*, 77–110.
30. Tadesse, T. Improving Quality in Higher Education through Cooperative Learning Pedagogies: An Ethiopian Example, in School of Education. Ph.D. Thesis, University of Queensland: Brisbane, Australia, 2014.
31. Getachew, K.; Birhane, A. Improving students' self-efficacy and academic performance in Applied Mathematics through innovative classroom-based strategy at Jimma University, Ethiopia. *Tuning J. High. Educ.* **2016**, *4*, 119–143. [CrossRef]
32. Mikre, F. The use of quality formative assessment and students' learning achievement gain in west Ethiopia university classrooms. *Int. J. Sci. Res. Publ.* **2016**, *6*, 635–641.
33. Weldmeskel, F.M.; Michael, D.J. The impact of formative assessment on self-regulating learning in university classrooms. *Tuning J. High. Educ.* **2016**, *4*, 99–118. [CrossRef]
34. Areaya, S. Tension between massification and intensification reforms and implications for teaching and learning in Ethiopian public universities. *Afr. J. High. Educ.* **2010**, *8*, 93–115.
35. Moges, A. Active Learning Approaches in Mathematics Education at Universities in Oromia. Ph.D. Thesis, University of South Africa, Pretoria, South Africa, 2010, unpublished.
36. Gebru, D.A. Effectiveness of higher diploma program for early career academics in Ethiopia. *Stud. High. Educ.* **2016**, *41*, 1741–1753. [CrossRef]
37. Dinsa, F.; Tollessa, B.; Tadesse, K.; Ferede, B. *Assessment of the Implementation Status of the Nationally Harmonized Competence Based Modular Curricula in Ethiopian Public Universities*; Education Strategy Center: Addis Ababa, Ethiopia, 2014.
38. Tadesse, T.; Manathunga, C.; Gillies, R. The hidden lacunae in the Ethiopian higher education quality imperatives: Stakeholders' views and commentaries. *Ethiop. J. Educ. Sci.* **2018**, *14*, 75–94.
39. Tadesse, T.; Manathunga, C.; Gillies, R. Making sense of quality teaching and learning in higher education in Ethiopia: Unfolding existing realities for future promises. *J. Univ. Teach. Learn. Pract.* **2018**, *15*, 4.
40. Tadesse, T.; Manathunga, C.; Gillies, R. The effects of informal cooperative learning pedagogy on teaching effectiveness, task orientation, and learning satisfaction in undergraduate classrooms in Ethiopia. *High. Educ. Res. Dev.* **2021**, *40*, 627–645. [CrossRef]
41. Tadesse, T. Discovering cooperative learning in university classrooms in Ethiopia. *IASCE Newsl.* **2019**, *38*, 16–17.
42. Johnson, D.; Johnson, R. Cooperation and competition. In *International Encyclopedia of the Social & Behavioral Sciences*, 2nd ed.; Wright, J.D., Ed.; Elsevier: Oxford, UK, 2015; pp. 856–861.
43. Bandura, A. *Social Learning Theory*; Prentice Hall: Englewood Cliffs, NJ, USA, 1977.
44. Watson, S. *Understanding Professional Development from the Perspective of Social Learning Theory*; Centre for Research in Mathematics Education University of Nottingham: Nottingham, UK, 2013.
45. Johnson, D.; Johnson, R. The use of cooperative procedures in teacher education and professional development. *J. Educ. Teach.* **2017**, *43*, 284–295. [CrossRef]
46. Johnson, D.; Johnson, R. An educational psychology success story: Social interdependence theory and cooperative learning. *Educ. Res.* **2009**, *38*, 365–379. [CrossRef]
47. Johnson, D.; Johnson, R.; Smith, K.A. Cooperative learning: Improving university instruction by basing practice on validated theory. *J. Excell. Coll. Teach.* **2014**, *25*, 85.
48. Johnson, D.; Johnson, R. *Cooperative Learning: The Foundation for Active Learning, Active Learning—Beyond the Future*; Brito, S.M., Ed.; INTECH-Open: London, UK, 2018.
49. Gillies, R. Cooperative learning: Review of research and practice. *Aust. J. Teach. Educ.* **2016**, *41*, 39–54. [CrossRef]
50. Johnson, D.; Johnson, R. Cooperative Learning in 21st Century. *Anales De Psicologia* **2014**, *30*, 841–851.

51. Kalaian, S.A.; Kasim, R.M. Effectiveness of various innovative learning methods in health science classrooms: A meta-analysis. *Adv. Health Sci. Educ.* **2017**, *22*, 1151–1167. [CrossRef] [PubMed]
52. Mendo-Lázaro, S.; del Barco, B.L.; Felipe-Castaño, E.; Polo-Del-Río, M.-I.; Iglesias-Gallego, D. Cooperative team learning and the development of social skills in higher education: The variables involved. *Front. Psychol.* **2018**, *9*, 1536. [CrossRef] [PubMed]
53. Louws, M.L.; Meirink, J.A.; van Veen, K.; Van Driel, J. Teachers' self-directed learning and teaching experience: What, how, and why teachers want to learn. *Teach. Teach. Educ.* **2017**, *66*, 171–183. [CrossRef]
54. Ertmer, P.A. Teacher pedagogical beliefs: The final frontier in our quest for technology integration? *Educ. Technol. Res. Dev.* **2005**, *53*, 25–39. [CrossRef]
55. Farrell, T.S.C.; Ives, J. Exploring teacher beliefs and classroom practices through reflective practice: A case study. *Lang. Teach. Res. LTR* **2015**, *19*, 594–610. [CrossRef]
56. Ertmer, P.A.; Ottenbreit-Leftwich, A.T. Teacher technology change: How knowledge, confidence, beliefs, and culture intersect. *J. Res. Technol. Educ.* **2010**, *42*, 255–284. [CrossRef]
57. Lim, C.P.; Chai, C.S. Teachers pedagogical beliefs and their planning and conduct of computer-mediated classroom lessons. *Br. J. Educ. Technol.* **2008**, *39*, 807–828. [CrossRef]
58. Merriam, S.B.; Tisdell, E.J. *Qualitative Research: A Guide to Design and Implementation*, 4th ed.; Wiley: Newark, NJ, USA, 2016.
59. Groenewald, T. A phenomenological research design illustrated. *Int. J. Qual. Methods* **2004**, *3*, 42–55. [CrossRef]
60. Patton, M. *Qualitative evaluation and research methods*, 3rd ed.; SAGE Publications: Newbury Park, CA, USA, 2002.
61. Onwuegbuzie, A.J.; Leech, N.L. Sampling designs in qualitative research: Making the sampling process more public. *Qual. Rep.* **2007**, *12*, 238.
62. Creswell, J.W.; Creswell, J.D. *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*, 5th ed.; SAGE Publications, Inc.: Thousand Oaks, CA, USA, 2018.
63. Johnson, D.; Johnson, R. Making cooperative learning work. *Theory Pract.* **1999**, *38*, 67–73. [CrossRef]
64. Johnson, D.; Johnson, R. Cooperative learning methods: A meta-analysis. *J. Res. Educ.* **2002**, *12*, 15–24.
65. Bowen, G.A. Document Analysis as a Qualitative Research Method. *Qual. Res. J.* **2009**, *9*, 27–40. [CrossRef]
66. Merriam, S.B. *Qualitative Research and Case Study Applications in Education*, 2nd ed.; Jossey-Bass:: San Francisco, CA, USA, 1998.
67. Sriprakash, A. Child-centred education and the promise of democratic learning: Pedagogic messages in rural Indian primary schools. *Int. J. Educ. Dev.* **2010**, *30*, 297–304. [CrossRef]
68. Romel, H.; Tadesse, T.; Jibat, N. Teacher quality, self-efficacy, and quality teaching in Ethiopian primary schools: An integrated sociological and psychological perspective. *Stud. Educ. Eval.* **2021**, *70*, 101029. [CrossRef]
69. Wallace, M.R. Making sense of the links: Professional development, teacher practices, and student achievement. *Teach. Coll. Rec.* **2009**, *111*, 573–596.
70. Van den Bergh, L.; Ros, A.; Beijaard, D. Teacher learning in the context of a continuing professional development programme: A case study. *Teach. Teach. Educ.* **2015**, *47*, 142–150. [CrossRef]
71. Webster-Wright, A. *Authentic Professional Learning: Making a Difference Through Learning at Work*; Springer: Dordrecht, The Netherlands, 2010; Volume 2.
72. Scott, K.M. Change in university teachers' elearning beliefs and practices: A longitudinal study. *Stud. High. Educ.* **2016**, *41*, 582–598. [CrossRef]
73. Webster-Wright, A. Reframing professional development through understanding authentic professional learning. *Rev. Educ. Res.* **2009**, *79*, 702–739. [CrossRef]
74. Solimeno, A.; Mebane, M.E.; Tomai, M.; Francescato, D. The influence of students and teachers characteristics on the efficacy of face-to-face and computer supported collaborative learning. *Comput. Educ.* **2008**, *51*, 109–128. [CrossRef]
75. Gillies, R.; Haynes, M. Increasing explanatory behaviour, problem-solving, and reasoning within classes using cooperative group work. *Instr. Sci.* **2011**, *39*, 349–366. [CrossRef]
76. Roseth, J.C.; Lee, Y.K.; Saltarelli, W.A. Reconsidering jigsaw social psychology: Longitudinal effects on social interdependence, sociocognitive conflict regulation, motivation, and achievement. *J. Educ. Psychol.* **2019**, *111*, 149–169. [CrossRef]
77. Tadesse, T.; Melese, W. The prevailing practices and challenges of curriculum reform in Ethiopian higher education: Views and responses from within. *Aust. J. Teach. Educ.* **2016**, *41*, 87–106.
78. Semela, T. Teacher preparation in Ethiopia: A critical analysis of reforms. *Camb. J. Educ.* **2014**, *44*, 113–145. [CrossRef]
79. Chisholm, M.; Jimma, T.T.; Tatsuya, N.; Manathunga, C. Political geographies of academic development in Jamaica, Ethiopia and Japan: Reflections on the impossibilities of neutrality. *Int. J. Acad. Dev.* **2012**, *17*, 265–270. [CrossRef]
80. Tabulawa, R.; Youngman, F. University of Botswana: A national university in decline? In *Flagship Universities in Africa*; Springer: Berlin/Heidelberg, Germany, 2017; pp. 17–55.
81. Tamrat, W. The nuts and bolts of quality assurance in Ethiopian higher education: Practices, pitfalls, and prospects. *J. Educ. Policy* **2020**, 1–18. [CrossRef]
82. Tadesse, T. Quality assurnace in higher education in Ethiopia: Boon or bandwagon in light of quality imporvement? *J. High. Educ. Afr.* **2015**, *12*, 131–157.

83. Tamrat, W. Evaluating the evaluator: Private providers' views of a quality assurance agency. *Qual. High. Educ.* **2019**, *25*, 191–207. [CrossRef]
84. Bakkenes, I.; Vermunt, J.D.; Wubbels, T. Teacher learning in the context of educational innovation: Learning activities and learning outcomes of experienced teachers. *Learn. Instr.* **2010**, *20*, 533–548. [CrossRef]