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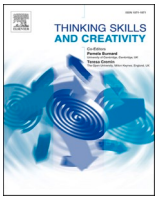

The learner-centred interactive pedagogy classroom: Its implications for dialogic interaction in Eritrean secondary schools

Abraham Tadesse [a,b,*], Sami Lehesvuori [c], Hanna Posti-Ahokas [d], Josephine Moate [c]

[a] Department of Teacher Education, University of Jyväskyla, Finland
[b] Asmara College of Education, Eritrea
[c] University of Jyvaskyla, The Department of Teacher Education, P.O. Box 35, 40014 Jyvaskylan Yliopisto, Finland
[d] Regional expert, Africa, Global Innovation Network for Teaching and Learning, Supervisor, Changing Education Master's programme, University of Helsinki, Faculty of Educational sciences, P.O.Box 9 (Siltavuorenpenger 3A), FI-00014 Finland

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ABSTRACT

Learner-centred interactive pedagogy (LCIP) emphasises skills, such as enquiring, analysing, evaluating, problem-solving and critical thinking which require students to interact and participate in classroom discourses by drawing on their own experiences. This study focuses on the manifestations LCIP in promoting teacher-student classroom interaction in Eritrean secondary classrooms and explores the seeds of dialogic interaction in fostering LCIP. In 2003, the Ministry of Education in Eritrea (MoE) reformed the traditional learning approaches and developed new pedagogical practices guided by LCIP. In response to the educational reform, various learning strategies including group- and pair work activities, generating open questions, student presentation and some features of dialogue have been employed by teachers to develop LCIP in classrooms, although little research has explored how teachers implement LCIP in practice. The research reported here is based on twelve video-recorded lessons from secondary schools in two regions of Eritrea. The lessons were analysed to explore the different forms of interaction present in Eritrean classrooms. Despite teachers' effort in practicing LCIP, the findings suggest that teachers have still continued with more conventional teaching. Nevertheless, the findings also reveal the presence and potential of dialogic moments indicating the value of developing LCIP with dialogic interaction through more and active student involvement to enhance classroom interaction. The findings suggest that knowledge of LCIP and dialogic interaction support experience of learning in Eritrea and are an important means to invigorate teacher education and professional development programs for improving the quality of education.

1. Introduction

The importance of Learner-centred Interactive Pedagogy (LCIP) as a pedagogical approach has been discussed widely in many educational contexts and countries (see e.g., Hoidn, 2016; McCombs, 1997; Schweisfurth, 2013; Vavrus et al., 2011; Weimer, 2002). LCIP aims to effectively improve the quality of education by increasing opportunities for students to actively participate in the classroom, engage in self-directed learning, and provide space to exchange information with peers for better learning outcomes

* Corresponding author at: Department of Psychology and Educational Administration, Asmara College of Education, P.O. Box 8540, Asmara, Eritrea.
E-mail address: abrtad@gmail.com (A. Tadesse).

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(Lattimer, 2015; Van de Kuilen et al., 2020). Many African countries have adopted LCIP policies that aim to enhance the quality of basic education. However, implementing pedagogical renewal remains a challenge and a more contextual understanding of pedagogical applications is required to successfully implement LCIP (Dembélé & Lefoka, 2007; Vavrus et al., 2011; Posti-Ahokas et al., 2018). As previous research suggests that implementations of LCIP including a high level of educational dialogue assists in academic achievement (Hennessy et al., 2021; Muhonen et al., 2018), this article aims to explore how LCIP manifests in dialogic teacher-student classroom interaction in Eritrea and to identify how LCIP practices can be further developed to transform interaction in Eritrean classrooms.

The Eritrean LCIP policy posits that students should be encouraged and supported to learn from teachers and books, as well as from others' experience and authentic learning resources (Ministry of Education, 2008). Although this policy anticipates the active participation and interaction of learners as they explore learning experiences and problem-solving activities, existing research suggests that learning in Eritrea is generally based on lecture and exam-laden activities with few reflective opportunities for students (Posti-Ahokas et al., 2018; Tadesse et al., 2021). These deep-rooted traditional teaching approaches in Eritrea can be considered as having the effect of undermining LCIP practices limiting students' participation in learning. Thus, the aim of this study is to explore and contribute to the existing practices of LCIP through dialogic interaction in Eritrean secondary schools.

1.1. Learner centred interactive pedagogy

LCIP emanates from fast-paced societal changes (De la Sablonnière et al., 2009) and addressing educational challenges that have been encountered in teaching and learning (Van de Kuilen et al., 2020) with the ultimate goal of enhancing effective learning. The theoretical roots of LCIP and dialogic interaction recognise knowledge as a human construct established through interaction, active involvement, dialogic discourse, authentic learning and higher-order questioning in which students have the freedom to describe, compare, classify and argue when participating in discussions (Lehesvuori et al., 2018; Lyle, 2008; Teo, 2019). This perspective is inspired by social constructivism principles (Kozulin et al., 2003; Palincsar, 1998). LCIP is explained in marked contrast to largely unidirectional conventional teaching where the teacher as an authority dominates the lesson and transfers information to students (Weimer, 2002). In contrast, LCIP aims to engage students in active learning and collaborative discovery increasing students' responsibility for learning and giving students the opportunity to shape their learning experience (Slavich & Zimbardo, 2012; Weimer, 2002).

Key features of LCIP include motivated learners, mutual respect between teacher and student, building on prior knowledge, dialogic interaction, authentic learning, critical thinking and meaningful assessment (Schweisfurth, 2013). Most of these features engage learners in active meaning-making and promote dialogic engagement through hands-on experience and group work (Wang, 2011). The positive learning environment of LCIP arguably increases the likelihood of student success (McCombs, 1997) and promotes meaningful learning through collaborative interactions with other students, the teacher and learning materials.

Implementing LCIP is especially challenging in low-income countries, however, due to socio-cultural (un)suitability, limited resources, large classes, teacher (in)efficacy and low morale, foreign-language mediated instruction, and government (in)capacity to enact policy (Guthrie, 2018; Schweisfurth, 2013; Van de Kuilen et al., 2020). Class size, for instance, has a noticeable impact when implementing LCIP in the classroom deterring the implementation of LCIP irrespective of teachers' effort, experience and competence. Previous studies highlight how large class sizes impede teacher-student relationships, individualized instruction, thorough exploration of topics, opportunity to spend more time with each student, and peer-interaction (Koc & Celik, 2015; Schweisfurth, 2019). Large class size is also a feature of Eritrean classrooms; nevertheless the term "LCIP" is widely used and promoted through policy in Eritrean education and the need remains to find better ways of implementing and developing LCIP in Eritrea.

1.2. Dialogic interaction

Dialogic approaches seek to facilitate students' construction of knowledge through questioning, interrogation and negotiation of ideas and opinions for greater understanding (Alexander, 2008; Teo, 2019). Learning takes place when students interact and communicate using information that they did not have before and the cognitive operations start to perform at a level that was beyond their previous capabilities (Sfard, 2008). A dialogic approach is considered the most essential cultural tool mediating learning (Lehesvuori, 2019) and from this perspective, student participation and interaction play a significant role in classroom-based learning.

Classroom dialogue is a way of teaching for thinking and reasoning skills as knowledge is jointly constructed and learners cooperate with each other to develop their understanding. High quality classroom interaction not only engages learners' attention and participation but also increases the standards of achievements and accelerates learning (Alexander, 2018). Key elements of dialogic interaction include supportive communication, varied teacher questioning, informative feedback, building on student responses and student questioning are viable and improve the teaching of learning (Alexander, 2018). Dialogic interaction is not the mere implementation of interactive lessons or a verbal exchange, however, but involves improving learners' understanding, developing their thinking and raising their participation and engagement (Calcagni & Lago, 2018).

Dialogic interaction is productive when students promote collaboration, reasoning and creativity (Resnick et al., 2018; Wegerif, 2010). The degree of student participation can also signal the overall quality of classroom interaction (Molinari & Mameli, 2013). Effective dialogic teaching encourages learners to actively engage in talk about what they are learning (Snell & Lefstein, 2018), not just to report someone else's thinking (Alexander, 2020; Khong et al., 2019). Although dialogic interaction arguably draws on the social constructivist principles that state students can learn best by constantly interacting with peers and teachers (Boyd & Markarian, 2015), to engage in dialogic interaction involves a repertoire of teaching and learning talk patterns and approaches (Boyd & Markarian, 2015;

Kim & Wilkinson, 2019) including students' questions, voicing of ideas, explaining points of view, more time for thinking and non-evaluative feedback (Lehesvuori et al., 2011).

1.3. Relationship between LCIP and DT

Alexander (2008) argues that teachers need to have a pedagogical repertoire to accommodate different approaches to teaching. LCIP as a pedagogical approach provides freedom of learning and demands the active involvement of students in the learning process; and is often linked to a variety of instructional strategies such as, group work, flexible questioning strategies, role play, discussion, debate, dialogue and active learning strategies (Altinyelken & Hoeksma, 2021; Tadesse et al., 2021). Similarly, in a dialogic approach students and teachers participate in the collaborative construction of knowledge through classroom discourse. In order to create the conditions that would encourage both LCIP and dialogic approaches, teachers position their teaching as an interactive approach, engaging students in learning, mutual respect between teachers and students, building students' prior knowledge of experience, authentic dialogic interaction, open questions and creative thinking skills (Schweisfurth, 2019).

Both LCIP and dialogic approaches take a similar stance that learning is participatory and socially constructed with active involvement of students and timely scaffolding of teachers, rather than the passive absorption of facts through rote memorisation (Nykiel-Herbert, 2004; Slavich & Zimbardo, 2012). Furthermore, the concept of social interaction is embedded in both approaches to learning and teachers are considered as key figures who play a significant role to successfully facilitate effective learning. Moreover, both LCIP and dialogic approaches aim to go beyond the learning of content knowledge and exam performance to advance higher-order thinking skills like communication, questioning, exploring and negotiation of ideas, debate, defend claims, evidence to better understand, creativity, reasoning, and critical thinking (Li, 2011; Teo, 2019). Thus, this study, integrates LCIP with dialogic approaches where teachers use students' prior knowledge and learning experiences to engage in reciprocal dialogues to construct meanings. By carefully examining the practice of LCIP in Eritrean classroom interactions and using dialogic interaction as a theoretical perspective for explaining the nature of the interaction, our study aims to identify ways to enhance LCIP. Our research questions are:

1) What existing classroom practices reflect the principles of LCIP?
2) How can the pervading authoritativeness in Eritrean classrooms be challenged by dialogic interaction?

2. Methods

2.1. Research context

Eritrea, a small nation in East Africa, gained independence in 1991. The education system has experienced various educational reforms to uphold the equitable access and delivery of quality education at all levels for all citizens (MoE, 2018) including the use of mother tongue as the medium of instruction in primary education (Grade 1–5) before the switch to English in subsequent educational levels (Mengesha & Tessema, 2019). The LCIP reform (MoE, 2008, 2003a) focused on major shortages of the educational system that include low access to education, small percentage of entrance for higher education, inability to produce well qualified personnel, wastage of resources and personnel struggling with students' high repetition and dropout rates. Thus, the reforms promote teaching in line with LCIP approaches and address educational challenges related to inequalities, inefficiencies (Abdella et al., 2018), skilled personnel, quality and standard of education acceptable in the global education and employment (MoE, 2008). Although teachers were required to change classroom practices from teacher-centred to learner-centred approaches (MoE, 2003b), research indicates classroom practices continue to focus on knowledge transmission rather than align with LCIP practices (Idris et al., 2017; Posti-Ahokas et al., 2018; Zerai et al., 2021) and the Eritrean education system continues to be characterized by poor quality manifested in high repetition rates and dropouts (Mengesha & Tessema, 2019). The aim of this study, however, is to explore whether and how LCIP is practiced in Eritrean secondary school and whether the potential for dialogic features exist in classroom interaction in order to be able to further strengthen LCIP.

Table 1
Participants of the study.

Identifier T1-T12	Gender	Years of experience	Teaching subject	Grade	Number of students in class	Urban/Suburban
T1	M	18	English	10	55	Urban
T2	M	20	English	10	56	Urban
T3	M	33	English	11/10	54	Suburban
T4	M	26	English	9/11	67	Suburban
T5	M	15	Chemistry	10	55	Urban
T6	M	23	Biology	10	56	Urban
T7	M	8	Chemistry	11	54	Suburban
T8	M	25	Biology	10	67	Suburban
T9	M	17	History	10	55	Urban
T10	M	42	History	10	56	Urban
T11	M	15	History	10	54	Suburban
T12	M	8	History	9/11	67	Suburban

Table 2
Examples of 6 from 12 teachers, the types of LCIP and classroom interaction teachers employ in the classrooms with features of LCIP in **bold**.

Teacher ID	Subject, grade & topic	LCIP features	Type of activities	Manner of interaction	Teacher role	Mode of communication
T3	English, Grade-10 Subject-verb agreement	**Engaging students in participation** **Coming to the chalkboard and writing their sentences**	English grammar Questioning Closed questions e.g., all learners were trying to construct grammatically correct sentence	**Students comment on each other work** Choral response With question-and-answer strong interaction prevail **Students write their answers on the chalk board** **Engagement and participation** **Encouragement**	Lecturing Studying rules of grammar Summarising **Feedback** Question/answer Whole class discussions Identify mistake and correct it **Giving clue**	Authoritative/ Dialogue
T4	English, Grade-9 Unity in Diversity	**Pair work/ groupwork** Question and answer session Feedback **Reporting** as a learning experience	Group work Few **Open questions** e.g., Why do we tolerate something? Students **reported** what they found during discussion	**Discussion in pairs** Excellent **encouraging words** No wait times A question responded by the teacher. In what situation do or don't we tolerate people?" Name calling	**Introducing previous lesson** Question **Discussion in pairs based on questions** Rephrasing students' response Correcting mistakes on the sentence	Authoritative/ Dialogue
T5	Chemistry, Grade-11 Boyle's Law and Charles's Law	**Group work** **Purposeful Discussions among students**	Closed question e.g., "What does the Boyle's law say?" **Student presentation**	**Teaching aid, balloon used by the students** Responding in chorus Student presenters were struggling English language mixed with local language **Encouragement "Excellent."**	**Introduce prior knowledge** Discussions based on page-172 of the textbook **Group work** **Students were talking** **Questions/ Summarising the discussions and the topic**	Authoritative/ Dialogue
T6	Biology, Grade-10 Topic: The Excretory System	**Chains of questions engaging students in the lesson**	Questioning e.g., "What do you mean faeces in Tigrigna?" (Local language) **Giving a clue** "Excretion means?" Eliminate expel, and remove	What do we expel from our body? **Probing** **Multiple links** **Multimodalities such as visual presentation** **Humour and oral explanations**	**Introduce with prior knowledge**, **Inviting elaboration**	Authoritative/ Dialogue
T8	Biology, Grade-11 Seed Germination	**Group work** **Discussion among students using local language** **Interaction during question-and-answer session** Reading assignment was given **Students were summarising** what they had learnt	Seven questions from the textbook **Four open**/three closed questions Group of six Discussing each other	Students were **presenting their group work** Students were struggling to explain ideas in English Students were using local language in between **Encouragement** "Very good,"	**Discussion** questions prepared ahead on mobile chalkboard Monitoring the group Explain Scaffolding Motivating Providing reading assignment	Authoritative/ Dialogue
T9	History, Grade-11 Causes of the First World War	Students prepare their own questions from the lesson **self-regulating learning**	Five closed questions for discussions e.g., Name the Allied and Central powers. **Group work**, reading, **students prepare questions**	Students answer and work in a group Whole class discussions through question and answer	**Discussing in groups**. **Peer discussions** Helping each group and talking to the students Answering questions from the students Elaborating, rephrasing, clarifying and repeating students' response	Authoritative/ Dialogue

2.2. Participants and procedure

Twelve teachers were purposefully selected from four Government secondary schools (two urban and two semi-urban) in two regions of Eritrea (see Table 1 for details). Purposive sampling was conducted with the consultation of school directors based on the participating teachers' teaching experience, competence, participation in-service training of LCIP and orientations in the new curriculum that speak to the research aims and who have knowledge and experience of the new learning approach (Patton, 2015). Though it is important to conduct research using both gender participants, government reports note that there is a huge disparity between female (23.8%) and male (76.2%) teachers' deployment in secondary schools (MoE, 2019). Hence, the schools are prevalently male-dominated limiting female representation in this study. All participants' academic qualifications were a bachelor's degree of arts and science (BA/ BSc) and taught core subjects in Grades 9 to 11 with class sizes ranging from 55 to 65 students. Once permission was gained from the relevant authorities in Eritrea, each participant provided signed consent for the data collection following the protocol of the Eritrean research environment.

2.3. Data collection

This study is based on data collected in secondary schools in Eritrea between February and March 2019. The research is a qualitative interpretative cross-sectional case study focusing on LCIP practices with twelve Eritrean secondary school teachers. The data consists of twelve lesson video recordings of approximately 30 min. Five to ten minutes of each lesson were taken up by the transition from one class to another, leaving 30–35 min of actual teaching time. In addition to the recordings, field notes including a record of learner activities, and teacher lesson plans provided supplementary data. The field notes consisted of 24 pages and all video-recorded lessons were summarised in verbatim totalling 69 pages (Times New Roman, point size 12, line spacing 1.5). An observation form developed by Lehesvuori et al. (2011) was used to focus the analysis of the video data addressing classroom activity, teaching purpose, communicative approach-dialogic/authoritative, interactive/non-interactive (Scott et al., 2006) as key features of classroom-based interaction. The data were stored in the first author's PC password protected and no identifying features have been included in the lesson summaries.

2.4. Data analysis

The data analysis focused on the descriptive summaries of the twelve video-recorded lessons and an iterative approach was used to explore the prevalence of LCIP and dialogic interactions within the lessons (Lehesvuori & Ametller, 2021). The analysis aims to stay close to and describe participants' experiences and reflections on LCIP. An inductive approach to analysis was utilised by exploring the data, looking at patterns, comparing and deciding meanings across the data to identify themes. In the first step the description of each lesson was re-read to gain a sense of the entire dataset and subsequent revisitings ensured that the ongoing refinement aligned with the data (Patton, 2015). In the second step, the analysis addressed the presence of LCIP and the manner of classroom interactions. Following Lehesvuori et al. (2019), we identified the moments in which LCIP practices and dialogic approaches are present in each lesson. In the third step, the first author repeatedly watched and listened to the video lessons and referred to field notes for non-recorded activity to select episodes by highlighting all significant interaction and communication identifiable as LCIP or dialogic interaction. Through this iterative process, 59 episodes were selected and key characteristics of each lesson were added to a table. Table 2 provides an overview from the six lessons that included moments of dialogic features in addition to more authoritative modes of communication and extracts from these six lessons are used to illustrate the findings. Six lessons were selected based on the teachers' actions which promoted students' engagement such as, group work, student presentation, participation, discussion, questionings and dialogic interaction in those lessons. The findings were discussed with the other members of the research team to ensure the integrity of the selection and the iterative examination of meaning.

3. Findings

The findings section presents three major themes. The themes in this section outline key characteristics of the lessons included in the dataset with illustrative examples from particular lessons to provide a more concrete picture of interaction in the Eritrean classrooms. The first two themes indicate how conventional, authoritative approaches remain stalwart features of Eritrean education. The third theme, however, indicates how six of the twelve teachers managed to integrate LCIP within conventional lessons. Furthermore, the third theme outlines key moments of dialogic interactions that go beyond conventional LCIP and indicate the value of harnessing dialogic approaches to strengthen LCIP in Eritrean education.

3.1. Missed opportunities: denying waiting time and use of rhetoric questions

Questioning is the most common instructional techniques teachers used in the classroom. The participating teachers continuously asked questions when they introduced or discussed previous lessons. For instance, T1 asked, "*Who can tell us what we have learned in this unit?*", "*What did you get from this unit?*" and "*What did you learn from this chapter?*". Although the teacher used open questions, he rarely used the questions for sustained discussion and responses from students were short. Teacher participants tended to answer their own questions denying learners the opportunity to participate nor did they wait for learners to form their own opinions and say what they thought. There was little difference in time between the teacher questions, and their reactions to the questions. Teachers usually

controlled the lessons with their talk, limiting learners' opportunities to express and preventing them from giving their opinions. Teachers were observed to not provide wait-time for students to think or feedback; learner contributions were often followed by further questions from teachers. The classroom interaction involved few occasions for classroom engagement or participation.

T5 on the topic of "*Boyle's and Charles' Laws*" posed a few questions.

T5: "What does the Boyle's law say?" the teacher asked.

S: "Boyle's law states that pressure was directly proportional to volume."

T5: "Is it directly proportional or inversely proportional?" the teacher asks.

Ss: The students answer in unison as the teacher allows the class (as a whole) to complete his sentences for him.

T5: "And Charles' law?" the teacher asks.

S: "Charles' law says that the volume over fixed gas —- it doesn't vary in proportional to the absolute temperature … temperature ——-."

T5: "Excellent," the teacher praises the student.

In T5's chemistry lesson, though the teacher gave the students time to discuss the principles of *Boyle's and Charles' law*, there was little interaction between the teacher and students. His lesson did not engender two-way communication.

In T9's history lesson, most questions presented were closed and required a specific answer to complete the idea. In this lesson, however, questions were being posed and answered by students. For example, a student presenter asked the question on the board – "*What are the fundamental causes of the WWI?*" and permitted a fellow-student to answer it – "*The fundamental causes of the First World War are nationalism, system of alliance, and militarism*". The student presenter accepted this as a correct answer by repeating the student's answer but with no comment and moved on to the second question - "*What was the immediate cause World War I?*" A student responded - "*The assassination of Archduke Ferdinand*". The student presenter once again accepted this answer as correct without comment, suggesting no room for further comments or disagreement, and that the question had only one answer.

As these questions are closed and fact-finding there is no room for discussion. For discussion to occur questions should be open and invite discussion. Teachers were asking closed questions which do not initiate thinking among learners. The questions provided, however, required only short, exact and pre-established answers provided by learners. Learners do not have space for comments, as the question has only one answer, and does not provide room for disagreement or for a different viewpoint. Thus, learners are required to provide one possible answer, a situation made worse by the lack of wait time and the use of rhetorical questions.

T10 provided a lecture on "*Civil War in Soviet Russia*". This teacher's talk came directly from the textbook while the learners followed from their books. There were questions in the middle of lecture such as "*Why did the United Soviet Socialist Republic (USSR) experience such an economic growth?*" the teacher asked but did not direct the question towards the learners and answered his question himself. A little later, T10 asked another question "*What do you think will be the reaction of the peasants to the land policy? Do you think the peasants will accept it?*" The question presented by the teacher looked provocative and challenging. However, T10 fails to direct the question toward the learners, and answers his own question himself. The questions in this lesson were rhetorical, merely enabling the teacher to organize his lecture and material and not meant to start a discussion or interactions among the learners. The teacher missed the opportunity to interact with learners. In these lessons, learners were given little time to process information communicated by the teacher, little time to think for themselves or to form their own understanding. Based on the interactional mode of the teachers, the role of students was to remain quiet, to passively listen with no expectation for students to engage in the sharing or construction of knowledge.

It was also visible in the discussions that the learners repeatedly express reasonable thought through Tigrigna (local language), which they found hard to do through English. One observes that English as the medium of instruction is a stumbling block for learners as they try to express the knowledge they have. In one biology lesson T8 was conducting the discussions and interactions were supported in the local language, Tigrigna, on several occasions.

T8 "What is the function of the root?" he asks.

S1[1] ማይ ምምጻዉ[To absorb water]

T8 "What else?"

S2 "For supporting the physical (inaudible)."

T8 "For physical?" the teacher asked, unable to understand the student's answer.

S2 "To attach the plant with soil."

T8 "Very good," the teacher said, and based on it, he added, "First and the most important function of the root is to firmly attached to the ground."

The most common teaching method teachers (T3, T4, T5, T7, T8, T9, T11 & T12) use is posing questions to learners. The learners discuss, answer and elaborate their thoughts in local language in groups or individually based on the given questions. These findings highlight the application of LCIP through the use of questions, however, what is missing in this interaction is the depth of exploration, discussions remain superficial.

3.2. Relying on written textbooks, notebooks and grammatical practices

The findings from the analysis indicate that the focus of teaching was exchanging information based on the textbook or written

[1] The translated version is situated inside the square brackets, immediately following the original Tigrigna version.

notes rather than exploring ideas. The teaching was intended to transmit a large amount of knowledge. In T1's English lesson, the grammar part of the lesson took more time than the discussion on natural disasters as T1 swiftly shifted to the grammar before many learners voiced their thoughts on the topic of "*Disasters*". The part on natural disasters took around four minutes, whereas the grammar part took approximately 30 min. It looked as if that the teacher felt more comfortable and more confident teaching grammar than discussing disasters and the textbook included no clarifying points regarding disasters. The students were only studying the structure part of the language (grammar) as highlighted in the textbook and the teachers relied excessively on textbooks with little discussion or elaboration of ideas. A few hands were raised indicating the students had ideas. But it is surprising, the teacher had more participation on the grammar part than the discussion on disasters. This could be because grammar is stressed in Eritrean English classes, and the students are less confident talking about disasters. The same scenario was also observed in T4's English class lesson entitled "*Energy*".

T4: "So what was the previous unit about for?"

Someone began to talk but the teacher said to the student: "Raise your hand, please."

S: A student stands up and says, "About energy."

T4: "It was about energy," the teacher repeated after her.

T4: "Ok, what is energy?" he asked. after a chorus answer, the teacher asks a student to answer.

S: The student says, "Energy is the ability to do work."

T: "Energy is something that can be used as (inaudible), mechanical, or other forms of energy."

The interaction involved a very short discussion with no elaboration. Generally, the learners who are not willing to speak and to interact in classroom engagement; they are likely to take risks if it involves writing sentences and not when it involves speaking. They take risks when it is grammar and not when it is giving opinions, because the latter requires them to express complex ideas in a language they do not speak well. The teachers kept asking the learners if they had questions or additional information. In most cases, there were no comments or further discussion. It always ended up the common way of classroom interaction initiation-discussion-response-feedback (IDRF) recitation based on the textbook or the written teacher's notebook.

3.3. Dialogicity in authoritative settings

Teachers who participated in the study primarily used lectures, whole class discussions, question and answer, memorization of facts, content drawn primarily from students' textbooks; in other words, conventional teaching. However, six participant teachers managed to include some LCIP and dialogic features (see Fig. 1) in their teaching. Although student discussions are not detailed in the dataset, activities which combined group work with student presentations mark a clear difference between teacher-dominated discussion and learner-centred activity. For example, in the Chemistry lesson on "*Boyle's and Charles law*", a group presenter inflated balloons to different sizes as a teaching aid to substantiate the discussions during the presentation. The group presenter said that there is no difference in pressure between the two balloons because the materials from which the balloons were made were elastic and this did not create a difference in pressure.

This example illustrates how LCIP can provide learners with the space to demonstrate theories and relate to authentic situations. In the recorded lessons, a few students came to the front on different occasions to explain and present the lesson with confidence. T1 also tried to accommodate individual needs of the learners by inviting their opinions to write acceptable sentences on the chalkboard. Similarly, T3 in his English lesson helped learners by inviting them to the chalkboard to produce correct, acceptable sentences. The teacher also added encouraging statements by complimenting students (great, I like your letter). Learners were occupied and busy with

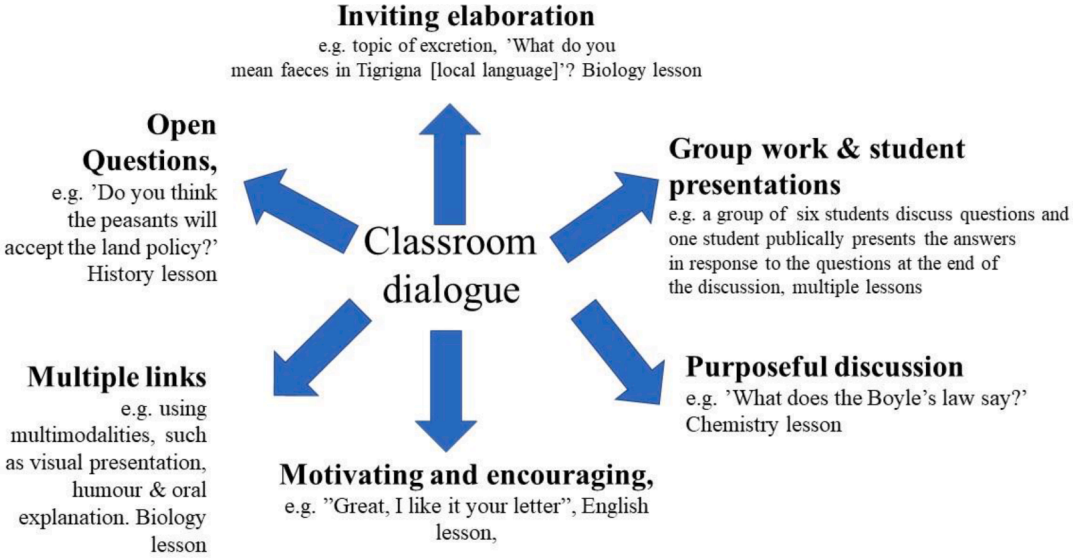


Fig. 1. Presence of dialogic features.

producing sentences inside the classroom. In multiple lessons across subjects, teachers utilised group work activities promoting student discussion and reporting to peers. These activities seemed to enhance confidence for learning and to create the space for students to talk with each other in local languages. How teachers used questions as part of their teaching repertoire, however, provides a different picture.

Participant teachers have opportunities to make lessons dialogic using open questions, even in conventional lessons if teachers recognise how questions have the potential for discussions and dialogic interactions. Examples of dialogic questions collected from the data include: "What did you learn from this lesson?" "Do/did you agree with her/him?" "Who can give me an example of future perfect tense?" "What is wrong with this sentence? Who can tell me?" "What is the difference?" "Why did you add the word 'starting' in your sentence?" "Why did Italy betray the Central Powers?" "How did the WWI widen?" These questions taken from teachers' lessons can bring "critique, elaboration, commenting, discussion, opinion, reasoning, sharing experience, argumentation, encouragement, categorization, make differentiation" (Webb, 2009) and many other dialogic interaction outcomes. Based on the above questions, teachers can initiate and develop discussions and dialogue in the classroom. However, the potential for dialogic interaction was overlooked and teachers moved on quickly to the conventional teaching.

The following extracts were taken from T6's biology lesson. The teacher presented a series of questions and learners followed attentively providing answers. Many of the questions are closed but the students were trying to be engaged in the lesson. The classroom interaction in Eritrean classroom stays short and the interaction is highly dominant of the (IDRF) pattern. However, through these short and brief discussions, the lesson on "*excretion*" went smoothly.

T6: "What do we expel from our body?" he asked. "What about this one? Do you know what faeces means? What do we mean faeces in Tigrigna (local language)?"

Ss :[2] ፀልፀል[faeces]

The teacher drew the picture of someone excreting (or defecating) and someone urinating which the students found funny, and burst into a mild laughter.

T6: "What are the contents of faces?"

S: "It has indigestible food particles."

T6: "What else?"

S: "Water," some students answered. He didn't notice the student answer.

T6: "There is urine as it is here. And what else?" he asks but answers it himself. "Small amounts of what? Small amounts of urea again. And also small amounts of what?"

S: "Water," a student said.

T6: "Water. Very good."

T6: "What do we excrete from our body? What about this?" he asks and points them to a word he wrote on the board. "What is sweat?"

Ss: A number of students in unison say,[3] ረሃጽ[sweat]

T6: "The contents of our sweat?"

Ss: "Water," many students answer him in a chorus.

T6: "Excess what. Very good. What else?"

Ss: "Minerals," some students said.

T6: "Mineral salts," he said and wrote on the board. "What else?"

S: "Small amounts of urea," student said.

T6: "Small amounts of urea," he confirmed.

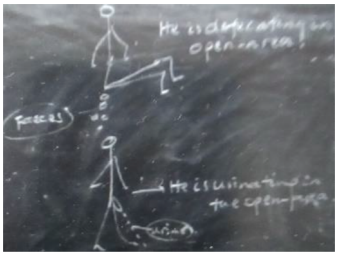
T6: "What would happen if people kept accumulating excess materials in their bodies." asked the teacher.

S: "Constipation." The teacher acknowledged it but didn't think it worth spending more time discussing it.

T6: "Constipation. Ok. What else? What else?" he asked.

S: "We don't need so. We don't need it, so if excess material is stored in our body; it can harm us. Like obese. It is excess of fats. So, it can harm us. So, we have to excrete or remove from our body."

T6: "Very good. Very good," the teacher praises the student.



The teacher asked the students in their local language which the students know very well and the teacher made a significant effort

[2] The translated version is situated inside the square brackets, immediately following the original Tigrigna version.

[3] The translated version is situated inside the square brackets, immediately following the original Tigrigna version.

to involve students in the classroom by inviting further contributions. The teacher linked everyday concepts with scientific practices by drawing a picture and bringing in students' experiences. T6 provided elaborated explanation and led the discussion through question-and-answer. In this lesson, probing, hinting, giving synonymous words for thinking, confronting student answers for further discussion, evaluating each other's answers, open questions, visual explanation and humour point to the dialogic potential of this interaction. The teacher largely releases control over the flow of discourse to the students. The teacher did not control the discussions apart from providing questions. There were exchanges with consecutive student turns without teacher interruption. Most student had opportunities to participate or respond to questions. Hence, the students had followed the main parts of the lesson keenly. The extract above demonstrates the demand placed on teachers and students to be engaged more in dialogic interaction. The teacher helped the learners how to prove and give evidence for their responses.

4. Discussion

The findings from this study highlight the presence of conventional teacher-led interaction in Eritrean subject classrooms, the occasional implementation of LCIP and the potential for dialogic approaches to strengthen and enrich LCIP in Eritrean secondary education. Conventional interaction was characterised by the inadequacy of wait time, teacher interruptions and comments, successive questioning, limited opportunities for student reflection and the use of choral response. Rather than teachers encouraging focused and sustained learner effort (Lattimer, 2015), the majority of questions remained at the surface level with learners just requested to respond with hard facts, learned by rote, that maintain teacher control (Wuttke, 2012). Questions, however, can also be a powerful teaching tool when teachers use appropriate questions to expose feelings, assumptions, contradictions and facilitate learning. The dialogic moments in this study indicate how teachers can augment LCIP through the effective use of talk to help students to co-reason together (Reznitskaya & Wilkinson, 2015) and the use of questions to generate dialogue involving students' thoughts and knowledge construction (Chin, 2007; Wuttke, 2012).

One of the barriers to the implementation of dialogic interaction in this study, as elsewhere, is the dominance of teacher talk at the expense of students' own meaning-making voices (Alexander, 2013). The power relationship between teachers and learners is a stumbling block to genuine dialogue in classroom settings, an inequality often reflected in school structures (Valsiner & Maslov, 2011). Learning, however, is more than interaction between teachers and students, or even peer interaction and knowledge building, but also involves developing the image of self and understanding others. To create learner-friendly environments with teachers and students standing as equal partners requires a number of changes.

This study indicates that Eritrean teachers, similar to other teachers (Alexander, 2020), rely heavily on textbooks with little exploring of ideas and concepts or connecting with the learners' real, authentic experiences. Despite the 20-year LCIP policy, teachers do not seem to know how to use talk in classrooms to enhance learning (Reznitskaya et al., 2009). Limiting talk-based learning arguably undermines all modes of learning such as giving feedback to praise and support, initiating students' questions, presenting open and challenging questions, allowing learners enough time for thinking, reasoning and enquiry. In this study, however, learners frequent use of Tigrigna (local language) to explain their thoughts indicates that Eritrean learners were not inherently passive in their learning process. Moreover, when teachers utilised LCIP in the form of group and pair work activities a space for generating open questions, group work and student presentation, visual elaboration, humour, oral explanation, motivating and encouraging learners indicated the potential for increasing dialogicity in Eritrean classrooms. For example, the picture that was illustrated above indicating someone excreting (or defecating) in an open area created laughter in the classroom. The participating teacher was observed to positively inspire and engage students in the learning activities. Similarly, a study conducted in an American high school (Ryoo, 2020) found that pedagogies of humour and joy changed students' motivation, enthusiasm, participation and engagement in thinking and learning. However, teachers rarely employ methods for facilitating quality learning experiences and interactions, such as using a pedagogy of humour.

In this study, participant teachers' interaction occurred through crafted questions and those questions created discussion among students. However, discussions remained brief, often cut short by teachers. During group work activities, teachers were observed handling large classes. Large classes can be a major challenge when applying interactive methods (Han & Ryu, 2017; Ndethiu et al., 2017). These findings indicate that teachers should understand what type of activities support classroom discussions and the power of challenging and open-ended activities to bring productive interaction (Littleton & Mercer, 2010). Research suggests that once teachers become aware of guidelines for interactive lesson, they are able to implement in classrooms effectively even under adverse conditions (Ameir, 2020).

Furthermore, participant teachers can also actively involve learners in the learning process prior to lessons by telling learners to carefully read topics and discuss among themselves before class. Teachers have to understand LCIP and dialogic interaction effectively that learning develops through active, social interaction process and prior experience, not through the passive reception of information (Matthews, 2003). In this study, the more relaxed atmosphere of group work appeared to change the authority and working in groups provided learners with an opportunity to interact with teachers and to learn from each other. Some teachers, however, misinterpreted the practice of LCIP during group activities as individual classmates monopolized the space with one capable student replacing the teacher and repeating what the teacher has done with the entire class. Under these conditions, the rest of the students are trapped in traditional classroom practices with communication flowing from the teacher or from a few capable students to the other learners.

Group work should be conducted realistically based on student abilities and available resources to achieve the goal of LCIP to enable collaborative learning and the sharing of experience. If teachers ensure that each learner contributes something, all students can benefit from working in groups (Tilstone et al. 2000). Cooperative group work therefore has the potential of strengthening collaboration among learners, thereby making them less reliant on their teachers and responsible for their own learning (Webb, 2009) as

perspectives are questioned, affirmed, or revised and interaction supports mutual understanding (Atwood et al., 2010).

The findings outline how one participant teacher effectively employed visual strategies and created indigenous cultural forms in meaning-making as he made links to real-life experience. This was a positive move in dialogic interaction. Plastow (2007) identified similar strategies in Eritrean primary schools that support learners to articulate their ideas and to express their thoughts around pressing and contentious issues. According to Manalo et al (2020), learning through visual representation improves students' subject knowledge performance and deeper learning so that students can better grasp knowledge, solve new problems, explain different kinds of information, and take on other tasks that are related with the original learning experience. Similarly in this study, the participating biology teacher on the topic of '*excretion*' provided his presentation with visual diagrams as tools for facilitating authentic dialogic interaction. Manalo et al (2020) further stated that diagrams are beneficial for student learning because they facilitate meaningful learning through abstracting ideas, linking concepts, and clarifying knowledge. Hence, teachers can elucidate some abstract concepts through visualisation in reference to the learners' own culture and context. Teachers therefore need experience and training in how to engage in various multiple interactions so as to provoke thoughtful answers and to provide feedback to those answers to invite further participation asking pupils to expand on their thinking and connect to their own experiences (Nassaji & Wells, 2000; Yang, 2021). Another area for development is the use of English as the medium of instruction which appeared to hinder how learners could express their thoughts, ideas and opinions. With LCIP, however, the language in education has a tremendous effect on classroom interactions and participation (Mulumba & Masaazi, 2012). Teachers need to better understand how the multilingual resources and resourcefulness of students can improve classroom interaction and learner engagement (Clegg & Simpson, 2016; Early & Norton, 2014).

The findings from a qualitative inquiry conducted with a small number of teachers in selected schools cannot describe the overall situation of implementing LCIP and dialogic interaction in Eritrean classrooms. The clearly identifiable themes of missed interaction opportunities, relying on written materials and the authoritative role of teachers highlight the need for concrete opportunities to make the gradual change toward dialogicity. The teachers participating in the study represent the experienced teaching force that may be more capable of implementing learner-centred approaches. Although concerns remain over the schools and classrooms taught by non-qualified teachers with little experience, this research demonstrates that complementarity between mandated LCIP and dialogic approaches to education.

5. Conclusions

The dialogic interaction which is based on quality student-teacher communication provides opportunities for students to develop higher forms of cognitive skills. Students in this kind of teaching can take an active role endowed with high levels of autonomy and empowered to influence classroom discussion to a certain degree (Sedova, 2017). Furthermore, the results from this study may help teachers in Eritrea to revisit their lessons to promote dialogic engagement and classroom interaction pedagogies which should help improve student learning. Improving learning seems to be related to the professional capacity of teachers. Therefore, making the transition from teacher-dominated classroom practice towards LCIP and particularly dialogic interaction requires a substantial shift in teachers' beliefs about the role of talk in meaning-making. Even if LCIP is in place, the use of dialogic procedures is not yet a common part of Eritrean teacher education. Therefore, this study indicates the importance of understanding LCIP and the potential of dialogic approaches to further improve the quality of education in Eritrea.

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CRediT authorship contribution statement

Abraham Tadesse: Conceptualization, Methodology, Formal analysis, Investigation, Data curation, Writing – original draft. **Sami Lehesvuori:** Conceptualization, Supervision, Methodology. **Hanna Posti-Ahokas:** Conceptualization, Supervision, Writing – review & editing. **Josephine Moate:** Conceptualization, Supervision, Writing – review & editing.

Declaration of Competing Interest

None.

Data availability

The data that has been used is confidential.

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