

Research Article

Formative Assessment of Content and English Language in Biology Subject Among PITA Project Secondary Schools in Meru District Council, Arusha-Tanzania

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Abstract

The proficiency in English, which is the second and language of instruction in Tanzanian secondary schools seems not being given a strong attention by content subject teachers during the assessment of learning. This study was conducted to analyse the practice of Biology teachers in formative assessment of Biology content and English language as a language supportive pedagogy in the Biology subject. The study was to answer the following research questions: (i) What techniques do teachers employ for formative assessment of Biology content? (ii) How do teachers support students' English language in biology formative assessment? (iii) What are the challenges associated with formative assessment of content and language in Biology subject? The target population was 33 ordinary level secondary schools under the PITA project in Meru district council. Of the total schools, five were sampled for this study. The respondents included 70 students and 6 Biology teachers making 76 total participants. The convergent parallel research design under mixed method research approach was used. Purposive and stratified-random sampling techniques were used to select teachers and students respectively. The researchers collected data using questionnaires, interview, observation, and document analysis guides. The results showed that the Biology teachers use mainly question & answer, group assessment and short tests in Biology subject assessment. The formative assessment in Biology also involves the assessment of language aspects such as checking spelling, pronunciation, grammar and tenses. The results also revealed three main challenges: difficult biological terms, language of instruction and time in formative assessment of both Biology content and language. The researchers recommended the use of more techniques, Biology dictionary and enhancement of cooperation between Biology and language experts in formative assessment of Biology content and English language.

Keywords

Biology, Formative Assessment, Content, Language, PITA, Secondary Schools

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1. Introduction

Formative assessment is used during instruction to improve teaching or learning by using strategies such as questioning techniques, feedback without grades, self-assessment, and peer assessment [1, 2]. Teachers must gain expertise in the use of a variety of participatory teaching methods as well as the integration of content and language in teaching and learning processes if the competence-based learning goals of learning (presented in secondary education subject syllabuses since 2005) are to be realized as intended by schools and other education authorities [3]. Formative assessment is very useful to the teacher in finding out students' progress and it helps to improve learning outcomes. The Southeast Comprehensive Center (SCC), illustrates this point that when formative assessment is planned and implemented systematically, it provides feedback on students' strengths, weaknesses and gaps in learning [4]. SCC adds that formative assessment improves learning outcomes for various groups of students including English learners. Formative assessment is a powerful means for promoting students' learning and it may be particularly powerful for English language learners (ELLs). It consists of three steps: i) the teacher elicits information about students' learning through a variety of methods, ii) the teacher interprets (makes sense of the information), and iii), the teacher uses interpretation to provide feedback and/or inform instructional next steps [5].

Content and Language Integrative Learning (CLIL) is an educational approach that integrates language learning and disciplinary content learning [6]. In the Tanzanian context, Biology is a content and compulsory subject in ordinary level secondary school, which uses English as a medium of learning, which is the second language for most learners. In this paper, the concept language supportive pedagogy is used synonymously to CLIL. In Tanzanian secondary schools, Kiswahili predominates over English in instruction and all other spheres of life (such as social, political, religious, governmental, and economic aspects), even though English is designated as the official language of instruction and learning; therefore the effectiveness of English as a medium of instruction can be questioned. This means that, for effective understanding of Biology content, proficiency in the medium of instruction is required. Furthermore, Andjelkov cautions that separating content from language in many cases is difficult if not impossible [7]. In addition, assessment of English language skills should be based on direct evaluation of language ability in acts of communication (reading, speaking, writing, and listening) and assessment of content knowledge in situations and activities, which are as engaging and realistic as possible for learners [8].

A study on the formative assessment practices in CLIL primary schools in Cyprus revealed that the teachers appeared to prioritise subject above language during assessment, and the predominant form of FA was questioning [9]. Nevertheless, a large proportion of teachers integrate content

with language when teaching; still, professional skills in content-language integration in assessment practices must be gained or improved through PITA project intervention activities [10]. The current study, therefore, focused on formative assessment practices as essential ways that teachers can use to develop students' competencies in both content and English language. The purpose of this research was to analyze the formative assessment of content and language by teachers in the Biology subject in PITA project schools based on the following research questions: (i) What techniques do teachers employ for formative assessment of Biology content? (ii) How do teachers support students' English language in biology formative assessment? (iii) What are the challenges associated with formative assessment of content and language in Biology subject?

2. Literature Review

Formative assessment can be hard, as a teacher needs a lot of knowledge and skills. These include, flexibility in planning and quick in decision making, to be able to take up unexpected topics that occur, to be prepared to handle topics that are unknown, to have knowledge of how students learn the subject and addressing misconceptions that students have [11]. It is important to note that, assessment is a significant pedagogical and measuring tool to promote deep learning [12].

In recognition of Bloom's taxonomy, the authors suggest that the assessment should be aligned with learning outcomes that consider deep learning in terms of knowledge acquisition, comprehension, application, analysis and synthesis. Three methods of assessment were identified in the Mathematics lesson: i) group-based assessment (for large classes), ii) peer assessment and self-assessment, and iii) oral presentation assessment. Scholars, urge that assessment has to be flexible, relevant and meaningful to ensure that it nurtures deep learning [12]. This means, teachers who are the pedagogy experts need to be conversant with and apply varied assessment methods in class aiming at enhancing learning. With use of various methods and techniques, teachers can make assessment practice more authentic.

In the Ethiopian context, a research study examined the use of assessment techniques by secondary school teachers [13]. In that research, it was found that three techniques of assessment existed in the studied schools: i) assessment of learning, ii) assessment for learning, and assessment as learning. The assessment of learning is connected to summative assessment (e.g. end of topic/term e.t.c.), and assessment for learning involves assessing students using different means such as tests, projects, participation in class, and using feedback for improving teaching techniques. The third version of assessment (assessment as learning) is linked to student independent learning activities e.g. encouraging monitoring their progress, encouraging learning autonomy,

independent and responsible learning for improving their academic performance.

Of the three techniques, assessment of learning and assessment for learning were most common in the studied institutions. The results imply that there is a need for assessment practice to focus on making assessment a tool for assisting students recognize their learning and own the learning process (assessment AS learning). This type of assessment is uncommon in classroom context but it is very necessary. This should go together with assessment for learning (but teaching coming up with innovative assessment techniques).

In Bangladesh context, the formative assessment practice in English classrooms was explored [14]. The study collected data from teachers, students and classroom observations. The study found that, while teachers know general assessment, their knowledge of formative assessment is inadequate. They use classroom tests as formative assessment tools but have no opportunity to assess the four skills of language. The message conveyed by this finding is that teachers need to know different specific formative tools for effective assessment of students formatively. Knowledge of techniques for assessing English language skills is required for effective monitoring of development of proficiency in English language and communication among students.

Another research by explored the views of content subject teachers on the implementation of English across the curriculum (EAC) approach in high school classrooms in South Africa [15]. These researchers applied intrinsic qualitative inquiry to examine the views of 15 teachers and collected data using focus group discussion methods. The findings identified teachers' views of the teachers revealed the merits of EAC that the English language serves an important purpose and function in the South African high school education system. The content subject teachers perceive English language as a resource for improving learners' language use across the curriculum to that purpose. The teachers considered English a global language (at macro level), the language of instruction (at meso-level), and proficiency in the language for interactions inside and outside the classroom (micro level).

However, the main challenge identified by teachers is their lack of ability to incorporate English across the curriculum approach in their teaching. They suggested improvement of initial teacher education curriculum and continuing professional teacher development as a strategy for improvement of the situation. The researchers recommended partnerships between teachers of English as a second language and content subject teachers, as this cross-curricular collaboration has the potential to enhance implementation of English across curriculum in high school classrooms [15].

In Barcelo higher education context, a research explored the instructors' perceptions of the role the additional language plays in the process of teaching and assessment, and impact of language component on their students' learning outcomes [7].

The study involved six informants who are none-native English speakers. Data were collected using in-depth semi-structured interviews, students' examination papers and institutional documents. The findings showed that, i) no explicit language-related goals or expected outcomes were shown in the courses, ii) a majority of instructors rejected being considered English language teachers and explicitly refused to act as such. Consequently, this affects the quality of school teachers prepared by the higher learning institutions.

3. Materials and Methods

The study employed a mixed-method approach whereby a convergent parallel design was used. This design enabled the collection of both quantitative and qualitative data; analyze them separately then merge the results to see if they confirm or dis-confirm each other [16]. Mixing two methods might be superior to a single method as it is likely to provide rich insights into the research phenomena that cannot be fully understood by using only qualitative or quantitative methods [17]. This research design was selected because of the diverse nature of subjects that are to be assessed under the PITA project. This research design enabled the study to present data from the population that shows the association between content learning and language in a teaching and learning environment.

This study was done in Meru District Council targeting 33 secondary schools under the PITA project. These schools are located in Arumeru district in the Northern part of Arusha region at Meru mountain base. This study involved 5 secondary schools targeting Biology teachers and students in the selected schools. The schools and participants inclusion criterion was based on them being under the PITA project and had participated in the project activities. The schools were sampled randomly in order to yield a sample that is representative of the group being studied. Teachers were sampled using criterion purposive sampling, 6 Biology teachers were selected from 5 schools (one school had 2 Biology teachers). Learners were selected using stratified sampling techniques based on gender. In stratified sampling, a researcher divides the population into specific characteristics (e.g. gender) to ensure this characteristic is properly represented in the sample [18]. The study involved Form three class students of which 35 girls and 35 boys were selected making a total of 70 students from the studied schools. The total sample size was 76 respondents.

The study gathered the primary data mainly. Primary data provided the study with firsthand information on how teachers integrated language and content in learning assessment in Biology classes. Primary data were collected directly from the field during classroom sessions, interviews and questionnaires. Sources of primary data are observations, questionnaires, and interviews [19]. In addition, data were collected using a document analysis guide for classroom formative assessment by reviewing learners' exercise books and test papers (to

gather evidence of language and content assessment integration by Biology teachers).

The study employed questionnaires, Interview Guides and classroom Observation guides as data collection tools. The use of multiple data collection instruments provides the study with both qualitative and quantitative data. This triangulation enhances validity of the data to be collected. Data analysis and presentation was done based on the nature of data collected. The study yielded both qualitative and quantitative data. Quantitative data were analyzed using descriptive statistics such as frequencies, percentages and presented using tables and graphs. Qualitative data on the other hand were analyzed using Thematic Analysis Technique and use of participants' quotes to support the findings. The teacher interviewees

quoted in this paper are represented by letters (T1, T2 ... meaning Teacher 1, Teacher 2.... e.t.c). The results are presented based on the themes of the research questions.

4. Results and Discussion

4.1. Techniques Employed by Teachers for Formative Assessment in Biology Subject

The researchers inquired from students on the techniques used by Biology teachers in formative assessment of Biology content. The results from students' perspectives are presented in Table 1.

Table 1. Students responses on formative assessment techniques in Biology subject (n=70).

Technique	Many times		Rarely/sometime		Never used	
	f	%	f	%	f	%
Oral questions(n=69)	57	82.6	12	17.4	0	0
Short quizzes(n=70)	41	58.6	24	34.3	5	7.1
Written tests(n=70)	31	44.3	31	45.7	7	10
Practical work(n=66)	16	24.2	35	53.0	15	22.7
Self-assessment(n=66)	29	43.9	24	36.4	13	19.7
Assessing us as a group(n=68)	40	58.8	16	23.5	12	17.6
Assessing us using exhibitions(n=66)	16	24.2	23	34.8	27	40.9
Homework(n=70)	44	62.9	19	27.1	7	10

Data in Table 1 show that oral questioning is the main technique used by Biology teachers. The same technique was the only technique noted in observation of teaching in class. Other techniques mentioned by majority (above 50% of students) were homework, short quizzes, group assessing, and written tests. Data also show that practical tasks are rarely used (53% of the respondents). This is contrary to expectation due to the practical nature of the subject.

Using the interview method, the researchers inquired about the techniques used by teachers in formative assessment of Biology content. The interview revealed that, the biology teachers assess the subject content mainly using three formative assessment techniques: (i) question & answers - mentioned by five out of six teachers (83.3%); group assessment-stated by four out of six teachers (66.7%) and short exercises/tests -three out of six teachers (50%). The use of classroom competition, presentations and practical was mentioned by only one teacher interviewee. The results of this study oppose those of a study which found that most teachers in his study rarely use formative assessment in their study [20].

On the other hand, the remaining three techniques shown in the table are rarely used as only one interviewee mentioned using either of those techniques. The results imply that teachers need to conversant with various formative assessment techniques in their daily instruction process. It is through varying the techniques of formative assessment that particular skills and competencies (e.g. language proficiency in academic content learning) can be assessed authentically. In addition, due to lack of application of formative assessment in class, teachers do not know how to improve students' performance and language skills which affects students' language learning [20].

The current study also found that teachers consider using bloom's taxonomy in formative assessment of content understanding by students. However, the use is determined by students' class level. Both low order thinking (LoT) and high order thinking (HoT) levels are used as determined by the teacher's judgement. Of the six teachers interviewed, three stated that they consider all levels of cognitive domain. The teachers mentioned that high order thinking questions are

more used in monthly tests, and practical assessment, while low order thinking questions are common in short assignments like weekly tests, and group assessment. The following excerpt from Interviewee (T3) illustrates: “For practical assignments, it involves all levels of thinking. But in the weekly tests mostly I use questions demanding mentioning, defining, explaining but for monthly mostly questions involve essays in nature” (Interview with T3). Nevertheless, one interviewee expressed the challenge in the use of different action verbs in students’ assessment saying;

To some extent I consider various levels using verbs such as outline, explain, conduct, but I get challenged with terminologies sometimes, for example which level does verb “know” measures in responses. For group work questions I normally just ask questions related to remembering and understanding (Interview with T5).

Furthermore, according to the interviewees, the nature of students (fast versus slow learners) and class level (lower classes versus higher classes) also determine the levels of cognitive domain to be used by teachers. One of the interviewees said, “I use the BT depending on the nature and levels of the learners. For instance Form 1 students are not familiar with some words such as describing which demand

the students to do more” (Interview with T3). Another teacher added that, “Levels of thinking skills are considered since there are different students with different abilities i.e. fast and slow learners” (Interview with T1).

Apart from using questionnaires and interviews, the researchers conducted classroom observations for triangulation of data collection techniques. The data show that of the observed lessons, four out of six teachers used questions and answers mainly as the formative assessment technique in class. In addition, in two lessons, the teachers did not consider formative assessment in the lesson delivery. This implies that teachers do not vary assessment methods but they rely on one most easy way of checking students’ understanding of the taught content.

4.2. The Ways Teachers Assess Students' English Language Achievement in Biology

The study further sought to find out the techniques used by teachers in English language skills support in Biology subjects. The responses from students are presented in Table 2.

Table 2. Students’ views on techniques used for English language skills assessment (n=70).

Technique	Many times		Sometime		Never used	
	f	%	f	%	f	%
Correcting English words spelling	52	74.3	16	22.9	2	2.9
Correcting English language pronunciations	42	60	22	31.4	6	8.6
Using games	7	10	20	28.6	43	61.4
Assessing grammar during group presentations	47	67.1	16	22.9	7	10
Correcting English language structure in our work	44	62.9	17	24.3	9	12.9

According to data in Table 2, teachers use four different techniques (correcting English spellings, pronunciations, grammar checking during presentations and correcting English language structure) many times. This means, the majority (more than 60%) of student respondents acknowledged the use of these techniques by teachers. On the other hand, the use of games in formative assessment of English language by Biology teachers is less common (majority/61.4% of students stated that the technique is never used and a significant proportion (28.6%) stated that it is rarely used.

The researchers inquired from six teachers through interviews about the language aspects considered in formative assessment in Biology lessons. The interview data show that some biology teachers consider English language aspects such

as grammar, word pronunciation, spellings, tenses and verbs in formative assessment of students during instruction. Some excerpts from the Biology teachers illustrate as follows:

I mostly consider pronunciation and spelling like ‘arthropoda’ vs ‘anthropoda’; but students get difficulties in English language issues for instance “ownership” like ‘their’, vs ‘there’ and this is the part I consult the English teacher. I also consider the singular and plural when students are answering questions: For example mention characteristics of an organism. A student should state that it has two ‘pairs’ of legs and not ‘pair’ (Interview with T4).

Nevertheless, one Biology teacher did not consider language aspects in Biology classes as indicated by this quote: “I mostly consider only content; I do not consider the use of language correctly. I use code switching and code mixing even

when teaching” (Interview with T4). This also implies that the teacher does not consider language issues in the Biology lessons assessment. The results are different from those of a study which found that the majority of instructors rejected being considered English teachers and refused to act as such [7].

The current researchers also asked the biology teachers interviewed if they cooperate with English language teachers with issues related to English language in their subjects. Of the six interviewees, two stated that they cooperate with English language teachers. The following quotes elaborate. One of the interviewee said, “I usually consult English teachers in areas of forming words and assisting me with giving me vocabularies” (Interview with T1), and another stated that, “sometimes, I invite English teacher to come and sit in class during my lesson and help in correcting language” (Interview with T3). This data means that the Biology teachers consider the expertise of Language teachers in content subjects.

The results of the current study are encouraging due to improvement on cooperation between content and language teachers. The PITA project evaluation (2018-2021 phase) report revealed that there was weak cooperation between language and content teachers [3]. Assessment of students’ development of English language skills in a content subject like Biology can be more successful when cooperation exists

between content and language teachers. The content subject specialists might benefit from assistance from language of instruction experts to help them orient their decision-making in relation to students’ assessment criteria [7]. Partnership between teachers of English as a second language and content teachers is recommendable as this cross-curricular collaboration has the potential to enhance the implementation of English across curriculum in the school classrooms [15].

However, interview data showed that one Biology teacher rarely consults English teachers. The quote from the interviewed teacher elaborated this: “I rarely cooperate with teachers but I use the internet frequently to check on spelling of words and mostly pronunciation” (Interview with T5). This means, more awareness and recognition of the significance of content and language teacher collaboration is needed in schools. Even in teacher education programmes, the cooperation between the two categories of teachers need to be emphasized. Raising subject teachers’ awareness needs to be part of activities for teacher professional development [21].

Through classroom teaching observation, it was also noted that spellings were assessed and spelling done properly though with very few teachers (three out of six teachers). The information was also sought through document analysis techniques in which students’ exercise books and past test/examination papers were reviewed. Table 3 presents data gathered using a document analysis guide.

Table 3. Data recorded from documents analysis.

Documents analysed	Remarks on observed aspects	No. of documents
Students exercise books	Teacher corrected some/few vocabulary errors	1
	No evidence of teacher’s alert on language errors	4
	Grammar problem was noted in exercise books	1
Returned test/exam papers	Papers were not observed/accessed as students left them at home	4
	Some papers had errors in spelling, punctuation, and tenses	3
	No indication/evidence of mistake/error correction	1
	Questions tested basic concepts	1

The data from the documents analysis imply that this area is not adequately done by biology teachers for supporting English language learning in Biology. This affects students’ progress in developing English language skills in the content subjects. The Biology content teachers need to make more effort to identify the language mistakes that students make in writing. By doing so, the students will not only grow in learning the subject content but also developing the language skills which is a vehicle in learning the subject content effectively.

4.3. Challenges Facing Teachers’ Assessment of Content and Language in Biology Subject

The researcher inquired about challenges facing formative assessment in Biology subject in the studied schools. Data from teachers’ interviews revealed three main challenges. Out of six teachers interviewed, two of them reported challenges such as ‘difficult biological terms’ and ‘English medium of instruction’. Another challenge: ‘time’ was mentioned by one

interviewee. The challenges are explained in the following sub-sections.

4.3.1. Difficult Terminologies in Biology

In assessing content and language in Biology, there is a challenge due to difficult biological words/terms as two of the six interviewed teachers brought up during the interview. This affects the learning of the content itself. This is evident from the statement given by one interviewee that, “In biology we have some very difficult scientific names and this affects the student's understanding of the content” (Interview with T6). The other interviewed teacher narrated saying, “In Biology, some words are very difficult to pronounce especially the scientific names and even to write correctly. Majority of the words do not have alternatives as to compare with English words” (Interview with T1). Understanding the subject terminologies and vocabularies by students is very important for them to be able to communicate their knowledge during learning and assessment. The vocabulary or difficulty terminology questions make the largest impact on students for whom English is a non-native [22]. Previous research report in Nigerian context shows that students' achievement is poor on binomial nomenclature [23].

4.3.2. Language of Instruction

The analysis of interview data also showed that, in formative assessment of the content and language, the challenge is mainly due to English being the language of instruction as two teachers reported. The language-related challenge encourages cramming by students even without understanding. The quotes from interviewed teachers elaborate this. One of the interviewees said: “The most challenge that I see in Biology is students cramming the content instead of understanding. Also spelling errors when students are taking notes and sometimes copy from one another the wrong spelling of words” (Interview with T4). The finding echoes what the other study found in a different context that, the language of instruction affects the test performance of English medium of instruction students [24]. The impact of the medium of instruction on students' learning and performance during assessment high in Tanzanian context whereby secondary students experience English as a second language and even in some cases as a third language. Language barriers arise when the language of instruction differs from learners' home languages, making comprehension difficult [25]. Research thus indicate that, assessment of both content and language is not as easy task. Students' ability to show content knowledge in a foreign language has been identified as a problematic area in content and language integrative assessment [26]. Despite English language being essential to students' academic success in secondary education, many struggled in writing, speaking and reading during lesson discussions and in examinations in Tanzanian context [27]. This implies that learners need a strong foundation in the language of instruction to learn

effectively in academic subjects. In Tanzanian context, the implementation of the baseline programme needs to be strengthened to enable the beginners of secondary education grasp the language of instruction well and being able to express their ideas in a better way during their assessment. Regular practice on the use of the language of instruction for communication in and out of the classrooms is recommendable for enhancing the language proficiency. Teachers and students need to maximally use English language, both in and outside the classrooms since the frequent use of the language increases its mastery, which is beneficial in the process of teaching and learning in the multilingual classrooms [28]. Proficiency and mastery of English language is an important tool for learning and responding to assessment questions of the content subjects effectively. Lack of language mastery hinders the learners' ability to express their ideas. Poor mastery of English posits a challenge, and while it is key to learning, it comes across as a barrier, especially in rural schools, where exposure to the language in most cases is limited to the classroom [29].

4.3.3. Time for Language Issues Assessing

Among the challenges that teachers encountered in formative assessment of content and English language is time. One of the interviewee's statements illustrates this challenge in relation to spelling checking by saying, “Questions that are demanding in marking, like essays, sometimes are difficult to check the spelling. I don't think even panel marking during national examinations considers language, so personally considering language takes a longer time”. (Interview with T5). This implies that content teachers may not consider language issues; instead, only the subject content is given attention. In relation to the results, it was found that secondary school teachers in Quebec were conducting formative assessment regularly, which was time-consuming. Formative assessment should not be a challenge if each teacher is aware that formative assessment is an integral part of learning in the competence-based assessment approach [30]. Time, workload, overcrowded curriculum, class size, and the number of lessons were reported as barriers to the effective implementation of formative assessment [31]. From classroom observation in the current study, it was found that feedback was not done satisfactorily as delimited by teachers' inability in one language, and was mostly done through questions and answers. Other noted challenges included pronunciation of words and improper use of tenses. This has been also noted in another context that there is teachers' insufficient attention of science subject teachers to assess the language skills [32].

5. Conclusion and Recommendations

This study found that the commonly formative assessment methods used by Biology teachers in assessing the students' acquisition of the Biology knowledge are ‘questions & answers’, ‘group assessment’ and ‘short quizzes or tests’.

About English language skills assessment in Biology classes, teachers focus on aspects such as spelling, words pronunciations, grammar and tenses. A good number of Biology teachers also consider various levels of cognitive domain in formative assessment depending on students' class level. However, there are challenges affecting the formative assessment of content and language in Biology lessons. The key challenges are: difficult biological terminologies, language of instruction and time for assessing language errors in Biology subject. Based on the results and conclusions, the following recommendations are made:

Biology teachers should be updated on a variety of formative assessment methods relevant and effective for assessing both Biology content and English language proficiency. This can be achieved through learning from teachers who implemented formative assessment methods found to be effective in assessing both content and English language. Training manuals can then be prepared for training teachers in PITA project schools.

There should be use of Biology dictionaries to facilitate learning of difficult Biology terminologies. This requires the provision of dictionaries for students' use and practices for effective familiarization with complex biological terms in the lessons.

Cooperation between Biology content and English language teachers should be enhanced for effective realization of language supportive pedagogy in the studies schools. This can be done through encouraging teachers on the multidisciplinary approach among content and language teachers in teaching and learning process since they were trained about that approach in the PITA project.

Further research should be done about integration of content and English language in formative assessment as a language supportive pedagogy in different subjects in secondary schools for more understanding about this integration and therefore enhancing generalization of the results.

Abbreviations

CLIL	Content and Language Integrated Learning
EAC	English across the Curriculum
ELL	English Language Learners
HOT	High Order Thinking
LOT	Low Order Thinking
PITA	Participatory and Integrative Teaching Approach
TUMA	Tumaini University Makumira

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Conflicts of Interest

The authors declare no conflicts of interest.

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