

STRENGTHENING LEARNING OF SCIENCE THROUGH LANGUAGE SUPPORTIVE PEDAGOGY

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Abstract

This manuscript reports the results of the implementation of Language Supportive Pedagogy (henceforth LSP) in teaching and its contribution to learning. A baseline study was done with 260 second year education students at the University of Dodoma using seven lesson study cycles followed by microteaching in Chemistry methodology course. LSP was introduced to reinforce the understanding of the subject content, develop language skills among the education students and expose them to LSP practices. 15 cases were selected out of the 260 education students to measure the impact. Their classroom interactions and writing activities were closely observed and then interviewed after each lesson to know what they understood in the lesson and the language skills achieved. The results show a significant improvement in terms of understanding the subject content and development of language skills among the education students who were exposed to LSP. Following these findings, it is concluded that LSP is a useful practice to be adopted by all subject teachers to reinforce understanding and development of language skills.

Key words: Language supportive pedagogy, lesson study, education students, subject content, language skills, and learners

The problem and its context

The quality of English in Tanzania is repeatedly emphasized to be appalling (Barret, Kajoro, & Michele, 2014; Ismail, 2007; Quorro, 2006; and Rubagumya, 2003). These scholars have continued arguing that the squat has a bearing on the quality of education which is cited to be poor following the low standard of English in the country. The sociolinguistic situation of Tanzania illustrates why there is this appalling situation and here are some notes to serve the purpose. Students in Tanzania learn English simultaneously with the subjects as they enter into secondary school. There is an abrupt transition from Kiswahili medium of instruction to English without significant preparations to make learners learn through English. While this is the situation, English is used in schools only when learning the subjects, but with a lot of code-switching and mixing (Ismail, 2007). Kiswahili, and ethnic community languages in rural community schools, dominates outside the classroom and in the streets (Sane, 2011). Very few learners can practice English at home; of course, these come from the elite and wealthier families. Put it in short, there are limited avenues to practice the English language in Tanzania. Consequently, students in secondary schools and higher learning institutions are witnessed to have limited English language competence. Students' limited competence is experienced in all language skills, namely speaking, reading, writing, and understanding. These limitations are

reflected in the students' unintelligible expressions, errors of spellings, pronunciation, the length of a sentence they can speak or write in English, inability to select appropriate terms to express the intended concepts, and misunderstanding of the instructions given or the demands of learning activities. These limitations are carried on in the different positions they occupy after they graduate. This, obviously, contributes to a vicious circle since those who join the teaching profession are picked from the same products with a limited standard of English. Therefore, a necessary intervention is required to salvage the quality of education in the country. Our statement is that the best way to mediate the situation is to generate fully trained teachers with competence in the subject, the language of instruction, and the ability to provide language support to learners. The three skills converge in helping learners to interpret, understand and communicate the subject competence. Quorro (2006) stresses this assertion with the argument that teachers and students can construct and generate knowledge only when they understand the language of instruction.

Teacher training is the appropriate point to intervene for three main reasons. First, most teachers in the country are reported to have a poor command of the English language (Rugemalira, 2005; Telli, 2014); needless to say, such teachers cannot comprehend and deliver lessons effectively. Second, learners tend to take off from their teachers; thus, teachers' poor pronunciation, misspelling, and grammatical errors are transmitted to learners. Third, there are limited avenues for learners to practice English out of the school, thus teachers are the chief providers of language input to learners. This support is most required in the science education because the science teachers are not only reported to have a serious challenge in communicating through English but also withdraw from teaching English as they teach in class in the claim that it is the role of language teachers to teach language. LSP was thought to be an appropriate intervention to produce quality teachers but a baseline study through lesson study model was required to give a demonstration of how the pedagogy could be used and what would be its outcomes. Lesson study has been proved to be significant in developing teacher instruction to improve learning (Kincal, Kartal, & Yazgan, 2016; Carrol, 2013; Nashruddin & Nurrachman, 2006; Rock & Wilson, 2005). Appropriately, LSP was introduced to the education students using lesson study which were conducted in seven circles. The use of lesson study to train pre-service teachers has been advocated and practiced by Carrol (2013), as well as Kincal, Kartal, and Yazgan (2016). Practicing LSP helps the disadvantaged learners whose language of instruction is not their first language to cope with the challenges of the language of instruction.

One of the important remarks to make here is that LSP is both a theory and practice. As a theory, LSP is centred on the assumptions that guiding learners to learn with the support of simple language, i.e. short sentences and simple words, correct pronunciation and engaging learners in activities will definitely help them to understand both the subject and the language of instruction. It also takes the advantage of a well-established language of the learners, Kiswahili in this context, to facilitate the understanding of the subject content and the language of instruction. As a practice, LSP requires a collaboration of the subject and language teachers among others in pre-planning, implementation and reflecting for improvement. It draws extensively from the constructivists that learners learn best by creating own knowledge and through interaction with others (see the chief apostle of the constructivism theory, Levy Vygotsky, 1986 cited in Amineh & Asl, 2015). LSP holds the same philosophy that learning the subject and language is effectively achieved when learners are guided to create own knowledge and make discoveries by interacting among themselves, with the teachers and the materials. Therefore, lessons need to be

designed in a way that provides language support to learners but with a lot of activities that help learners to create own knowledge by interacting with others, teachers and the materials. With this knowledge, and being well informed by the theories of lesson study (Ngang & Sam, 2015; Dudley, 2014), the lesson study in this project were made differed from the ordinary lessons in that they involved several activities which, among others, include pre-planning, implementation, observations, and reflections.

Methodology

Since the overarching goal of introducing LSP was to support education students to understand the subject easily, to develop language skills and expose them to LSP practices, several classroom activities were prepared and administered. 260 second year science education students were involved to meet this goal. These were split into two groups, i.e. 130@, for two main reasons. First, is to have maximum interaction in the class, which could not be achieved with 260 education students in one class. Second, is to make a close follow up of students learning of subject content and LSP practices. We are aware that the class size of 130 is still big, but this is what we could do given the limited resources at the moment.

As LSP requires, collaboration was made among a language specialist, teaching methodology specialists and Chemistry subject specialists to bring innovations in teaching and learning through different activities. The activities included administration of pre and post tests, selection of case students who were used as a yardstick to measure the achievement of the lesson study objectives, planning, implementation and improvement of the lessons.

Diagnostic test

A diagnostic test was done to identify those learners with critical cases so that a close follow up of the learners is made to assess the impact of LSP. The same test was used to measure the achievement reached after the accomplishment of lesson study cycles. The diagnostic test consisted of vocabulary test and written assignments from which students' performance along with language characteristics formed a benchmark to select the cases. Our analysis considered only those education students who attempted both pre-test and post-test; those who did either pre-test or post-test only were excluded in the analysis. Therefore, 166 out of 260 education students were involved in the analysis of the diagnostic test. In these, 15 were the case education students that were sampled from both group A and B. Indeed, the case students were a useful yardstick to clearly point out our achievement in this.

Planning for the lesson study

A day before attending the class, the team sat together to plan for the lesson to implement. The planning included the setting of the lesson and language objectives to be achieved. The language objectives were set in typical LSP features. In particular, they were set to reinforce mastery of subject specific vocabulary, and correct pronunciation, spelling and meanings of subject specific terminology, understanding of pedagogical language and genres (See Appendix 1 to 5 for further information). The inclusion of the language objective in these lessons differentiated the lessons from the conventional lessons in the country; which did not or paid very little attention to the development of language skills. To achieve all these, a number of activities that required students to speak, write, read and listen were developed and the instructors carefully guided the education

students to perform them in the classroom. These were designed in a way that they reinforced both the subject competence and the four language skills.

Implementation of the lesson study

In implementing the lesson study, both the instructor and other team members entered the class. The role of the instructor was to facilitate the planned lesson, i.e. prompting students to speak, discuss, present, and correct grammatical errors, help students to pronounce key subject and general vocabularies. The instructor also guided and insisted on the use of genres in Chemistry, especially in demonstrating and communicating the results of an experiment. Along with these, the instructor had to assign students to activities that reinforced the understanding of the subject and engaged learners in talking, reading, writing and listening. Other team members were observers, whose roles were to note down some key issues pertaining to the LSP practices for improvement of the next lesson. The language specialist observed and noted language flaws and, at the end of the lesson, he was given some minutes, not more than five, to explain and correct the flaws. After the class, case students were interviewed to know:

- If they understood the subject well
- The language skills they learned during the lesson
- If they liked the way the lesson was implemented
- The areas where they became interested in the lesson
- And if they would use LSP in their teacher career

The interviews were audio recorded and later on transcribed for analysis and report writing.

Microteaching

Towards the end of the semester (12th week), the education students had an opportunity to practice teaching through microteaching. Microteaching was done through groups of 5-10 education students. Each person in a group was asked to be actively engaged in planning and, they were informed that during the actual microteaching, any of the group members will be picked at random to deliver the lesson. They had been informed that each one in the groups should have their own lesson plan ready for microteaching. A group presentation was limited to 20 minutes and there were 10 minutes to get the feedback on the way they implemented the lesson. The rest of the class was asked to act as a real student of the particular level and as well take note of the good things and areas for improvement to inform the group presenting after their presentation.

Presentation and discussions of the impact of LSP in teaching and learning

The results of this baseline study are based on three areas emanating from the objectives of implementing LSP through the lesson study. These are the improvement of learners' understanding of the subject content, development of language skills, and the education students' mastery of LSP practices. Each of these three domains of improvement is presented and discussed in the following subsections.

Improvement of learners' mastery of subject content

The competence which was reinforced through LSP in this baseline study is Chemistry teaching methodology, which is the course usually offered to second year students in the second semester of the year at the University of Dodoma. The findings revealed that the performance is high.

Another evidence to substantiate the role of LSP to reinforcing understanding is the results of the pre- and post-tests that were administered to the same group of students, i.e. the students who were exposed to LSP. In the pre-test, the performance was averagely 90.28 while in the post-test, the performance was averagely 99.57. The table below shows the findings of our analysis.

Table 1: The results of the pre- and post-test analysis

	Mean	N	Std. Deviation	Std. Error Mean
Pair 1 POST TEST	99.28	166	14.415	1.119
PRE TEST	90.57	166	15.368	1.193

	Paired Differences					t	df	Sig. (2-tailed)
	Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
				Lower	Upper			
Pair 1 POST TEST - PRE TEST	8.711	13.403	1.040	6.657	10.765	8.373	165	.000

The findings above indicate that the overall performance was higher in the post test compared to the performance in the pre-test. The implication is that LSP leads into student’s improvement in recognizing both subject specific and general vocabularies. The SD for the paired sample test was observed to be 8.711 at 95% confidence level with Significance of <0.005; hence, the observed differences between the pre and post-tests shows statistical significance; i.e. the difference observed is contributed by the intervention made through LSP. To verify this, the value of eta squared was determined to be 0.32, which shows a small magnitude of the differences observed in the pre and posttest. This finding is reinforced by the remarks made by the case students who were interviewed after each lesson. It is safe to say that all cases who were interviewed confirmed that LSP made them learn better compared to the conventional ways of teaching. They argued that through LSP they could easily understand the subject content and learn English language skills. The following quotes from the interviews with students, though with few grammatical and punctuation errors, suffice to illustrate this.

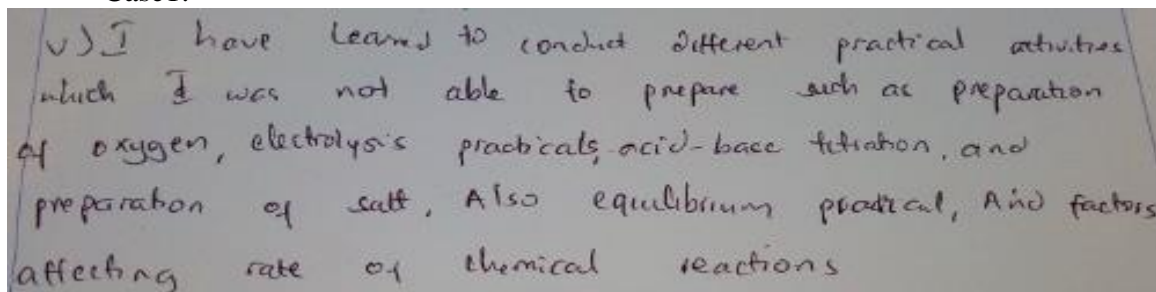
*I enjoyed the use of LSP in this lesson because it has helped me to understand some vocabularies and **get** their meaning in Kiswahili; for example inquiry, hands-on activities and hypothesis. I was able to get the meaning of new vocabularies through listening the colleagues and clarification from the instructor **when was** making translations and interpretations (Interview with student A on 2nd May 2018)*

*I enjoyed interaction during the lesson **among the leaners as well as the instructor**. This was through group discussion activities where we were allowed to use Kiswahili to discuss the given activity and perform the experiment and then to report the findings in English. **Also when** reporting the **findings I** was*

corrected to form correct sentences using required grammar because I was mixing past tense and present tense (interview with student B on 2nd May 2018)

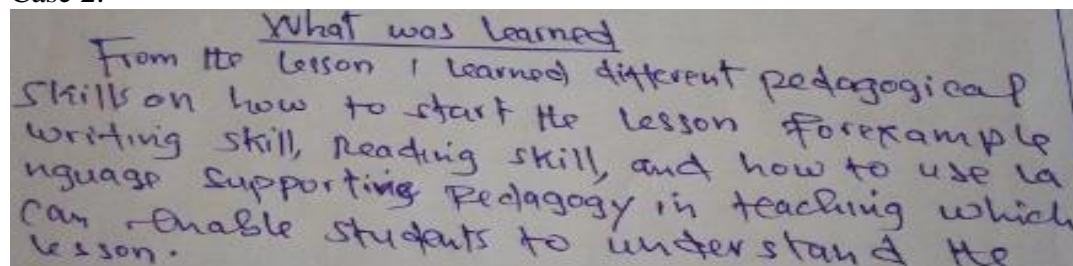
Furthermore, some of the activities that the education students were given as home work required them to write a reflection of the lessons. In these, the students' writings and the quality of the essay they wrote show a lot of improvement.

Case1:



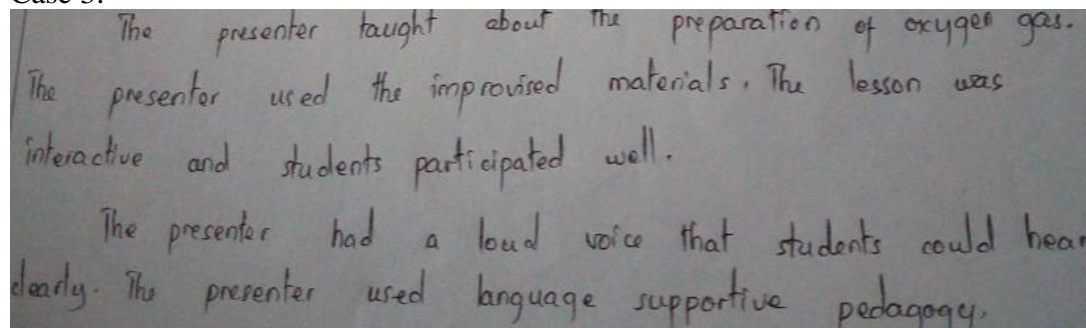
v) I have learned to conduct different practical activities which I was not able to prepare such as preparation of oxygen, electrolysis practicals, acid-base titration, and preparation of salt. Also equilibrium practical, And factors affecting rate of chemical reactions

Case 2:



What was learned
From the lesson I learned different pedagogical skills on how to start the lesson for example writing skill, reading skill, and how to use language supporting pedagogy in teaching which can enable students to understand the lesson.

Case 3:



The presenter taught about the preparation of oxygen gas. The presenter used the improvised materials. The lesson was interactive and students participated well.
The presenter had a loud voice that students could hear clearly. The presenter used language supportive pedagogy.

Student teachers' skills and competence on language supportive pedagogy

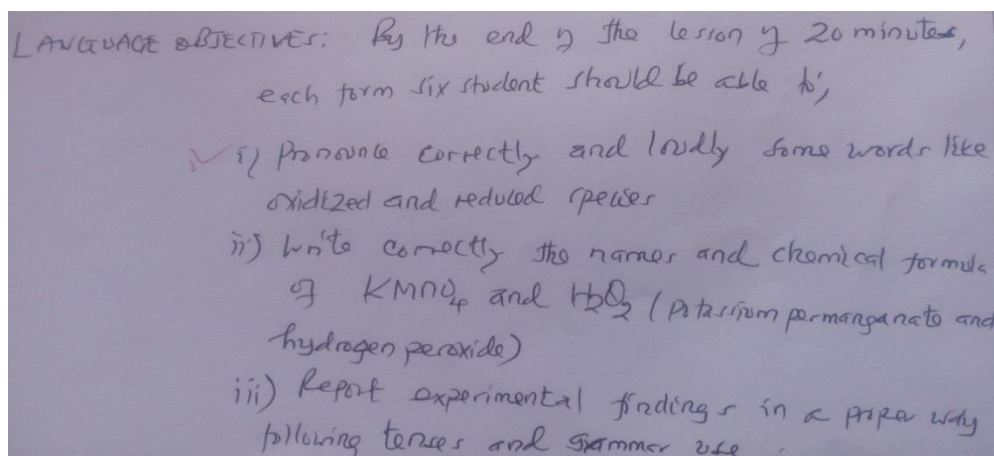
As mentioned earlier, one of the objectives of the lesson study was to expose education students to LSP and the philosophy behind it. Student teachers were introduced to the concept of LSP through different lessons and activities during the study. The observations made reveal that most of the education students acquired the knowledge and skills of LSP. This is revealed through different activities that the education students were engaged in; for example, in the final examination, when they were asked to explain what LSP is, most of them were able to give correct descriptions and determine the features of LSP. The following is a quote taken from a student when asked to say what they understand about LSP in one of the microteaching classes.

LSP meaning language supportive pedagogy is the pedagogy in teaching whereby the teacher try to incorporate the languages in delivering the content aiming at

enabling the learners who encounter the difficulties in learning the content because of language barrier. For example, learners in most of our communities in Tanzania are not competent in English language and thus most of the people are in the learning process. So this kind of community chemistry learning in English language only it is difficult because of some difficult vocabularies. The use of LSP helps students to learn the content as well as the language through pronunciations, translations, interpretations and use of genres.

Another area to strengthen this is the lesson plans developed by students during the micro teaching. With regard to the development of lesson plans, most education students were able to develop lesson plans with typical LSP features. They formulated the general objectives, specific objectives as well as language objectives to be achieved in the class. The language objectives that the education students sought to achieve are the subject specific objectives, general language objectives, pedagogical language, and the specific genres. The following are extracts taken from students lesson plans prepared during microteaching and university examination

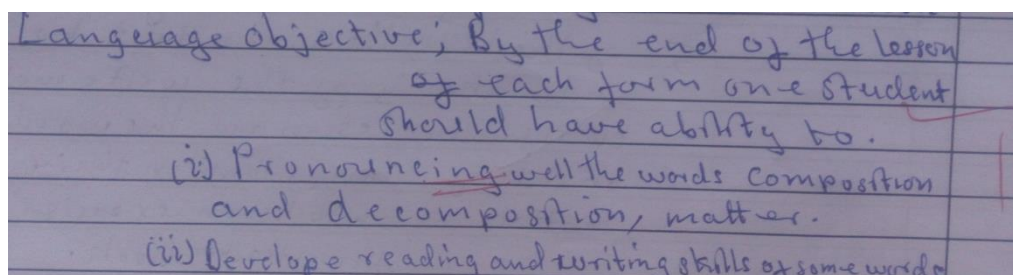
Figure 1: Extract from a lesson plan during the microteaching



LANGUAGE OBJECTIVES: By the end of the lesson of 20 minutes, each form six student should be able to;

- i) Pronounce correctly and loudly some words like oxidized and reduced species
- ii) Write correctly the names and chemical formula of KMnO_4 and H_2O_2 (Potassium permanganate and hydrogen peroxide)
- iii) Report experimental findings in a proper way following tenses and grammar use.

Figure 2: Extract taken from a lesson plan in university examination



Language objective; By the end of the lesson of each form one student should have ability to.

- (i) Pronouncing well the words composition and decomposition, matter.
- (ii) Develop reading and writing skills of some words

The features of LSP were also observed during the lesson development where the education students in the microteaching guided students to pronounce, read, and write different vocabularies using hands-on activities. The following are examples of the language support provided by the microteaching teacher when teaching electrolysis when students failed to pronounce some terms correctly. The terms **anion** and **cation** are taken to illustrate this finding.

Example 1:

Student A: anion [ənɪɔn]
The microteaching teacher: don't say /ənɪɔn/, say /ənaiən/
Student A: /ənaiən/
The microteaching teacher: Class, say /ənaiən/
Class: /ənaiən/

Example 2:

Student B: Cation [kætɪɔn]
The microteaching teacher: Don't say [kætɪɔn], say /kətaiən/
Students B: /kətaiən/
The microteaching teacher: Class, say /kətaiən/
Class: /kətaiən/

Observations of the microteaching revealed that the education students were able to use Kiswahili strategically. This was observed during group discussion activities where they allowed students to discuss in Kiswahili and then write their answers and present them to the class using English. They were also able to make translations and interpretation of some few vocabularies or key words from English to Kiswahili. Another development worth to mention here is that the education students understood the importance of allowing their students to express concepts in Kiswahili when a student failed to finish expressing a concept in English or when they expressed themselves in English but could not make them understandable. During the observations, it was observed that students were allowed to finish their concepts in Kiswahili and, in the end, the microteaching teacher asked other students to explain the concept in English or the teacher gave the correct explanation. The following is a quote from the class when a student failed to finish the explanation of the concept of oxygen.

Student D: Oxygen is the gas which comes from air... [the student failed to continue]

The microteaching teacher: Say it in Kiswahili and then we will translate it

Student D: *Inasaidia kuwakamoto*

The microteaching teacher: Okay class, who can translate that to English?
'inasaidia kuwakamoto'

Student E: It helps to light [the] fire

The microteaching teacher: Clap hands to them class

Other education students were observed guiding students in the class to understand the meanings of important terms that would help them to understand the lesson. For example, in a lesson where students were taught to make qualitative analysis, the microteaching teacher guided students to understand the following terms before the lesson continued: chemical sample, appearance, distilled water, and solubility.

The microteaching teacher: Class, say chemical sample. What is [a] chemical sample in Kiswahili?

Student F: *Sampuli ya kemikali*

The microteaching teacher: Okay, another term is distilled water. What is distilled water in Kiswahili?

Student G: *Maji safi yasiyo...*

The microteaching teacher: Okay, *unaweza pia kusema maji yasiyo na taka* [you can also term it as water without any impurity]

The microteaching teacher: Another term is appearance. In Kiswahili?

Class: *Muonekano*

Figure 3: A microteaching teacher writing translation of key terms on the board



This interpretation was made before the class to help students understand and explain the findings of qualitative analysis through hands-on activities. Most education students were able to prepare and use lesson activities which were designed to reinforce all language skills in one lesson, i.e. reading, writing, listening and speaking skills. Some of these activities are like reading activities, hands-on activities, and discussion and presentations activities. For example, some involved students in reading the experimental procedures. The microteaching teachers could guide students, in groups, to discuss, write their answers and read them to the class. Through these, they helped their students to develop speaking skills, listening skills, writing skills, and reading skills through the activities. The pictures below are to illustrate how this was done in the class.

Figure 4: Education students making an experiment on the qualitative analysis in groups

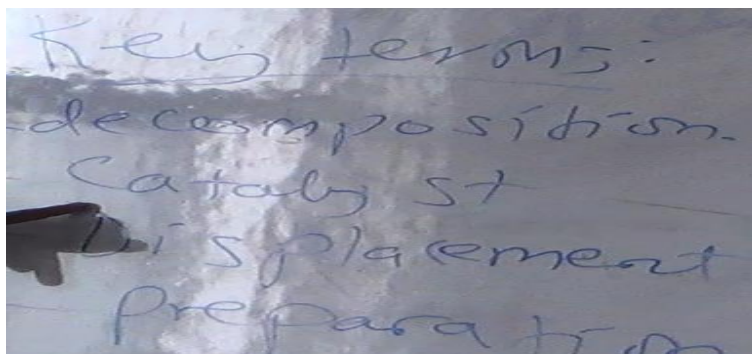


Figure 4: Students doing one of the activities, recording the findings before they read them in class in one of the microteachings



In another lesson, which was about the preparation and properties of oxygen, key vocabularies were identified, spelled and pronounced before the lesson continued (see Figure 4 below). Some translations and interpretations were also made. This helped students learn to pronounce the words correctly and understand their meaning at the beginning of the lesson.

Figure 4: A microteaching teacher guiding students to read key terms on the board



Development of language skills

Another objective was to help the education students to develop language skills. This follows the fact that a majority of them had English language problems; some students missed felicity characteristics, use of correct grammars, tenses and sentences was a problem. Also, most of the students mispronounced some words, e.g. the as 'ze' instead of /ðe/, 'zat' instead of 'dæt', hypothesis instead of hypothesis, etc. In the first lesson, which was about conducting experiments, education students were asked to report the experiments in groups. In the

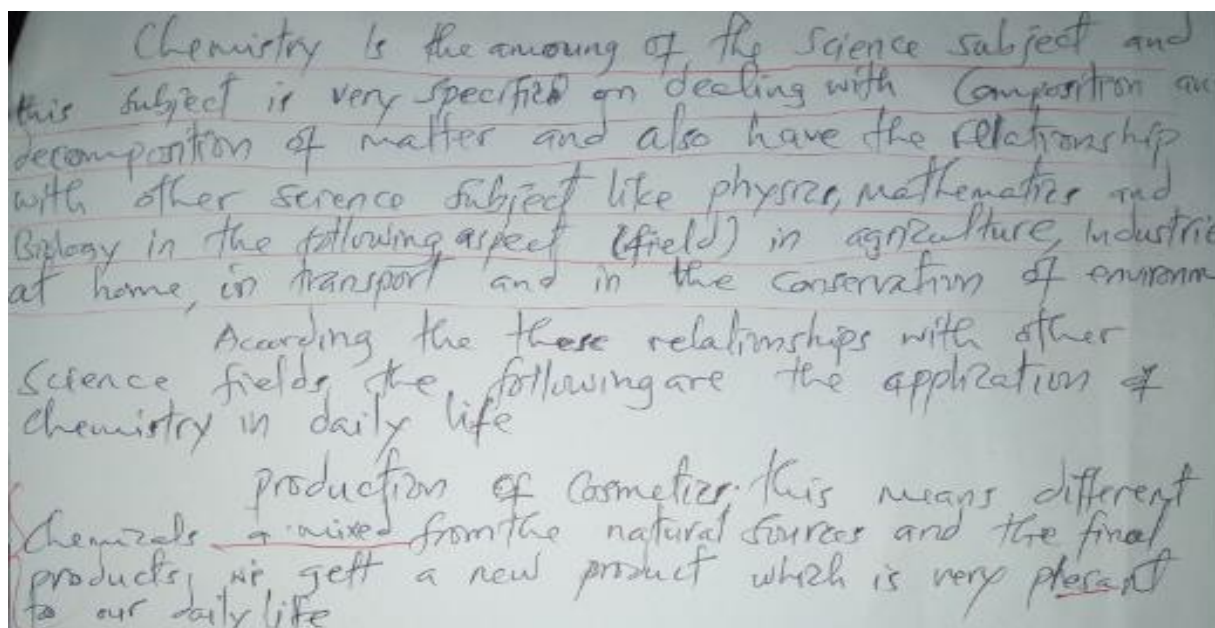
beginning, students showed to have serious challenges in using English grammar, they had poor felicity and genre characteristics, along with pronunciation problems.

For example, when reporting the findings from the experiment on the preparation of Phenolphthalein (POP) indicator one of the education students said:

The aim of our experiment was the preparation of POP indicator in the laboratory. We were add 0.5g of POP powder into beaker that contain 80 mls of ethanol, then we stirred until the sample dissolved completely. Then were add 20 mls of water then we were allow the solution to mix. Also, the colour remain colourless so the POP indicator there is no colour.

Before getting exposed to LSP, a majority of the education students could not correctly pronounce the technical terms, like *Phenolphthalein*. Education students having got corrected in class and the instructors having emphasized the pronunciation of technical terms in each lesson, the education students showed to have developed language skills to a better standard. One of the remarkable improvements is seen in their ability to use language genres, see some scripts attached below to illustrate this. Their writing in different lessons and activities done by education students, including pre and post test scripts, reinforce this finding. For example, in different experiments, students were required to write reports of the experiment they did. From the reports, it was observed that a majority of students were able to write and form correct sentences by using improved grammar with minimal errors. Their spellings and language genres also show some improvement as compared to the time before they were exposed to LSP. Because of space, only scripts from two case students are posted below to illustrate the improvement they have made in language after getting exposed to LSP. The scripts are arranged in order; whereas the first script of each education students demonstrates their writing before LSP, the last script demonstrates their writing at the end of the lesson study cycles.

Case student A



- Approximate 1000ml of water was added to the conical flask then 10.3ml of concentrated nitric acid was added into into water in the same conical flask.
- The mixture ^{was} shaken, then followed by the addition of another water which is 600ml so as to get a total volume of 1600ml required for 20 student.

Chemistry is the branch of science which deals with the study of composition and decomposition of matter and the fundamental unit of this subject is element where it can combine together to form compound and other large (macro) products which is applicable in our daily life.

Chemistry has relationship with other science subject in different field. Basing on these relation with other science field the following are the application of chemistry

Production of cosmetics, most of chemicals ingredient of cosmetics are originated from the background of chemistry knowledge example extraction of different chemical (is) plant like Lyxopene and Carotenes.

Applied in the improvement of the quality of products, this can be observed in different process like galvanizing, alloying and electroplating.

Case student B

There are different applications of the chemistry as follows:

Chemistry is used in the industries, since the chemistry in the industries is used when there is the process of mixing some chemicals and production of raw materials such as manufacture of plastic, clothes, chalks and manufacture of shoes.

Chemistry is used in hospitals, this is due to the fact that in the hospitals uses chemistry in order to mix chemicals responsible for patients.

Chemistry is used in agriculture, since there is the concept of killing pests along road sides and also there is the application of manure in the form to contribute plant growth also the application of natural manure through the decomposition of some remains or unused plantations so as to create the natural manure.

The key findings of the experiment.

- (i) 0.2g phenolphthalein powder was added into 50ml of ethanol into 250ml beaker.
- (ii) The mixture was then stirred using string rod for thorough mixing of ethanol and P.O.P.
- (iii) Soon after mixing, 20ml of distilled water was added into that mixture again using string rod the mixture was stirred until all particles dissolved.

In hospitals, chemistry is very important as various chemicals are used in diagnosis of diseases in the laboratory. Also the knowledge of chemistry is used in providing the required medicine to patient.

In industries, chemistry is applied in industries to produce different products like clothes, food, oil, fertilizer and plastic materials.

In Agriculture, chemistry is used to produce manure from animals through decomposition process. The produced manure can be used as fertilizer in farms to increase yields of various crops.

The interviews with case students are another area to prove language development as the education students were able to learn and understand new vocabularies in terms of meaning and also understand language skills. When they were asked to say how they were able to get meaning of new vocabularies, they explained that they were able to get the meaning of the new vocabularies through translation and interpretation from English to Kiswahili, for example, the word inquiry, hypothesis. They appreciated the language skills such as pronunciation, reading and listening skills.

Discussion

The findings of the implementation of LSP, which in this project was implemented through lesson study, give confidence to emphasize all teachers to teach the language of instruction as they teach specific subjects in class. The responses made by students during this study that LSP helped them to understand the subject content different from the conventional pedagogy and that they wish all courses to be taught in the same way should not go unnoticed. If these are students at university making such a call, one can see how it is important to provide such support to lower secondary education, given the sociolinguistic situation of Tanzania. It is, therefore, very

important to prepare teachers by exposing them to LSP and also helping them to improve their ability to communicate in English. Most of the language errors made by these education students, and of course what this project sought to address, are a reflection of their secondary education teachers and if this is left to continue it will contribute to a vicious circle.

It was emphasized earlier in this report that students tend to take off from their teachers; therefore, it goes without saying that teachers should be enabled to pronounce well, write well and make good use of different language genres. Translation and interpretation during classroom teaching also helped students to understand the subject content and as well learn the language of instruction. It is, thus, a high time that teachers do away with the old canon in which the quality of the teacher is judged by the practice of teaching in English throughout the class and that using Kiswahili in class is to violate this canon. We should put it clear that the assertion that teaching should be in the first language of the learner, Kiswahili in this context, is beyond the scope of this article but we are saying the learners' first language should be used strategically to help them understand both the subject and learn the language of instruction. There are many theories that advocate the use of learners' first language to support the learning of the subject and second language (Cummins, 1976 cited in Baker, 2001; Madriñan, 2014; Nation, 2003; Jiang, 2011 to mention a few of them). What does it makes to teach learners in English throughout and yet they don't understand? Brok-Utne (2005); Quorro (2006); and Cummins (1976) have remarked that there is little learning where the medium of instruction is unfamiliar. It is in the same way that we are emphasizing that teachers should not teach in the learners' first language throughout because this will just help them to understand the content but will not be able to communicate the competence through the language of instruction. The new innovation to strengthen skills that we are bringing through this report is all teachers to teach with determination to develop the language skills, i.e. identify vocabulary to emphasize, teach learners to pronounce, help them to understand the meaning through translation and interpretations, guide them to write and read. All these can be achieved through plenty of activities in the classroom. The significance of collaboration between subject teachers and language teachers is also emphasized through this report. It may be not necessary for both the subject teachers and the language teachers to get in the same class together but these can plan together, specifically on the pronunciation of important terms and language genres to be emphasized in the class.

Conclusion

The use of Language Supportive Pedagogy in methodology courses for education science student teachers is very important to strengthen their learning of the content as well as language skills. Also, exposing education students to the theory and practice of LSP through microteaching would help the education students to improve their competence in communicating through English and, thereafter, make an impact in students learning of the subject content and the language of instruction.

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