

Language Supportive Pedagogy: Theory, Implementation and Application

Language Supportive Pedagogy

Theory, Implementation and Application

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DEDICATION

To all stakeholders who value learning, learning has not been easy without understanding language of instruction, teaching and learning environment, resources, and the like....But now the green light is almost there...Language Supportive Pedagogy (LSP) is coming and is doing very well. Use it!!

ABOUT THE BOOK

This book consists of testimonies from **Language Supportive Teaching and Textbooks (LSTT)** project members on how they understand **Language Supportive Pedagogy (LSP)** and how it affects teaching and learning inside and outside school setting. This book is composed of eight chapters and each chapter shares stories/experiences of one member of the LSTT research team from St John's University of Tanzania (SJUT). Their stories describe different issues from research in terms of success, challenges and new knowledge gained in their teaching and learning activities.

In Chapter One, Casmir Rubagumya, explains his experiences on how LSP can be mainstreamed into SJUT curriculum. He elaborates the original background to LSTT project as a collaborative venture between researchers from the global North and the global South for improving the learning/teaching process in Tanzanian secondary schools, especially those in rural disadvantaged schools. He also explains how LSP was introduced and used in teaching and learning activities at SJUT. He further explains challenges and opportunities of collaborative research between the global North and the global South, how students (future teachers of English in secondary schools) perceived LSP within the context of the disconnect between language policy and educational innovation in Tanzania, the interface between theory and practice, and the

opportunity to make innovative ideas that stem from this research project sustainable beyond the project life.

In Chapter Two, Shadidu Ndossa examines his experiences in LSTT exemplary textbooks in teaching and learning activities. He shares experiences from LSTT project on how teaching professionals can bridge the existing gap between the textbooks and students in secondary schools. He adds that, the analysis done on the LSTT project's textbooks has indicated that, the textbooks prepared by the said project are relatively simple and could easily be read and well understood by many students. This is because the textbooks use simple sentences, glossaries, stories, illustrations, simple and familiar examples that resonate with students' living and learning environment. He elaborates his experiences in relation to LSTT exemplary textbooks in English, Biology and Mathematics.

Edwin Gomezulu describes his experiences with LSP as a Chemistry lecturer in Chapter Three. He integrated LSP in teaching and learning Chemistry courses at SJUT. His intention was to assess the effectiveness of LSP in teaching and learning Chemistry. He insists that the knowledge of LSP introduced to student teachers and they practiced it during Block Teaching Practice (BTP). He adds that, the LSP oriented lessons were prepared by the assessor and the student teacher but it was only the latter who taught the lesson. During BTP, the assessor observed the lessons, at the end of which feedback on how the lesson was conducted was discussed between the three parties; the assessor, the student teacher and the students. Gomezulu

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elaborates that students understood the lessons better when LSP was used than when the traditional way was used in teaching Chemistry.

In Chapter Four, Zawadi Richard Juma shares her experiences as advocator of culturally responsive curriculum with the use of LSP in her teaching and learning activities. As a biology teacher as well as science educator, she did her best to use her knowledge and skills to help her students learn science. She decided to improve her teaching career by being a culturally responsive teacher. She admits that the use of LSP improved her practice as a culturally responsive teacher. She insists that LSP has enlightened her eyes and ears to be a culturally responsive pedagogical teacher. The use of LSP features such as illustrations, use of Kiswahili strategically, contextual examples, LSP theories in her career as science educator has helped her to be responsive to students' needs within cultural contexts.

Elikana Ntebi explains his experiences with LSP in Chapter Five. The chapter describes LSP implementation in secondary schools in Dodoma. He explains about LSP practice, challenges, and opportunities to students' learning. From his experiences with LSP, he recommends that, teachers in both private and public schools need to be informed on LSP to enable them to be aware of the characteristics of LSP and how to prepare a lesson based on LSP features. He adds that, there is a need to expose them to training that will give new insights for making their classrooms more cooperative and interactive

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throughout the time of their lessons. He also talks about how LSP has helped to fulfil the need of Tanzania education policy related to language of instruction issues. He emphasizes that the policy should focus on incorporating issues that will enhance the learning situation in the classroom. He further recommends LSP to be integrated in school curriculum. By doing so, Elikana believes this can influence in bringing new innovations in education sector, especially for students who will be enrolled into secondary schools, middle colleges and higher learning institution. The situation can enhance critical thinking and learning on the part of students, rather than non-interactive learning that encourages much rote learning.

In Chapter Six, Carolyn Ruhembe, a lecturer in natural science courses, is impressed by the use of LSP in teaching and learning activities. She insists that, the use of LSP to secondary school students will help students understand and learn science subjects taught through English. She elaborates on how LSP features have helped students to acquire knowledge through the use of simple language, using simple familiar illustrations to explain an idea, use of Kiswahili/or any ethnic community language strategically to explain an idea, and emphasizing the use of basic skills in language development. She explains on how classroom activities and familiar illustrations by using LSP stimulated and improved biology learning to students during BTP sessions. She adds that, examples where simple familiar illustrations and demonstrations were used helped to improve the level of understanding of the students. Students

were allowed to practice speaking and listening in the role play, and in this way, they improved their listening and speaking skills.

Upendo Biswalo, a teacher trainer and an education lecturer explains her experiences with LSP in Chapter Seven. She elaborates her concerns in making sure that the teaching and learning of science subjects in secondary schools be given a priority in this era of advancement of science and technology. She expresses her concerns of using English as the language of instruction in learning science subjects in Tanzanian secondary schools. She insists that, many students regard science subjects as tough and hard to learn. She adds that, the use of 'Kiswahili strategically' to teach science subjects during BTP in 2018/2019 academic year has enlightened her on the way to improve science learning using English as the language of instruction. She says that, the 'use of Kiswahili strategically' was well received by both student-teachers and secondary school students. She adds that, during classroom observations, students used Kiswahili to express their ideas and opinions, in this way, the classroom atmosphere was free, teacher-student relationship was enhanced, and most students were fully engaged in learning. However, Upendo adds that some student-teachers reported that they were not free to use the strategy for fear of violating the country's educational language policy, which requires them to use English only. Therefore, she calls for policy makers and other educational stakeholders to find ways of incorporating Kiswahili as a resource, to be used when

needed, in teaching and learning of science subjects which are perceived to be difficult to most Tanzanian students.

In the last chapter, Chapter Eight, Edson Jonas explains how LSP has helped him to improve his strategies of teaching large classes at the university. Before being involved in the LSTT project, he thought it was hard to teach large classes due to some complex challenges related to the teaching and learning process. The knowledge and expertise he developed through LSP was a point of transformation from the traditional way of teaching to knowledge and competence accessible teaching or interactive teaching method. His experiences in LSP research through classroom observation, interviews with students as well as his personal teaching and learning activities has improved his strategies to deal with large classes. He recommends that LSP should be taken into consideration to properly transfer the intended knowledge and skills. He adds that teaching large or small classes makes no huge differences, it depends on resources available and teachers' willingness to engage students fully in the learning process by employing different techniques and approaches.

It is our hope that, these experiences collected in this book can be used by teachers, policy makers and all education stakeholders to improve the quality of education in our schools, especially the issue of learning for understanding and not rote learning.

ABBREVIATIONS

BTP	Block Teaching Practice
BICS	Basic Interpersonal Communication Skills
CALP	Cognitive Academic Language Proficiency
EdQual	Education Quality
ELT	English Language Teaching
ELTSP	English Language Teaching Support Project
LoI	Language of Instruction
LSTT	Language Supportive Teaching and Textbooks
LSP	Language Supportive Pedagogy
SJUT	St John's University of Tanzania

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INTRODUCTION

Tanzanian curriculum has many features which resemble western culture due to the inheritance of colonial education system (Semali, 2014). This is due to fact that the country has been colonized for a longtime by German and British colonialists. Therefore, the country inherited many features of education system from these countries. This situation has contributed a lot to students' ineffective learning because the system does not resemble the context in which the students live. To this extent, science subjects and mathematics learning are also affected by this kind of education system. The situation raises the need to initiate reforms to improve the curriculum that will fit with the Tanzanian culture and context, in order to allow students learn for understanding.

Language of instruction is one of the features Tanzania government inherited from western education. As we move beyond 2025 and consider steps towards the Sustainable Development Goals, it must be recognized that language is integral to quality education. For many students in Tanzania, English is their second or third language. English is used as the language of instruction in secondary education. However, many students are currently being taught in a language in which they are not confident and this impacts on both their learning outcomes and experiences. The students face problem in learning both English as a language as well as scientific terms which are new to many students.

Qorro (2013) argues that the language of instruction issue in Tanzanian schools is the subject of ongoing debate. Swilla (2009) insists that a legacy of British colonization is the continued use of English as the language of instruction in secondary schools. The change from Kiswahili as the medium of instruction at the primary school level to English at the secondary school level is underpinned by the belief that students who have learnt English as a school subject at primary school will be proficient enough in English to cope with it as the medium of instruction in secondary schools (Sumra & Rajan, 2006). However, the findings indicate that students still lack proficiency in English in their secondary schools (Qorro, 2013). Also, in Qorro's (2013) views, a widespread lack of English proficiency that hampers students' learning at secondary school level and makes communication between teachers and students difficult. The language debate in Tanzanian schools may well have an impact on students' learning because the students still face challenges in learning. Therefore, something needs to be done to improve the situation.

Tanzania has become one of the most progressive nations in Africa to implement special needs policy which identifies students' developmental needs and being able to create a curriculum and classroom setting that allow students to use their prior knowledge and environment to learn to their best.

LSTT is the intervention project intervened to help Tanzanian science curriculum to be contextualize. The project had first

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phase which concentrated on developing textbooks, and second phase that facilitated the teacher colleges and university science and mathematics students with knowledge and skills to teach students whose English is not their first language. LSTT helped to improve English, Science and Mathematics learning by introducing pedagogical practices which will help students to learn better in transition from primary to secondary levels of education. The language supportive pedagogy facilitates students learning by using simple English, activity based and using language they know if necessary (the use of language strategically).

In this regard, this book addressed the experiences of St John's University of Tanzania lecturers had in LSTT project phase 2 where LSP activities were introduced in the project. The book informs readers the extent of effectiveness of the Language Supportive Pedagogy in teaching science and mathematics to learners whose language of instruction is not their first language. The book draws from the experiences of St John's University of Tanzania lecturers' views on the use of language Supportive Pedagogy to science and mathematics pre-service and in-service teachers as well as secondary school students.

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CHAPTER ONE

MAINSTREAMING LANGUAGE SUPPORTIVE PEDAGOGY (LSP) INTO SJUT CURRICULUM: FOCUS ON ENGLISH LANGUAGE TEACHING (ELT)

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Abstract

This chapter is intended to show how LSP can be mainstreamed into SJUT curriculum. It will start by giving a brief background to LSTT project as a collaborative venture between researchers from the global North and the global South, and how LSP was conceived as an innovative intervention aimed at improving the learning/teaching process in Tanzanian secondary schools, especially those in rural disadvantaged schools. It will then go on to discuss how LSP was introduced into two specific courses (LL 314: Second Language Learning; and CT206: English Language Methods), both taught to B.A. (Education) students taking English as a teaching subject. Some of the issues discussed in the chapter are: the challenges and opportunities of collaborative research between the global North and the global South, how students (future

teachers of English in secondary schools) perceived LSP within the context of the disconnect between language policy and educational innovation in Tanzania, the interface between theory and practice, and the opportunity to make innovative ideas that stem from research projects sustainable beyond the project life.

Keywords: *Language Supportive Pedagogy, Language Supportive Teaching and Textbooks project, Language of instruction, English proficiency.*

Introduction

Language in education policy and practices as a subject of research inquiry has a long history. The first ‘whistle blowers’ who alerted education authorities in Tanzania about the challenges of English as language of instruction in secondary schools were Mlama and Matteredu (1978). Since that pioneering work, a lot of research has been done to show how there is very little learning taking place in secondary schools because students’ proficiency in the language of instruction is grossly inadequate. Some of this research includes Rubagumya (1994); Vuzo (2002); Qorro (2003) and many others. The challenges of the language of instruction in Tanzania are not restricted to secondary school level. Even at university level, it has been found that very few students are capable of understanding textbooks they are supposed to read (Criper and Dodd, 1984).

There has been a lot of debate whether Kiswahili should replace English as a language of instruction at secondary school level. Rubagumya (1993) has demonstrated how this debate is embedded in ideological ‘common sense’ of language values of different stakeholders of education in Tanzania, instead of being guided by available research evidence. Some interventions have been initiated either by the government of Tanzania or by educationists in academia to try and contribute to the solution of this problem. In the 1980s for example, the government of Tanzania, in collaboration with the British Council, unveiled the English Language Teaching Support Project (ELTSP) aimed at improving English language competence of secondary school students through an extensive reading programme. Although this programme was run for ten years, there is very little impact that one can see today. One of the reasons why this project had no impact, in the author’s view, was because it was conceived in the global north, with very little input from Tanzania. British consultants diagnosed what the problem was and decided what prescription should be (see Criper and Dodd, 1984). Whereas the diagnosis was inadequate proficiency in English by secondary school and university students, the prescription was to inundate secondary schools with books published in the U.K, most of which had no relevance to the Tanzanian environment at all. The other

intervention was to bring British consultants to run the project, with very little collaboration with local experts. Since there was no involvement of local stakeholders, it was no wonder that sometimes the books distributed in schools were just locked away and students had no access to them. In such circumstances, how could anyone expect sustainability after the project life?

EdQual (Education Quality) was another such project. This was a collaborative research consortium involving the UK, Tanzania, Ghana, Rwanda and South Africa. In Tanzania and Ghana, the research agenda was literacy development for sustainable and inclusive quality education (Afitska et al 2013). Like the ELTSP, this research project has not left any substantial impact on the Tanzanian educational system. I have argued elsewhere (Rubagumya, 2009:58) that:

Educational innovations related to language in education are usually not sustainable beyond the project timeframe. Since the project money is almost always in the form of donor funds to be expended within a specific period of time, at the end of this period the recipient country is either unable or unwilling to find the resources to sustain the innovation started by the project.

This is precisely what happened to EdQual and many other such projects. The other problem with such innovation projects is lack of meaningful dialogue between researchers, practitioners and policy-makers. This point was underscored during the 7th International Conference on Language and Development held in Addis Ababa in October 2005. Whereas researchers are seen by politicians and bureaucrats as being engaged in ivory tower theorizing, these latter are mistrusted by researchers and academics as pursuing a different agenda that serves the interests of the ruling class (Rubagumya, 2009).

Language Supportive Teaching and Textbooks in Tanzania (LSTT) was conceived with an understanding of these constraints and therefore an attempt to overcome them. It is an educational innovation aimed at improving the teaching/learning process at secondary school level in Tanzania. The focus, as the name suggests, is to support learners who are learning through English as a language of instruction while their proficiency in this language is still low. In other words, when teaching different subjects the teacher has to be conscious of the language difficulties of the learners and support them with the language of instruction. Some of the principles guiding the development of teaching /learning materials under this project are:

- ▶ Accessible text: books and other learning/teaching materials have to be written in simple language, accessible to learners whose level of English proficiency is still low.
- ▶ Glossary of difficult words, with meanings in Kiswahili.
- ▶ Illustrations and diagrams (where applicable)
- ▶ A lot of student activities: reading, writing, speaking, listening
- ▶ Students encouraged to discuss their ideas in Kiswahili before producing written work in English.

The project started in 2013 as a collaborative research project between the University of Bristol, Dodoma University, Aga Khan University College in Tanzania and Tanzania institute of Education. The overall purpose of phase one was to make textbooks and teaching accessible to second language learners through piloting innovations in disadvantaged rural schools and establishing expertise in key government institutions. Phase two of the project brought on board St John's University of Tanzania, as well as three Teacher Training Colleges: Butimba, Mpwapwa and Morogoro. However, Aga Khan University College and Tanzania

Institute of Education dropped out of the project. The initial project which was aimed at producing accessible textbooks gave rise to Language Supportive Pedagogy (LSP).

Why LSTT/LSP?

The need for LSTT/LSP stems from the belief of the project participants that sustainable quality education (UN Sustainable Development Goal no.4) is impossible if we do not pay attention to language. Education is impossible without language and development is impossible without education. Communities make progress, acquire knowledge and skills necessary for socio-economic development through education. Yet without language, this education cannot take place (Djite, 2008). Figure 1.1 shows a diagrammatic representation of the relationship between language, education and development.

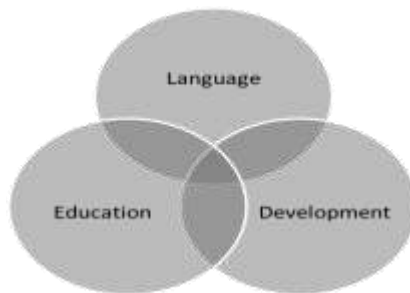


Figure 1.1: *Language, education and development*

While it is widely acknowledged that development is related in some way to education, it is less understood that language is a necessary, though not sufficient, condition for education. The relationship between language and development is the least understood. However, if we conceptualize communication as development discourse it should be quite clear that language, education and development are inseparable (Wolff, 2006). In Figure 1.1 if you remove one circle the other two fall apart. If you remove language, education is not possible and there is no development activity without language. If you remove education, development is impossible. If you remove development, people may be educated but for what purpose? Education cannot be an end in itself.

It is this belief in the centrality of language in the teaching/learning process that led to this research project that brought together stakeholders from the global North (Bristol University) and the global South (participating institutions in Tanzania). This collaboration between the global North and the global South has challenges and opportunities. On the one hand, it starts from the assumption that teaching English and teaching through English in the global South is “beneficial” to the global South and ‘natural’; what Fairclough (1989) calls ideological common sense. In this project for example, we have not questioned why English should be the

medium of instruction in Tanzanian secondary schools. We have taken it for granted as natural, so what needs to be done is to improve the English proficiency of the learners. This view of English as ‘beneficial’ and ‘natural’ has been challenged by a number of scholars (Phillipson, 1992; Pennycook, 1994; Phan Le Ha, 2008). Pha Le Ha (2008:72) for instance argues that “if in the colonial times ELT was used to spread the empire’s power and support the colonial governance, then ELT today is used to back up and strengthen the current global expansion of English and its underlying cultural values”. Despite the good and noble intentions of collaborating partners from the global North, it is quite clear that this kind of partnership is not equal, generally speaking. The North has the money and the experts (in education, ELT, etc) and the South is expected to follow the agenda set by the North.

On the other hand, some partners from the global North have gone out of their way to negotiate the agenda of research projects with their global South counterparts; this is the case with LSTT/LSP. In this project the expertise of both the North and the South is recognized and both parties sit down together and decide what they want to do and how they want to do it. The ultimate goal is that whatever is being done is owned by both parties and the innovation becomes sustainable beyond the project life.

Mainstreaming LST into SJUT curriculum

During phase 2 of LSTT/LSP, I incorporated LSP into the curriculum of two courses taught to English majors in the BA (Education) programme at St John's University of Tanzania. These courses are CT 206 (English Language Teaching Methods) taught in the second year, and LL314 (Second Language Learning) taught in the third year of the programme. The idea was to give prospective teachers of English the rudiments of LSP so as to equip them with skills to use it when (or if) they eventually become secondary school teachers. LSP was generally received very positively by students in both courses. They saw this innovation as being consistent with the current competency-based syllabus for English in secondary schools in which the main competency emphasized is communication. The innovation is also learner-centred, again consistent with the current syllabus.

One aspect of LSP that was not properly understood by students is the strategic use of Kiswahili when teaching English, or any other subject for that matter. Many students saw this as going against government policy of using English only as a language of instruction in all subjects (except Kiswahili) and at all times. This concern was also raised by teachers in the secondary schools we visited to introduce LSP. They saw it as something good,

but they were not sure if they could use it without suffering any consequences from the Ministry of Education. A ‘safe’ way of conceptualizing LSP is to see it as part of professional development of teachers instead of seeing it as an attempt to change the current language policy.

There are good pedagogical reasons for using the mother tongue or any other language students are more familiar with as resources when teaching in a second/foreign language. The idea is not to use Kiswahili throughout the lesson; rather it is to use it *strategically* when necessary. As Anderson (2015:62) correctly argues, “if you are teaching in a context where you do not have many other resources, the mother tongue of your learners, if you know it, maybe the most useful one you have”. However, he cautions that we should use English as far as possible and reduce the use of the mother tongue as the learners improve their English proficiency.

In fact, using the mother tongue in class in Tanzanian schools and in many other African contexts is not something new. It is widely used by many teachers, be they of English or other subjects (Rubagumya, 1994; Ndayipfukamiye, 2001). The problem is that it is used haphazardly. What LSP is trying to do is to show how it can be used strategically to help learners understand the

subject content as well as improve their English proficiency.

Again, what we are trying to do in LSP is consistent with best pedagogical practices in multilingual societies. According to Nunan and Lam (1998), a teacher in a multilingual/multicultural classroom setting needs to have:

- ▶ Knowledge of the discipline they are assigned to teach;
- ▶ Linguistic competence, i.e. proficiency in the target language and the learners' language(s);
- ▶ Communicative effectiveness in the classroom;
- ▶ Ability to teach in the language of instruction;
- ▶ Appreciation of the learners' culture(s); and
- ▶ The ability to respond positively to a multilingual/multicultural setting.

The above characteristics of an efficient and effective teacher in a multilingual classroom imply that it is not enough to just be competent in the subject matter. A teacher has also to pay attention to the language of teaching and learning. For example, the last characteristic: ability to respond positively to a multilingual/multicultural setting means the teacher has to see the learners' L1 as a resource that can be used to

help them make a smooth transition to L2 as a language of learning and teaching. That is the focus of LSP.

In mainstreaming LSP into the two courses mentioned above, students were introduced to the policy and theoretical context of language in education in Tanzania, an LSP-based critique of the current policy and how LSP can be put into practice in the classroom. The following points were emphasized:

- ▶ English in Tanzania is a foreign language, and secondary school students find it difficult to cope with the lessons because, among other things, they are not proficient enough in English as the medium of instruction.
- ▶ Being able to speak English in informal situations does not guarantee that learners can use it effectively as a medium of instruction.
- ▶ There is a difference between Basic Interpersonal Communication Skills (BICS) and Cognitive Academic Language Proficiency (CALP).
- ▶ Since Tanzanian secondary school students' CALP is not well developed, there is need for a language supportive pedagogy and textbooks that will facilitate the learning of different subjects through the medium of English.

- ▶ The premise on which Language Supportive Pedagogy (LSP) is built is that every teacher should also be a language teacher.
- ▶ Since no learning can take place without language, it is important that all teachers, whatever subject they teach, be conscious of, and help their learners in, the language of instruction.
- ▶ Since Tanzania is a multilingual society, it makes sense to build on the languages that students are already familiar with in order to help them learn English and learn through English.
- ▶ Kiswahili should therefore not be seen as a problem; rather it should be seen as a resource that can be used strategically to facilitate the learning process.

Within the context of the current language in education policy, the languages of Tanzania are conceived in a hierarchical order in which English is more valued than Kiswahili and Ethnic Community Languages (ECLs).

In Figure 1.2 below (Rubagumya, 1993) English is at the centre but used by a minority elite, followed by Kiswahili in importance while ECLs are marginalized. The innermost circle, the 'core' represents about 5% of the population of Tanzania who can speak English. Most

of these people also have Kiswahili and an ethnic community language in their repertoire. The next circle represents those who speak Kiswahili. Again, most of these will also have an ethnic community language. The outermost circle, the ‘periphery’, represents those who only have access to an ethnic community language. The political, social and economic clout of Tanzanians roughly corresponds to the different linguistic competences as shown in Fig.1.2. Influence and participation in national and international affairs decrease as one moves from the ‘core’ to the ‘periphery’ (Rubagumya, 1993). This hierarchical order is based on the ‘common-sense’ assumption about the value of English in Tanzania as depicted in Figure 1.3.

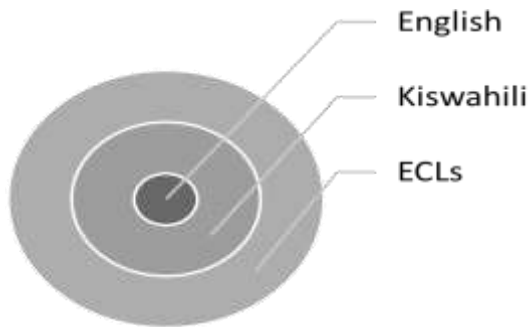


Figure 1.2: *The Languages of Tanzania: the centre and the periphery*



Figure 1.3: *The value of English as conceptualized by the present language policy*



Figure 1.4: *The value of English (and other languages) as conceptualized by LSP*

As can be seen in Figures 1.3 and 1.4, LSP has a different conceptualization of the value of English (Fig.1. 4) as compared to the current language policy (Fig. 1.3). Whereas the current language policy gives centrality to English because of its assumed advantages, LSP gives centrality to education, and English (alongside with other languages in the repertoire of the learners) is a means of achieving education. It is interesting to note that although in Figure 1.3 English is at the centre, it is detached from the good things it is supposed to lead to. Globalization, science and technology, access to knowledge and regional integration remain pipe dreams which cannot be achieved when education is delivered in a language that learners do not understand.

Figure 1.4 on the other hand shows how accessible language (whether it is English or not), textbooks, teacher training and a conducive learning environment are all connected to education, which takes centre stage.

As for LSP in practice, students (especially those doing English language methods) were introduced to how they can incorporate this pedagogy their professional practices like preparing lesson plans, especially how to include language-specific objectives in their lesson plans. They also incorporated LSP in micro-teaching practice.

Conclusion

In this brief paper I have discussed Language Supportive Pedagogy (LSP) and the efforts made at St John's University of Tanzania to mainstream it into two courses offered in the Faculty of Humanities and Education to students taking English as one of their teaching subjects. I have shown that although there is still some resistance in accepting this innovation, this stems from a misunderstanding of the whole concept of LSP. Those who show resistance to this innovation argue that it goes against the language in education policy of the country, which is English ONLY as a language of instruction at secondary school level. However, the agenda of this innovation is not about changing the language policy; it is more focused on teacher development. The question being addressed by LSP is: how, within the context of the current language policy, can teachers empower their students to understand the subjects being taught in English and at the same time improve their English proficiency? It is being argued in this paper that teachers and students show see the different languages in the students' repertoires as a resource, not a problem.

Having said that, it is also important to point out that eventually the language of instruction question has to be confronted. LSP should not be taken as an opportunity to sweep this question under the carpet. We still need to ask

ourselves, is the current language policy informed by research evidence? Is it the right policy given the current linguistic environment in our country? Ultimately we need to ask ourselves, whose interests does the current language policy serve? Does it help learners to learn English and to learn other subjects on the curriculum effectively?

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CHAPTER TWO

BRIDGING THE GAP BETWEEN LEARNERS AND TEACHING/LEARNING MATERIALS: THE EXPERIENCE FROM LSTT TEXT BOOKS

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Abstract

The availability of good and accessible teaching and learning materials is quite essential in enhancing students' good academic performance at any education level. Unfortunately, in most secondary schools in Tanzania, materials, especially textbooks, are not adequately available, and if available, they are not reader friendly since they are extremely complicated to be well understood by students. This scenario results on students over dependency on the notes prepared by teachers or simplified pamphlets from mediocre and unqualified authors currently found all over the country. Besides, this situation hugely affects reading habits among students and members of the community at large. Nevertheless, the experience gained from The Language Supportive Teaching and Textbook (LSTT) project gave us a glimpse on how teaching professionals can bridge

the existing gap between the textbooks and students in our secondary schools. This is because, the analysis done on the LSTT project's textbooks has indicated that, the textbooks prepared by the said project are relatively simple and could easily be read and well understood by many students. This is because the textbooks use simple sentences, glossaries, stories, illustrations, simple and familiar examples that resonate with students' living and learning environment. Therefore, this chapter explores how LSTT text books help to bridge the gap between learners and textbooks in Tanzania's secondary schools. The study employed a documentary review in analyzing English, Biology and Mathematics textbooks produced by the LSTT project.

Keywords: *Textbooks, language support, and teaching and learning materials.*

Introduction

Researchers have shown that Tanzania's secondary school students, especially those coming from poor background and remote areas face a lot of challenges in their daily academic endeavors (Lugayila, 2014). Majority of them walk more than 10 kilometers to go to schools. Other challenges include; poor school infrastructure, like desks, classrooms, and lack of clean water and inadequate number of toilets. Moreover, most of the schools have no library. Therefore, students do not

have enough reading materials to enable them study on their own. Following this, students rely immensely on their teachers as their only ultimate source of knowledge. Furthermore, unavailability of libraries and inadequate reading materials seriously affect students' reading habits. This reality could be attributed to be among the contributing factors for the massive failure among form four candidates as experienced every year (Lugayila, 2014). The LSTT project intervened by producing three interactive text books for form one students. The books are considered interactive because they were designed in a manner that makes them user friendly, whereby students can easily read, grasp and sufficiently comprehend the textbooks' contents, as discussed below.

The use of Simple Language

It is well known that, English is second or even the third language¹ for majority of the Tanzanian students (Qorro, 2003 and Lupogo, 2014). A good percentage of students who join the first year of the secondary school (form one) come from public schools, where Kiswahili is predominantly the language of instruction. From this background most of the form one student's need a lot of language assistance (explanation and informal

¹ Kiswahili is mostly spoken language in Tanzania especially in urban and semi urban areas. In some rural areas vernaculars are first language and Kiswahili is sometimes second language

translation) to enable them understand and grasp concepts found in English written textbooks. Unfortunately, most of the textbooks available in our curriculum have been written in a complicated language, which makes it hard for majority of the form one students to grasp the contents and concepts. On the other side, the LSTT textbooks came up with a solution to make sure that all science and English textbooks are written using simple and user-friendly language in order to enhance form one students' understanding, specifically by taking into consideration the following language aspects:

Firstly, the use of short and simple sentences throughout the text books. The use of simple sentences is quite crucial for developing all materials that are intended to help students who are in the transition period. As already explained, most of the form one students are coming from Kiswahili based government primary schools. Therefore, they need smooth transition from Kiswahili based curriculum to English curriculum. The simplest way of doing that, is to utilize short and simple sentences in the textbooks they read. Doing so, helps students to learn easily both English language and subject contents. LSTT has done that, and from the experience gathered during training and from students involved it was very clear that, the designed textbooks have managed to

utilize simple and short sentences, which make them easily readable to all students, as substantiated below.

The most visited parks are in northern Tanzania. These include Kilimanjaro, Ngorongoro, and Serengeti. Kilimanjaro is famous for mountain climbing. It is the highest mountain in Africa. Serengeti is the oldest national park. It is famous for the wildebeest's annual migration. Ngorongoro crater is famous because it has a lot of animals in a small area. Also, there are Maasai cattle keepers who live in the crater with wild animals. Other national parks around the great lakes are Gombe, Mahale, Saanane and Rubondo (English for Secondary School, pg. 28).

The text above substantiates clearly, how the book designed by the said project managed to use short and simple sentences. For example, the first sentence in the paragraph has 8 words only, followed by two sentences with 6 words each. This sentence structure allows form one students

who struggle with English language to easily grasp new concepts, as well as effectively comprehend the whole content within the paragraph.

Secondly, the use of simple vocabularies. The LSST textbooks utilize familiar and simple vocabularies as much as possible, which have made them easily readable by all targeted students. Besides, in the areas where simple words could not be employed translation has been used to make the content and concepts comprehensible. As earlier stated, most of form one students have very few English vocabularies, which constrains them from effectively capturing new ideas and concepts found in the textbooks. Therefore, using vocabularies which are familiar to them, has facilitated their smooth transition from Kiswahili to English curriculum, as well as helping them to grasp all concepts available in the textbook. The use of simple vocabularies is demonstrated in the paragraph below:

*If you want to go to Kariakoo
from anywhere in Tanzania, you
have to travel to Dar es Salaam.
There are different ways of
travelling to Dar es Salaam. You*

can go by bus, by train, by boat or by air. For those who travel by bus, the main bus station is at Ubungo. From Ubungo, they have to find their way to Kariakoo. There are town buses (daladala) that go from Ubungo to Kariakoo and back (English for Secondary School, pg. 11).

The quoted paragraph indicates how LSTT textbooks have managed to utilize common vocabularies (like want, go, Kariakoo, Ubungo, boat etc), which are familiar and well understood by most of the students. This is because, the vocabularies utilized are not new to students, which made them love the stories and automatically understood the concept. The author of the textbooks went further to incorporate in the textbooks some common Kiswahili words like *daladala*, which stands for the city's public buses in order to make the content more interesting and resonating with students' world linguistically. This justifies the aim of the LSTT project of making the textbooks used in the secondary schools simple and familiar to the students.

Thirdly, the use of genres to simplify the unfamiliar vocabularies. Basically, translation and interpretation are part and parcel of the teaching and learning process in our secondary schools². Students who join secondary schools in Tanzania are predominantly coming from the primary schools where Kiswahili is the principal language of instruction. Therefore, they profoundly need some translation so that they can understand the concepts taught. Teachers and students use different translation strategies and methods during teaching and learning process. Nevertheless, the use of translation strategies has brought three major problems: first, the mis-translation of the key concepts, which consequently misleads students by failing to gain the proper understanding of the concepts. Therefore, it is quite risky to entrust or leave the translation of the key concepts to everyone. Secondly, some of the teachers have used that opportunity to change completely the language of instruction by resorting to using Kiswahili. They do so by simply coming up with an excuse that, students are unable to understand if English language is utilized. Therefore, this is not good, since it goes against the national syllabus and curriculum which emphasize the

² It is very clear from the policy point of view that, English is official language of instruction, but research shows that teachers and students tend to use Kiswahili as language of discussion and clarification.

use of English as the language of instruction. The third challenge is that, teachers are losing a lot of time when using two languages (English and Kiswahili) during teaching process.

Based on the identified facts, although translation could be very helpful in enhancing students understanding of the concepts, it needs to be used in proper academic way as it appears in LSTT textbooks in order to effectively augment students understanding. The LSTT textbooks have managed to achieve that by using glossaries in all textbooks they prepared. It is very clear that the use of glossaries helps to harmonize the translation of the key concepts, minimize the time used in teaching, and help students to grasp effectively the meaning of new vocabularies used in the subjects (Refer *English for Secondary School: Form 1* pg. 11, 18 and 28).

Strategic use of Kiswahili language

Kiswahili and other African local languages are very useful resources in transmitting knowledge and skills from one generation to another. It is through these languages children are nurtured and taught different social manners like eating, greetings, praying, love and a wide range of cultural issues. Unfortunately, for a long time now, the textbooks used in secondary schools' curriculum have failed to capitalize on using these languages, especially Kiswahili which is the lingua

franca for many Tanzanian students. Therefore, the LSTT textbooks recognized that gap and adopted a strategic use of Kiswahili language to facilitate students' understanding. The use of Kiswahili within LSTT textbooks has been divided in two major parts: Firstly, Kiswahili has been used to provide meaning, especially on technical and important vocabularies (this aspect has been discussed earlier). Secondly, Kiswahili language has been used for providing specific and important instructions. It is very important to note that, the LSTT textbooks are full of activities, therefore students and all readers need some instructions so that they can understand what needs to be done. Generally, the justification for using Kiswahili is very clear from the book's preliminary pages, as it says:

Students who are still developing their ability to learn Biology in English will find it useful to use Kiswahili. Using Kiswahili will help students to remember and build on what they learned in primary school. Thus, Kiswahili can be used in particular ways to help both, learning of both English and grasp new concepts in Biology...This textbook guides teachers on how to use Kiswahili as a resource to learn English and strategically support students to learn

Biology (Biology for Secondary School Form 1).

This paragraph provides three important justifications for using Kiswahili in all LSTT textbooks: to help students' transition from Kiswahili language-based education to English. Besides, Kiswahili has been used as the resource, since it is one of the academic languages. Lastly, the use of Kiswahili in LSTT textbooks is strategically planned and it is not used casually.

The use of illustrations

Bakize (2014) and Abdallah (2018) believe that, illustrations are very important aspects of a good textbook. Thus, they strongly emphasize on the use of pictures, illustrations and diagrams, which are familiar to the readers, as well as which match up with the content of the textbook. The two scholars emphatically argue that, pictures and illustrations help to capture attention of the readers/students and simplifying the understanding of the concepts found in the textbook (Bakize, 2014; Abdallah, 2018). Unfortunately, most of our conventional textbooks contain a lot of plain text and give little emphasis on the use of pictures, illustrations and diagrams. As a result, they are not attractive to read and fail to capture students' attention. Knowing this, LSTT books make good use of illustrations (hence reducing plain text) in order to make them readable and

appealing to students who are struggling with the English language. Also, it is very important to state that, the books have used some pictures, which are common and resonate with context of the Tanzanians. The use of familiar pictures helps to captures the attention of the students as well facilitating deeper understanding of the concepts, ultimately helping students to easily remember the concepts (Cianciolo, 1970, Elster., & Simons, 1985, Peeck, 1974 and Read., & Barnsley, 1977). For example, on page 11 of the English textbook, we have the real picture of Kariakoo International Market, as illustrated in Figure 2.1.



Figure 2.1: *Kariakoo Market Photo (Source: English for Secondary School Pg. 11).*


Figure 2.1, shows the Kariakoo Market building (one of the famous markets in Tanzania). The picture was well taken and clearly shows the big market building, cars, advertisement boards and banners, buyers, sellers as well as different products and commodities. The use of this photo helps to really capture the attention of the students' since it is self-explanatory and gels well with the story about Kariakoo Market being the largest market in the country.

Challenging activities for critical thinking

The LSTT books and classes are activities oriented. Therefore, both students and teachers have to do a lot during teaching and learning process. The textbooks are very engaging and accommodate two-way traffic. Thus, students have a wide range of activities in each topic they learn. The books are effectively designed to make students think and deeply engage with them. All books have four different activities; individual activities for each student, which aim at providing equal chance to all students to think and come up with their own solutions. Besides, group activities, whereby students are required to sit together, discuss and document different ideas found in the subject being studied. Moreover, they have class activities which engage all members of the class. In those class activities teachers lead the discussion. Lastly, the textbooks contain homework activities for students

and parents/guardians. The homework activities are designed to engage encourage parent's/guardian's participation in the teaching and learning process. Therefore, the LSTT textbooks are clearly designed to try to bridge the gap between parents and schools. Engaging parents in the learning process is very beneficial for both teachers and students. The following illustration was extracted from Mathematics textbook.

Write the numbers 1 to 6 in the circles so that each side of the triangle adds up to the same number.



1. In how many different ways can you solve this problem? Show the different solutions.
2. Design and write another problem similar to this one.

Figure 2.2: *Challenge Activity (Source: Mathematics for Secondary School Pg. 42).*

Looking from the figure 2, the activity might look simple, but it is a bit tricky and though most students might be able to do it, it requires critical thinking to

come up with proper solution. These kind of activities are quite engaging. Students can do them on their own while learning different Mathematical concepts. The intention here is not only learning numbers in Mathematics, but also trying to make sure that students can think critically before answering the question.

The use of story in teaching different concepts

For most of the science and Mathematics books, it is very uncommon to find stories and long explanations of the concepts. Story telling remains very familiar in social science subjects, particularly in the teaching of subjects and concepts like health and hygiene, environmental conservation, child protection, education etc (Ngugi, Lyimo, & Bakize, 2019). In contrast, most of the science and mathematics related books are full of formulas and numbers. This situation terrifies most of the students leading them to fear science and mathematics. They feel less connected with the contents ultimately paying little attention with those books. To intervene, LSTT project provides different textbooks which use stories to teach all subjects. It is very important to understand that stories (story telling) are part and parcel of children's growth/development (Abdallah, 2018). So, using stories in teaching science and mathematics not only helps them to learn science

concepts easily, but also makes the students connect to the concepts related to those subjects (Qorro, 2003).

The use of local and relevant examples

All three LSTT textbooks have tried to use local and appropriate examples in order to simplify students' understanding of the content. The LSTT books' designers believe that, the use of examples from Tanzania will help students to contextualize books' content and easily understand the concepts. A good example of the use of pictorial illustrations is demonstrated in Figure 2.3.



Figure 2.3: *Maasai Sandals and Recycling (Source: Biology for Secondary School pg. 19).*

As seen from Figure 2.3 we see a Maasai, Maasai sandals as well as dustbins. All these pictures are quite familiar to our students. The Biology book uses Maasai man and Maasai sandals made from used tires to teach the concept of recycling. The facts that the Maasai community is very famous in Tanzania, due to their rich culture manifested especially by their dressing styles, the LSST authors thought that using them for pictorial illustration would help students to easily understand the concepts connected to the subjects.

Partial integration of basic English language concepts in the LSTT books

All two LSTT science books (Biology and Mathematics) have considered the challenge of language most students face and thus integrated language issues in the books. As explained earlier, majority of form one students have fewer vocabularies and are really struggling to understand key concepts. Therefore, to facilitate easy teaching and learning process, the LSTT textbooks brought on board some of the important/basic language ideas, hoping that students will be able to easily understand the subjects. In the books, two major ways have been used; the word formation approach; where by the books provide Kiswahili explanation on how certain words have been formed. For example, “*Un- ni kiambishi awali chenye maana “sio”. Hivyo basi, neno*

“unhealthy” linamaana “isiyo na afya nzuri” na neno “unwell” linamaana “isiyo nzuri” (‘un’ is a prefix which means “none” therefore, the word unhealthy means not good healthy) (*Biology for Secondary School* pg. 30).

Referring to this example, it is very clear that the author tries to bring up the concept of prefix (which is language issue) and how it can be used in the word formation. Although, this is the language issue, the example used is very familiar to students, fits well with Biology teaching, and it is very easy for students to understand.

On the other side, English language concepts have been brought on board through sentence formation activities. Moreover, the LSST books make an important contribution on teaching/learning English language through a number of matching table exercises. It is important to note here that, the authors have utilized vocabularies that are appropriate to the related topics. Two advantages are gained through this strategy; first, students get to understand how to formulate appropriate and meaningful sentences from the words given. In fact, most form one students are not capable of formulating good and appropriate English sentences. Therefore, these activities are very important, since they provide them with a chance to compose good and meaningful Biology-related sentences. This new teaching method and

creativity cannot be found in other Biology or any science textbooks. Second, from these activities, students are enabled to learn how to learn some facts/concepts about a specific topic. Sentences formed through these activities are not only for fun, but they all bring some very important facts and concepts about Biology in a very specific way as it is shown below.

If you are	mentally physically socially	well, it means that	you have friends. your mind is working properly. you are healthy in your body.
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Figure 2.4: Table (Source: *Biology for Secondary School Pg.30*).

Looking at figure 4, it is very clear that, students are reminded how they can compose good English sentences. For example, students can come up with sentence like “*If you are mentally well, it means that your mind is working properly.*” The fact that this has been done in Biology textbooks gives us a good indication that, the LSTT textbooks not only facilitate

teaching and learning of the science subjects, but also make an emphasis on learning the proper English of Biology (Vuzo, 2005).

LSTT books emphasize on different language skills

Principally, teaching goes together with other language skills like reading, listening, writing and speaking. Nevertheless, in our conventional books, above all three mentioned skills, the emphasis is mainly put on writing notes (writing skills), but paying little attention to reading and speaking skills. At least in other subjects, a teacher might read and allow students as well to read some few pages of the book. Nevertheless, there is little chance for the students to be allowed to read any pages in science subjects. In contrast, the LSTT textbooks have introduced a lot of reading and speaking activities in all three textbooks namely Biology, Mathematics and English. Teachers are encouraged to allow students to discuss and share their views on different matters pertaining to the subjects they learn. Besides, students are allowed to conduct discussion in Kiswahili and make presentation in English and sometimes in Kiswahili (owing to the fact that, students feel confident to speak Kiswahili). In addition, this is based on reality that those students possess abundant of Kiswahili pre-knowledge on different topics, which they can share with their colleagues. By allowing such discussions, the books try

to inculcate critical thinking in the students, as well as learning the meaning of the concepts concerned. The experience we learn from here is that, to make students discuss and speak freely provides them with a good chance to interact with the textbooks, teachers and their fellow students, therefore making teaching and learning easy and enjoyable (Lupogo, 2014).

Conclusion

The LSTT textbooks have managed to bridge the gap between content and learners. The authors have tried their level best to introduce different ideas and activities to simplify the mentioned secondary school's textbooks in order to enable form one students grasp ideas and easily understand subjects' content. Additionally, LSTT project believes that learning English along with all science subjects simplifies teaching and learning process that is why all textbooks have managed to introduce English concepts and ideas as part and parcel of the specific science subject. Therefore, we believe that, students who read LSTT textbooks are gaining three advantages; they learn English concepts like word and science formation, they can discuss issues and come up with good suggestion (critical thinking), as well as they have a better chance to understand all important concepts available in the text book.

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CHAPTER THREE

INTEGRATING LANGUAGE SUPPORT PEDAGOGY IN TEACHING CHEMISTRY

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Abstract

Language Supportive Pedagogy (LSP) was integrated in teaching and learning Chemistry for the purpose of assessing how effective it is in teaching and learning Chemistry. This was administered by using selected student teachers who were studying at St John's University of Tanzania. The knowledge of LSP was introduced to student teachers and they practiced it in block teaching practice, the LSP knowledge was then applied in the real classroom environments during teaching practice. During this time the LSP oriented lessons were prepared by the assessor and the student teacher but the lesson was taught by the student teacher. The assessor observed the lessons, at the end of the lesson feedback on how the lesson was conducted was discussed between the three parties; the assessor, the student teacher and the students. The findings from this experience indicate that students understand better when

LSP was used than when the traditional way was used in teaching Chemistry.

Keywords: *Language Support Pedagogy in Chemistry, Integrating Language Support in chemistry, Teaching chemistry and Language Support Pedagogy.*

Introduction

Teachers in Tanzania secondary schools face challenges due to language background of their students especially form ones. Some of the students learned their primary school subjects in English while the majority learned in Kiswahili.

Tanzania is a multilingual society. While Kiswahili is used by everyone in different situations, vernacular languages are restricted to the different ethnic groups and English is mainly used in education. The medium of instruction in secondary schools in Tanzania is English, the language which is the second or third for majority of the students. It is therefore difficult for the learners to learn the entire subject contents in a language which is not their first; on the other hand it is difficult for form one teachers to teach subject contents using a language which is not known by the majority of the learners and even the teachers themselves are struggling with it.

Researchers around the world have paid much attention to how content teachers can assess/evaluate their lesson while giving little or no attention on how language can support and contribute to the development of subject literacy without lowering content standards (Marsh & Langé, 2000). The Language Supportive Pedagogy (LSP) emerged as an effort to help secondary school teachers in teaching the subjects content by integrating the language aspect in the teaching and learning process. This chapter intends to describe my experience in LSP project and how useful the LSP is in teaching and learning chemistry.

Data collection

Data were collected in various stages: initially data were collected by identifying student teachers with language difficulties, these students were identified by preparing presentation topics to the student teachers and allowing them to present. During presentation those who failed to pronounce some words correctly were identified, similarly the words which were wrongly pronounced were also noted. Identification of these student teachers was followed by corrections of the mispronunciation after a series of teaching and learning sessions. Data were also collected during block teaching; this was after giving LSP knowledge to student teachers.

The types of data collected during this time included the teaching methodology used, the students with language difficult and the words which were wrongly spelt by the student teachers. Data were also collected during field work. The kind of data collected at this point were follow up data which aimed at checking how the LSP knowledge is implemented by the student teachers in the real classroom environments.

Selection of student teachers with language difficulties

Three (3) student teachers with language difficulties were identified. The language difficulty that was considered mostly when students with language difficult were identified was pronunciation error. During the identification process, pronunciation error was distinguished from pronunciation mistake; pronunciation error is when the wrong pronunciation is repeated every now and then simply because the language user does not know how to pronounce the word correctly. On the other hand, pronunciation mistake is when the language user does not repeat the wrong spelling over and over again (Sugiarto, 2013). In this research the student was considered to have pronounced the word wrongly when the word was pronounced wrongly over and over again. It has been found that a key role in communication is played by pronunciation and that, of all sub skills of

speaking pronunciation is the most important (Bizongwako, 2015). The common words which were wrongly pronounced were *substance, the, this and determine*. Two (2) of the three (3) students managed to correct their pronunciation error completely following the comments raised after each session, on the other hand the other student teacher managed to reduce his frequency of pronouncing the words wrongly. This finding agrees with findings reported by Sugiarto (2013) but contrary to the finding reported by Darcy (2018) in which according to him pronunciation cannot be taught.

Language Supportive Pedagogy and Block Teaching Practice

The knowledge of LSP was introduced to student teachers prior to Block teaching. Some of the features of LSP as part of the knowledge that was taught to the student teachers include the following: LSP as activities oriented such as group discussion, presentations, practical, use of illustrations and collaboration between the content and the language teachers in teaching and learning. The student teachers were also taught the importance of using simple English and how the local language (mostly Kiswahili in Tanzania) can be used strategically during teaching and learning process. The use of Kiswahili has expanded so much that it is now replacing vernacular languages as the language of

everyday interaction and is also replacing English as the language of education and government (Ngonyani, 1995).

Challenges raised by participants

The following are the challenges which were raised by the student teachers after the LSP knowledge was given to them:

Challenge 1: *Some schools insist speak English only, use of Kiswahili may be problematic.* This challenge was responded that, LSP does not mean use of Kiswahili in teaching instead it is used only when it is necessary.

Challenge 2: *There is a standard format of writing a lesson plan, how can a lesson plan include language objectives?* The response to this question was that lesson plan is in the mind of the teacher, not necessarily that it is written on a paper. However, inclusion of language objective in lesson plan is an innovation and a teacher cannot be penalized for that.

Challenge 3: *Some class sizes are very big, use of class activities may waste time resulting in not completing the syllabus.* The response to this question was that if an activity is well planned and well organized, it can take a shorter time for students to accomplish and understand

than a lecture method, furthermore for lower classes, activities motivate students to learn.

Block Teaching Practice

In block teaching the student teachers were given opportunity to practice LSP before the knowledge is applied in real classrooms during teaching practice. Various topics were distributed to students in groups, each group was required to prepare for the given topic and teach. Various people including LSP team members and language experts from the University and outside the University were invited and participated in the lessons. During the lessons the subject content teachers and the invited language experts moved around and observed various activities which were created and how they were used in teaching the subject content and the language as well. At the end of the lesson comments were invited in which both the content teachers and the invited language experts gave their views on how the lesson was conducted at the same time correcting the language mistakes which were made. The LSP method was appreciated by all practitioners (the student teachers, the language experts and the teachers) to be good in learning subject content and language simultaneously.

Field work (teaching practice)

During teaching practice the lesson was prepared by both the student teacher and the assessor. Various activities were also planned by both the assessor and the student teacher; during the lesson the assessor observes the lesson which is taught by the student teacher, at the end of the lesson, the student teacher gets feedback from both the assessor and the students.

Student teacher 1

The topic taught: Matter

Class: Form one

Students were given opportunity to work on an experiment which proves that air has weight. During the lesson the weight of a balloon was measured before and after air had been blown to it (plate 1). This is learning by doing, learning by doing is also encouraged by other researchers (Wamokhela, 2012).

Figure 3.1: *A practical work in one of the LSP oriented lesson during teaching practice in Njombe region in 2019*



Table 3.1: How the LSP features were used during lesson observation in one of the schools in Njombe region

LSP feature used	Evidence
1. Use of Kiswahili at times strategically to reinforce learning	<ul style="list-style-type: none"> - Kiswahili was used in some cases - Students were allowed to ask questions in Kiswahili
2. Engage students in classroom interaction	<ul style="list-style-type: none"> - engaged in an experiment

- Students were given a passage to read.
3. Correction of pronunciations
- Wrong pronunciation such as use, came, exist, and categorized were corrected
-

During the lesson all the questions asked by students were asked in Kiswahili language. This is an indication that if students were not allowed to ask in Kiswahili or only a few questions could be asked. It was revealed from students that it is the first time that wrong pronunciations were corrected in Chemistry, meaning that integrating LSP in teaching and learning process increases student's mastering of the language and interest to the subject.

Student teacher 2

The topic taught: Heat sources

Class: Form one

Students were given opportunity to observe types of flames that can be produced by a Bunsen burner. The students were asked to form groups and list the characteristics of flames produced. Finally, one group

member was chosen to present the group's findings (plate 2)



Figure 3.2: *a group discussion, one of the lessons observed during teaching practice in Dodoma region in 2018*

Group discussion as one of the teaching methods, is one of the student-centered methods, this method enables learners to retain what has been learnt (Wamokhela, 2012). Retention of learned material has been found to be high when audio visual material is used. However, it has also been found that for audio visual material to be effective it must be followed by a discussion (Thungu et al., (2008). Serena (2016) reveals that group discussion is the right technique for teaching speaking skills.

Table 2: How the LSP features were used during lesson observation in one of the schools in Njombe region

LSP feature used	Evidence
1. Use of Kiswahili at times strategically to reinforce learning.	<ul style="list-style-type: none">- Kiswahili was used in some cases- students were allowed to ask questions in Kiswahili
2. Engage students in classroom interaction	<ul style="list-style-type: none">- Engaged in an experiment.- Students were given opportunity to discuss groups and present their findings.
3. Correction of pronunciations	<ul style="list-style-type: none">- Wrong pronunciations such as that <i>luminous</i>, <i>non-luminous</i> and <i>flame</i> were corrected.

Although students were allowed to ask questions in Kiswahili, one student asked in English, he was

recognized later that he had a background of English in his primary education. Out of seven (7) groups that were formed, only one group mixed English and Kiswahili during discussion, this group had one student with background of English. The rest of the groups (6) discussed in Kiswahili and present their findings in English. This is an indication that for effective group discussion and therefore effective learning, low level students should be allowed to use the language they are aware of.

Conclusion

Results from this experience reveal that integrating LSP in teaching and learning Chemistry improves learner's ability in learning the subject and the English language as well. The activities which are used in LSP lessons have been proved to increase the student's interest in the subject and hence make them learn better. Use of Kiswahili/ the local language strategically enables learners to understand more what is being taught.

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CHAPTER FOUR

CULTURALLY RESPONSIVE PEDAGOGY: LESSON LEARNED FROM LANGUAGE SUPPORTIVE PEDAGOGY (LSP)

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Abstract

I have been a science educator for more than ten years but one of the questions which troubled me most is how can I teach my students for better understanding? This is due to the fact that for many decades there is a large number of students who seem to lose interest in studying science subjects. But as a biology teacher as well as science educator, I tried my best to use knowledge and skills to help students to learn science. In recent years, there is an increasing concern about making classroom environment culturally responsive. In my teaching career it did not occur to me that using culturally responsive pedagogy would help students learn better. I started to read different articles in culturally responsive pedagogy. However, I admit that it was not easy to grasp how to integrate the concept in my teaching. However, Language Supportive Teaching and Textbook (LSTT)

project has enlightened my eyes and ears to some extent to use culturally responsive pedagogy. The use of features of Language Supportive Pedagogy (LSP) in my career as science educator helped me to be responsive to the students' needs within a cultural context. Therefore, this chapter will critically reflect the personal experience I had in improving my culturally responsive skills and knowledge in teaching and learning activities through LSP.

Keywords: *Culturally responsive pedagogy, Language supportive pedagogy, Science subjects, use of Kiswahili strategically*

Introduction

Studies conducted in Tanzania indicate that many secondary school students have poor motivation and interest in learning science subjects hence they perform poorly in these subjects (Hakielimu, 2012; Mabula, 2012 and Mkumbo, 2012). Many studies have been conducted to find out the cause of this situation (Chonjo, Osaki, Possi, & Mrutu, 1996; Mabula, 2012; Mkumbo, 2012). Some of the findings of these studies indicate that a lack of basic facilities and low levels of motivation among students and teachers are the reasons for lack of motivation and poor performance (Chonjo, Osaki, Possi, & Mrutu, 1996; Mabula, 2012; Mkumbo, 2012). Despite

of poor results and lack of motivation of students in studying science subjects, scientific knowledge and skills are highly needed for their daily life (Movahedzadeh, 2011). Therefore, one of the ways to improve science learning in secondary schools is to interrogate curriculum and include the aspects of culturally responsive pedagogy (Semali, 2014).

Moreover, Wilhelm-Rechmann, Cowling, and Difford (2014) argue that, most African young people have low level of practicing scientific skills in order to combat day to day socio-scientific challenges. This might be due to the poor preparation in equipping young people with scientific knowledge and skills useful in their daily lives. Semali (2014) insisted that Tanzania education system inherited western science education in schools and ignored the issue of cultural responsiveness. This implies content, teaching methods and assessment need to respond to students' needs culturally. Shumba (1999) insisted that, western science education needs to be scrutinized before being introduced into school curriculum in developing nations. This implies the curriculum needs to draw ideas from both western and Tanzanian cultural knowledge. This will help students to acquire socio-scientific knowledge and skills which are useful to their immediate society.

The use of culturally responsive curriculum has been observed to be effective in promoting science literacy in society (Semali, 2014). Culturally responsive pedagogy is emphasized in student-centered approach to teaching in which students' culture is identified and considered during learning (Semali, 2014). Furthermore, culturally responsive pedagogy facilitates and supports the achievement of all students (Semali, 2014). Additionally in a culturally responsive classroom, teaching and learning activities that take into account the culture of students, occurs in student-centered context and also students' prior experiences, language, family structure are considered (Gay, 2000). With this, teachers need to be careful in planning learning activities, to enhance students' effective learning through cultural lenses.

Gay (2000) explains that culturally responsive pedagogy is a pedagogy which puts into consideration and integrates students' prior knowledge and experiences, their interests as well as their learning styles into their teaching and learning activities. Krasnof (2016) contends that culturally responsive pedagogy should support constructivist views of knowledge, teaching and learning. The author insisted that culturally responsive pedagogy has to build on personal and cultural strength of the learner. According to Krasnof (2016), culturally responsive pedagogy is propagating cooperative learning among students and teachers. Most of these features of

culturally responsive pedagogy are seen in Language Supportive Pedagogy which I have experienced.

According to Muñiz (2019) teachers are drivers of culturally responsive environment in classroom situation. The use of culturally responsive pedagogy is important to help teachers to cater for students' needs. As science educator in the country where education system was inherited from western countries, I have a responsibility to make students' learning to be responsive to Tanzanian culture. In this regard, I have a responsibility of learning from a variety of sources to improve my pedagogical skills and knowledge to be culturally responsive (Muñiz, 2019). Therefore, I learned from LSTT project and research from other countries to see what is happening there and learned about becoming a culturally responsive educator.

Wernicke (2019) states that learners whose language of instruction is foreign are successfully supported in their learning through multilingual pedagogies which consider students' prior learning experiences. The author also argues that multilingual knowledge on languages must be an integral resource in students' learning. This is due to the fact that in learning nothing can happen without media of communication which learners are conversant with. Culturally responsive pedagogy recognizes the importance of including students' cultural aspects such as

language in all aspects of learning (Wernicke, 2019). The use of language of instruction which is known to students facilitates students' understanding of subject matter (Wernicke, 2019). With this in mind, language of instruction needs to have features of culturally responsive pedagogy.

In Tanzania secondary schools English is used as a language of instruction. To many students English is their second or third language. Also, students had their primary education in Kiswahili. The situation poses challenges to most science secondary school students (Qorro, 2013). Most of them fail to grasp scientific knowledge and skills useful in their daily life because of language of instruction (Juma, 2015). In turn, experience I had with LSTT project has helped me to improve my skills and knowledge as science education to respond to students' challenge of language of instruction. Hence, my skills and knowledge on culturally responsive pedagogy enhanced.

LSTT project introduced Language Supportive Pedagogy (LSP) in its phase II of its operation. The pedagogy intended to equip teacher trainers, secondary school teachers and student-teachers to be well equipped with knowledge and skills of language supportive pedagogy. The skills and knowledge expected to help secondary school students to improve their science and

mathematics learning. This is due to the fact that students in Tanzania secondary schools use English as a medium of instruction and to most of them English is their second or third language. In this regard, teachers need to have skills to help students to learn science and mathematics using English as language of instruction. LSP provided opportunities for teachers to improve their pedagogical skills in order to help students to learn science and mathematics better.

My Philosophical Belief

The two concepts of ‘constructivism’ and ‘constructionism’ are complex and can be used with different meanings in different contexts as well as can be used interchangeably. In this paper, I use the two concepts differently. Tanzanian cultural perspective practices deploy both constructivism and constructionism ideas. People in the Tanzanian communities discuss issues or controversial problems together, negotiate the solution of problem and come up with a solution as a group. This concurs with both social constructivism as well constructionism ideas. In social constructivism, the process of knowledge construction occurs within the individual’s mind as a result of his or her social interactions (Young & Collin, 2004). This implies students discuss together, exchange ideas and create knowledge individually while constructionism

students discuss together, exchange ideas but they also negotiate solution to come up with solution as a group. Hruby (2001) emphasized that in constructionism knowledge is produced through social interactions between the participants in social relations. Therefore, during LSP group discussions both social constructivism and constructionism happened concurrently. This helps students to acquire knowledge effectively. This is where LSP group discussions are supported with the culture students have emanating from their day to day lives in their communities.

Personal experiences with LSP as a tool for culturally responsive pedagogy

Language supportive pedagogy has changed my practice theoretically as well as practically in my teaching career. During lesson preparation, I have to take into consideration students' day to day lives in terms of content, teaching methods and assessment techniques. This implies that students' cultural experience and background had to be considered in the teaching and preparation processes. To a great extent, LSP has helped to improve my teaching and learning with respect to culturally responsive pedagogy. Most of the features of LSP are taking into consideration students' cultural experiences.

Theory of language Supportive Pedagogy and Culturally responsive pedagogy

Pedagogy that is culturally responsive considers social-situatedness of scientific literacy learning in schools (Wearmouth, 2017). Students need to learn socio-scientific skills which are useful in their daily life (Juma, 2015). This implies teaching techniques, teaching content as well as assessment techniques have to equip students with skills and knowledge for their daily lives. Muñiz (2019) insisted that, in culturally responsive classrooms, teachers have to recognize that students bring learning experiences relevant to their culture and society as a whole. This implies that, scientific literacy and cultural background of the students are not separable to their learning. Therefore, the use language supportive pedagogy has to take into account of scientific literacy as well as cultural background of the students in order to fit into culturally responsive pedagogy.

Consequently, LSP has taken into account of scientific literacy and cultural background of Tanzania secondary school students. LSP has considered language background of Tanzanian students. Effective teaching and learning require language, whether it is written in textbooks or shared orally during classroom discussions. This implies pedagogical issues cannot be separated from language issues. Students and teachers need to be

conversant with language of instruction in order to learn effectively. In the case of Tanzanian secondary schools where English is language of instruction while most of students are more conversant with Kiswahili language, special consideration needs to be taken in order for students to learn effectively. In this situation, LSP considered both theories of learning as well as theories of language for students to learning effectively.

The language supportive pedagogy is underpinned by socio-cultural learning theories which believe learning as a social process of initiation into a community of inquiry mediated by language. This implies in learning process social interaction is of vital importance as well as language used for mediating learning. We learn science through language. In this regard, LSP teams have been developed by both science educators and linguists. The LSP approach is relevant to the cultural and linguistic context of Tanzania secondary schools. Each science subject uses its specific language as well as general language during teaching and learning activities. Therefore, students need to understand the language of science in order to be able write, read, speak and listen to scientific concepts effectively.

Muñiz (2019) argues that teachers need to communicate in culturally sensitive ways to students. In this way students feel more welcome and inclined to participate in

classroom. This implies a culturally responsive teacher should accommodate students' home languages, including by advocating for translation and resources in various languages (Muñiz, 2019). LSP as well advocates the use of students' first language strategically in order for students to be free to participate in classroom; it also encourages the use of translation of difficult vocabularies in the classroom. So, the use of students' first language has increase students' participation in classrooms. One student interviewed after LSP classroom observation in one of the secondary schools said in Kiswahili with this translation in English "*the method of teaching used by the teacher allowed us to discuss freely and even elaborated the concepts in Kiswahili which improved my understanding*". This shows that students really appreciate the use of Kiswahili strategically. In summary, teachers' sensitivity to students' first language and using the language as resource in learning science and mathematics in English enhance students' understanding.

Teachers are the activators of culturally responsive practices in schools and classrooms. But without the appropriate training and support, even the most well-meaning teachers can unwittingly provide instruction that is irrelevant, ineffective, and even antagonistic to young people's needs. Therefore, it is imperative to train teachers well so that they can provide relevant education

to young people. In this perspective LSTT project had invested on training student-teachers as well as secondary school teachers with skills and knowledge which help students to learn well science and mathematics subjects using English as foreign language. This is because most of science students in Tanzanian secondary schools English is their third or second language. Therefore, the use of English language in students' science learning has to take consideration of students' cultural background as Tanzanian.

Lesson preparation

In the preparation of lesson in LSP there is consideration of Tanzania cultural background in both sides of students as well as teachers. Teachers plan and prepare lessons in team work. This is a new idea and it was not the teachers' custom before LSP introduction. Teachers used to prepare lessons individually without support of their fellow teachers. Moreover, science teachers did not work with language teachers in lesson preparation. In this case, the science teacher considered himself or herself as expert of everything. He/she did not require any improvement or learning from others during preparation of lesson. LSP helped to change this science and Mathematics teachers' mind set of not seen the importance of other subject teachers and language experts in preparation of the lesson.

Hruby (2001) states that knowledge can be produced through social interactions among participants in a group. LSP lesson preparation teams insist on this view of teachers of different background to interact together and share knowledge for improvement. Teachers in a team of both science and mathematics subjects and language experts plan and prepare a lesson together. In this situation, teachers share experience of teaching and learning together. Science teachers bring their science expertise while language teachers share their linguistic expertise. Further, after the lesson, teachers evaluate the lesson as a team again. This situation brings back the culture of Tanzanian of doing activities together. Tanzanian or African culture encourage people to work together and agree on different issues.

Further, Young and Collin (2004) emphasize that critically challenging of knowledge together helps in coming up with meaningful knowledge for the society. Team working facilitate members to scrutinize knowledge together and come up with meaningful knowledge for students. Before and after lesson, LSP team members work to interrogate the lesson in terms of content, methods of teaching as well as assessment techniques. The tendency of LSP team members to critically plan and evaluate lessons together help in improving the lesson in the next class. This habit concurs with Tanzania traditional ways of handling challenges in

society. People in Tanzanian communities solve controversial issues of society in a group manner and come up with solutions together (Juma, 2015). In this perspective, LSP preparation activities are culturally sensitive in the Tanzanian context.

Science subjects' content

Lesson plan as well as lesson materials have to take into consideration of students' culture (Wearmouth, 2017). For Science teachers, students' improvement of the language issues was less of their concern before introduction of LSP. But in real sense, science has its specific language which needs to be taken into consideration during teaching and learning process. However, in Tanzania English is not the first language for most of our students, there is a need to have a better way of helping them to learn science subjects in English. After being introduced to LSP, most of us have realized the importance of taking into consideration students' language issues during teaching science. In this respect, students' cultural background in language issues has to be considered. Therefore, LSP lesson plan is taking into consideration of content objectives as well as language objectives for the students' effective learning.

LSP prepares content to be taught to students which is culturally responsive. Consequently, language plays a

crucial role in the formation and development of scientific concepts. In the first phase of LSTT project sample textbooks to be used in secondary schools were produced. These textbooks are culturally responsive in nature. This implies the content, illustrations, examples as well as activities in the textbooks have taken into consideration students' culture. The project was able to prepare sample of textbooks in Mathematics, Biology and English subjects. In this chapter, I used examples from Biology and Mathematics textbooks to show to what extent the textbooks have culturally responsive features.

In ordinary books, some Biological terms used were difficult for form one students. It is important to develop glossary which can help easy understanding of difficult terminologies. Language supportive textbooks used students' known language, in the Tanzanian case Kiswahili, strategically to facilitate students' learning. For instance, in all textbooks the use of grocery in the margin of textbooks helped to explain difficult words for students. Let us see a real example from Mathematics textbook for Form one secondary school students.

Mathematics / Chapter 1: Numbers

Some useful words:

- ▶ *base ten - kizio cha kumi*
- ▶ *number system - mfumo wa namba*
- ▶ *place value- nafasi ya namba*
- ▶ *digits -tarakimu*
- ▶ *natural numbers- namba za kuhesabia*
- ▶ *whole numbers- namba nzima*
- ▶ *operation -tendo*
- ▶ *factor- kigawe*
- ▶ *multiple- kigawo*
- ▶ *integer -namba kamili*

The use of Kiswahili (students' language) to explain difficult words enhances students' understanding of the scientific concepts. LSP sometimes uses '*Mwongozo*' (in English 'guidelines') to elaborate words or tasks given to students for them to understand without difficulties. Example of '*Mwongozo*' in biology textbook, Biology for Secondary School (Pg. 20) explains the following:

Chapter 4: Waste and Waste Management

Topic: Waste and Waste Management

Sub topic: Recycling

Activity 4.8 Why don't people recycle?

Some people do not recycle. Why do you think this is?

- 1. Talk in Kiswahili. Why do you think many people do not do recycle?*
- 2. In a small group, discuss what could be done to get more people recycle.*
- 3. Create an **action plan** to get more people to recycle. Everyone in the community will need to do something. You could make a table to help you fill in using words: E.g. 2. Present your **action plan** to the class in English.*

Mwongozo

Katika mpango kazi wako, fikiria namna ya kuwahusisha watu wengi kwenye zoezi la kuweka taka kwenye matumizi mengine. Fikiria nani atafanya nini, na atafanya lini. Kwa kufikiria hayo, utaweza kutengeneza mpango kazi wako.

From the example above, the explanations on how to do an activity using students' language can facilitate a student to do it easily. So, this approach of textbooks responded to the need of culturally responsive teaching.

Further, illustrations are another aspect used in LSP to make the lesson culturally responsive. Illustrations are the basis of visual learning in lessons. Illustrations include representations found in textbooks such as photographs, diagrams, charts, graphs, drawings and tables. Effective illustrations need to be according to the students' context and culture. These help students to make sense of their learning. Illustrations used in language supportive textbooks for Tanzanian secondary schools are culturally responsive. These features assist students to easily understand different scientific and mathematics concepts in relation to their day to day lives. For instance, the following picture showing Maasai person re-use of car tires to make sandals for selling (pg 19 of Biology textbooks). This picture is used in the topic of management of waste materials.



Figure 4.1: *Maasai person re-use of car tires to make sandals for selling (Source LSTT Biology textbooks, Page 19)*

This picture shows what is happening in day-to-day life in Tanzanian communities. However, sometimes in their daily lives it is not easy for students to connect selling of sandals made from car tires with the concept of waste management. Therefore, using this picture in the classroom helps them to connect the two concepts.

Further, learning using LSP helps students to understand difficult terms using simple ways such as visual explanations. The learning of these terms can be treated in the way that will include visual and other materials facilitating learning and educational processes. The

language used is at a level higher than that of form one students' English competence. The explanations used are sometimes very difficult; instead, the authors could use visual images. For instance, teaching algebra to form one students might be difficult. The use of illustrations can help to simplify learning of the concept. For example, the following illustration helps students in learning Algebraic expressions in mathematics (Page 48 of Mathematics Textbook)



Figure 4.2: *Algebraic expressions in mathematics*
(Source LSTT Mathematics Textbook, Page 48)

The illustration assists students learn using examples from their Tanzanian day-to-day life. Students have experience of doing shopping and buying different

things such as vouchers for their mobile phone or their parents' mobile phones. Therefore, using examples from their real life situations help students easily learn mathematics concepts.

LSP Teaching Methods and Assessment techniques

Language supportive pedagogy supports the teaching methods to be more contextualized in different ways. The use of cooperative learning is one of the strategies encouraged in student-centred approaches. LSP highly encourages the use of cooperative learning using group discussion in classrooms. Students are given activities in groups where they discuss together and come up with a solution. In LSP group discussion students are allowed to discuss using both English and Kiswahili. During presentation of results in the class students required to present in English. Teachers support them to be able to present in English. During presentation, teachers support them with pronunciation and using English to present. Students in secondary schools seemed to enjoy this mode of teaching. On one occasion in the school one student said that *“the method of teaching used by the teacher allowed us to discuss freely and we even elaborated the concepts in Kiswahili which improved my understanding”* (Student in Observed School). This shows that students really appreciate the use of Kiswahili strategically in classroom.

In the early sections we have seen how it helps teachers to use Kiswahili strategically in teaching and learning activities. The use of Kiswahili strategically is not only seen in the textbooks but also during classroom session. A good example is one day when I had an opportunity to attend one of my student-teacher classroom to observe and provide support. That student-teacher used Kiswahili strategically for students to understand about First Aid in biology. The students used role play to explain different types of accidents and how to use First Aid to help a person who gets an accident. In one of the role plays students demonstrated how to help someone bitten by snake. In this lesson, a student teacher assisted students to pronounce difficult words in English. The word such as ‘*Venom*’ and also she used simple explanation to explain that word such as snake poison and in Kiswahili ‘*sumu ya nyoka*’. Students did not have difficulty in understanding the concepts because they had opportunity to read, write, pronounce and explain different biological concepts.

LSP supports the use of learner centered approach, which is activity based as well as the use of low-cost improvised teaching materials. LSP is activity-based in its teaching and learning process. Students are given many activities in groups or individually. These activities are regularly sensitive to students’ culture and background, meaning they consider contextual

background of the students. Below is an example of activity from Form 1 Biology textbook topic of waste management.

Activity 4.8 Why don't people recycle?

Some people do not recycle. Why do you think this is?

1. Talk in Kiswahili. Why do you think many people do not do recycling?
2. In a small group, discuss what could be done to get more people to recycle.
3. Create an action plan to get more people to recycle. Everyone in the community will need to do something.

This activity is more contextually based, different from the developed world where students observed in their environment big trucks collect recycle materials from the bins which separate waste that cannot be recycled from that which can. This implies students learn how to recycle materials using their context rather than context from developed world.

Conclusion

Language supportive pedagogy enhances the use culturally responsive pedagogy in Tanzanian secondary

schools context. The use of textbooks which are culturally sensitive in LSP enhances students' understanding of science and mathematics. Further, LSP encourages the use of Kiswahili strategically, simple English as well as activities that facilitate teachers and students teaching and learning process in the classroom. LSP teaching methods which are culturally responsive facilitate students learning of science and mathematics using English, which is second or third language to most of secondary school students in Tanzania. All these aspects of LSP to greater extent are taking account of students' cultural background in Tanzanian context hence facilitating students' understanding of science and mathematics.

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CHAPTER FIVE

LSP IMPLEMENTATION IN TANZANIAN SECONDARY SCHOOLS: PRACTICE, CHALLENGES, BENEFITS AND ACADEMICS DREAD ON LANGUAGE OF INSTRUCTION POLICY CHANGE

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Abstract

For any country to prosper, it should educate its people. Provision of good education require the use of proper language that will enable learners to freely learn. The importance of language in communication and society is crucial as it is also used in education for knowledge, value, skills, attitude and culture transmission. Thus, in order to have meaningful communication in education, choosing appropriate language of instruction is most important. Challenge on which language to be used dominate the multilingual society which most of the time are in dilemma on which language can be used in their education system. Tanzania faces the same challenge as there is abruptly switch on language used for instruction in government primary schools. To minimize the

challenge is when LSST in different phases tried to address, suggest and try possible ways to eliminate it. Amongst others, teachers were trained on how to integrate features of language supportive pedagogy in their lesson. Different higher institution from Tanzania and abroad worked collaboratively to address the challenge. Teachers claim that benefit for integrating of Language Supportive Pedagogy will facilitate teaching and learning. It will also enhance understanding of the sessions to students. However, the threat remains as to whether language policy will remain the same or be affected by Language supportive pedagogy practice. This chapter presents the experience I gained during the implementation of language supportive pedagogy on Practice, Challenges, Benefits and Academics Dread on Language of Instruction Policy Change from teachers during LSST team visitation in different secondary schools in Dodoma city.

Keywords: *Language, policy, learning, multilingual, second language, pedagogy, debate, quality education, science education, understanding*

Introduction

In this globalized world, that require people to communicate in a global language has made the learning of English language as necessary (Warschauer, 2000). Its

necessity has been enforced by its wide use in all sectors as countries are striving to strengthen their economy, academic sector, business and amusement/hospitality industry. Worldwide, approximately nearly three and eighty hundred people are using and speaking English, while more than a billion people are learning it (Yogi, 2007) such huge figure of people who are both speaking and learning English makes most countries in their education ensure that they are teaching their students on how to use the language.

The data above proves the claim that, currently and undeniably knowing and using English is important and moreover it plays a significant role not only in economy but also in education sector. As a result, Tanzania has joined other African countries to recognize and use of English language as the official language in different governmental and official occasions (Yogi, 2007).

In Tanzania public primary schools policy recognizes Kiswahili as a language of instruction and English is taken as a supplement language course (Yogi, 2007). After seven years of primary school, students who pass to join ordinary secondary education are required to be taught in English in all their subjects except Kiswahili which is only taught as supplement language course. The learning of the fundamental course including geography, chemistry and biology in their non-native language

which they are not efficiency in using is an obstacle that affect not only their participation in learning but also their performance (Telli, 2012).

Taking into consideration of this obstacle of students in secondary schools in their learning, university of Bristol collaborating with different universities and colleges from Tanzania including St John's University of Tanzania established a Language Supportive Teaching and Textbook in Tanzania (LSTT) project that aimed at helping students in form one to make transition from Kiswahili to English as one way of addressing language issue.

LSTT in its second phase developed Language Supportive Pedagogy (LSP) and prepared materials to be used in teaching and learning process. After that, the focus was to support teacher trainees of science and mathematics in colleges and universities to become experts on Language Supportive Pedagogy. This was done successfully in universities and colleges. More than 900 student teachers were exposed to LSTT and Language Supportive Pedagogy (LSP). Furthermore, tutors from partner colleges and universities were also informed on LSTT and LSP

With the intention to ensure that the phase expand from universities and colleges to reach more teachers in

secondary schools, LSTT team from St John's university started to conduct various outreach programs in nearby secondary schools in the Dodoma city to disseminate LSP. These programs intended to sensitize teachers on how to use and integrate LSP in teaching and learning process.

Presentations conducted in school outreach programs, especially for introducing LSTT and its phases aroused feelings among teachers and curiosity on how they can improve classroom practices by integrating LSP in their sessions. Despite teachers' interest in using LSP, during discussion in different outreach programs in schools, most of them doubted if this can be allowed by school authority with the fear that the LSP aims to change the policy on the current language of instruction in secondary schools. During all the time of schools visitation I was curious and interested in understanding the practice, benefits, challenges and fear of teachers on policy regarding language of instruction. This paper aims at describing practice; explain challenges, benefits, and academic dread associated with language of instruction policy change.

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Background information and status quo of Language of Instruction (LoI) in Tanzanian secondary schools

Apparently, Tanzania is one among multilingual country that uses two different languages in teaching. The students in public primary schools are instructed using Kiswahili before switching to English when they join secondary education (Yogi, 2017). This kind of policy contradiction as asserted by Yogi (2017) is not new to multilingual countries as a result, the debate on policy regarding language has dominated many areas in academic and literature but, it has mostly dominated the education sector. For years now, Tanzania has been in a debate regarding language of instruction in schools. This claim was reinforced with Rugemarila, (2005) asserting that, “in no other sector has language policy and planning been most agonizingly felt and contested than in education”. The debate has resulted to emergency of two groups, one supporting the use of Kiswahili in education sector from primary to university the other supporting the use of English.

The group that is supporting the use of Kiswahili claim that English language is presently not effective. The claim is supported by different authors including Criper and Dodd (1984) who conducted a study and concluded that English is no longer an effective Language of Instruction. In their recommendation they state that

government should change policy regarding language of instruction. However, some scholars are arguing that government failed to change the policy as they are continuing to use the English language due to education British aid that they receive in education sector. While others supporting the use of the English language, do not accept such claim and present the advantages of using English as medium and language of instruction (Bamgbose, 1992; BrockUtne, 2010; Ngonyani, 2010).

Two groups have failed to reach consensus on the debate. The failure on reaching consensus brings the attention on the quality of education delivered, and doubt on understanding of the students who come from public schools which tend to use Kiswahili as their medium of communication as well as language of instruction.

This long debate that has failed to reach the conclusion, leaves numbers of students in public secondary schools being affected. The question remains on the quality of education delivered in English language as reflected in the final examination results which have been dropping from year to year (Nghambi, 2014). Furthermore, various studies report that, a person understands subject content well if learning is done in a language they understand well, and even better if it is in the first language (Svensson, Andergerg, Alvegard & Johansson, 2009).

Experience from a greater part of the world shows that different communities/societies use their own languages to get knowledge and various skills and that foreign languages are taught for communication purposes. Students at the secondary school level master Kiswahili and their first language rather than English. Henceforth, in order to enable the students to understand various concepts well, the languages which are most commonly used in the country should be used in accessing knowledge and various skills in school.

Henceforth, with regard to status of English language and its use in secondary schools as the language of instruction as well as language of communication, it is apparently true that, the proficiency level of English language is very low to students. This claim is supported by various studies which report that, the facts regarding the state of English in Tanzanian schools are quite clear - that proficiency levels are too low for the language to function as an effective language of instruction (Mlamba & Materu 1978; Criper & Dodd 1984; Roy-Campbell & Qorro 1997).

Classroom experience on Language of Instruction (LoI) practice

During visitation in schools, and discussions held during sessions with regard to Language of Instruction (LoI) in

class, teachers clearly stated that the issue of using English language for students in low classes, especially for form one students who are from public schools, is challenging. Teachers claimed that, despite the policy which forces them to use English as LoI, it is a challenge for them to use English frequently to students of form one and two who are still struggling to understand English language. Furthermore, students have no competency in communication skills in LoI.

Teachers asserted that, due to low language proficiency of students in lower classes, most teachers tend to use both English and Kiswahili interchangeably. Teachers claimed to use interpretation strategy to teach. When they speak English or read text in books, they repeat the same text in Kiswahili. All teachers agreed that the LSP had been of importance in their lessons as they have been integrating features of LSP in all of them.

Teachers argue that, at first LSP produced high demand of translating as student-teachers were demanding always alternative name of a vocabulary or translating the vocabulary to Kiswahili. Hence, teachers were highly required by the students to translate each and every word that they taught. This practice raised a challenge that, with such demand sometimes students could forget the medium of instruction. As the idea in LSP is not using Kiswahili throughout the lesson; rather emphasizes using

Kiswahili strategically to support students in understanding difficult terminologies. However, as days were going on there was a change in the understanding of LSP. Furthermore, teachers clearly stated that using LSP has simplified their work of teaching as the lessons have been student-centered with a lot of activities. On the other hand, another experience raised was the challenge on the training of teacher educators.

Additionally, during discussions with teachers, it was clearly addressed that LSP has been of importance to both teachers and students. However, at first there was a challenge of understanding what was required to be done when integrating LSP in lessons. Most of the teachers were translating each and every word to the first language of the learners but as time moved on, the understanding was changing due to the training that were held to teachers.

Finally, they understood that, LSP is not only about translating but also using simple language, having activities in the class and translating only difficult and new vocabulary when there is a need to do so. The LSP also is said to improve pronunciation of students. Conversely, this was challenging to science classes as they were not willing to pronounce words by saying that it was not a language class. One of the teachers from secondary school commenting on language practice said:

“...I was teaching organic Chemistry class, on three compound organic chemistry, so you need the student to differentiate the three in terms of pronunciation and I wanted my students to differentiate the three terms and pronounce them correctly. The terms were Alkalyne, Alkaline, Alkalyne, then there was a challenge as they started to see as I have leveled them to primary pupils...”

Educators’ view on the success and challenges of integrating Language Supportive Pedagogy in lessons

With success of integrating LSP in lessons teachers pointed out that, teaching has been made simple by the use of LSP. The students are currently catching up with the lesson very easily because there is the use of simple language in the lesson. Also, LSP has led teachers to understand that the issue of language is not entirely for language teachers, but for all teachers. Hence, every teacher needs to make sure that language issues are considered in classes. In the past, science teachers were not much concerned about the issue of language; rather they were only focusing on content.

The other success, LSP lesson has led to interdisciplinary relationship among departments as teachers are working together in preparing lessons for

LSP and sometimes they go together in the classes for teaching. However, the issue of science teachers teaching some of the language aspects has led to a new discussion: if science teachers can also teach language, what is the point of having language teachers?



Figure 5.1: *Some of science and language secondary teachers in one secondary schools in Dodoma preparing LSP lesson plan collaboratively*

One of the mentioned challenges was a need to improve the way LSP lessons are prepared. Teachers requested to simplify the way LSP lessons are prepared as some of the tutors claim to spend much time on preparing the lesson. However, both teachers and tutors agree that components in LSP lesson plan are enhancing cooperation among teachers during preparation of lessons. Hence, teachers recommended the conducting training at the level of college and to all teachers to enable them acquire knowledge on LSP lesson elements and planning.



Figure 5.3: *One of the teachers presenting LSP lesson plan they prepared during the training at one nearby secondary school during outreach program*

Another mentioned challenge on implementation of LSP in classroom session is over translation. When teachers started to use Kiswahili strategically, most of the time their students requested translation of vocabulary they

found difficulty to understand. Thus, translation was very much demanded by students, and teachers started to think that it has been consuming time for them to the extent that, they sometimes fail to finish their lesson as translating is like repeating the same thing. Also, the challenge of using Kiswahili during session was on how to use Kiswahili strategically. This is because if Kiswahili will not be used strategically, it is clear that the policy will be violated to the extent that students will not learn English.

Teachers' experience on the benefit of integrating LSP approach in lesson

Most teachers agreed that, it is possible to integrate LSP in their lessons. Furthermore, teachers claim that, the integration of LSP will facilitate teaching and learning. It will also enhance understanding of the lessons by students.

Currently, teachers are using Kiswahili in their lessons as a tool for translation of English words. Unfortunately, they use Kiswahili to translate word by word in their teaching especially in lower classes. Kiswahili use dominates the classes to help learners to grasp the lesson. When teachers use English frequently it was claimed that, most of students did not understand the lesson. Henceforth, it was commented that, Kiswahili is an

important part of the lesson in teaching and learning. However, it needs to be used strategically rather than using it as the tool for translation.

The use of Kiswahili strategically will enhance learning. At the same time, it will enable the learners to understand both content and language of the lesson. Though, as far as LSP is concerned, the emphasis is use of simple language that enables the learners to grasp the lesson. Besides, teachers commented on requesting the authority concerned with education to review education policy including the language of instruction to allow the use of LSP. For teachers, LSP can be the turning point regarding the debate on the language of instruction.

But also, teachers review on the features of LSP recommend the use of it in teaching and learning context. From teachers' perspective the use of LSP in teaching and learning will make learning the responsibility of learners. Lessons are learner- centered and make teachers remain as facilitators of lessons. It engages students and reinforces different skills to students, including communication skills wherein as the time goes the students became competent in LoI. Furthermore, in classroom practice teachers believe that all students should learn or maintain at least one global language in addition to English, this will help teachers having reference language on matters that will require

clarification from other languages. This can be achieved well by ensuring that the issue of bilingual teaching and learning is made a central part of the curriculum.

However, in order to make language supportive pedagogy a central part of the curriculum, it is necessary to engage in professional development programs that are aware of the Tanzanian classroom context. Furthermore, they should be capable of ensuring that positive changes that are effected meet with the need of classroom practice in our schools and they should have deep knowledge on issues related to languages especially foreign languages in classroom.

Teachers claimed that, the use of LSP in classroom session has worked as the link between the content taught in relation to students understanding of the content. It is addressing the issues that were associated with the challenges for students in lower classes who were not able to make follow-up on the content taught due to low proficiency in English language. Henceforth, the introduction of LSP has addressed that challenge and enhanced the learning in the classroom.

In classroom the use of LSP is also associated with and claimed by teachers to improve the quality of teaching and the ways students learn. Due to LSP, teachers were able to prepare materials that stimulated and interested

their students. Such materials facilitated students to be more active in learning. The preparation of such materials focused on helping students avoid misunderstanding during the session rather than covering the topic.

Also, using resources that are LSP related they influenced in accomplishing academic tasks and they ensured that the lesson prepared was active and done in co-operation with others. For example, teachers stated that using teaching aids and resources with LSP increased attention of their students in their lesson and every student was showing curiosity to listen and participate in the lesson.

Teachers also experienced LSP and termed it as the proper approach that helps students make beyond simple forms of thinking as defined in the Bloom's taxonomy pyramid, like basic memorization and comprehension to complex learning process like analysis, evaluation and creation. LSP is termed by some teachers using it as the model in their session as a powerful tool to help develop learning objectives as well as language objectives that need to be attained in the lesson. Therefore, with LSP students with lower proficiency in language also benefited from LSP as by the end of lesson they also have the opportunity to learn their subject language.

Language supportive pedagogy helps students gain a deeper grasp of fundamental materials, hence a teacher can translate some of difficult vocabularies for his or her students to increase the ability to understand something during the learning. This process facilitated learning and influenced teaching students to think critically and understand how the learning process works.

Teachers offered the time where students were able to discuss the problem and get ample time to present what they have discussed. During the discussion sessions many teachers allowed their students to use the language that they were able to use, then to translate the materials discussed and present them in English language. At the end of presentation teachers made comments on the materials and gave feedback that was used by students to improve and had more details on the given task. With all this process, students benefited and gained other language skills like listening and writing skills. This was done through note taking in presentations.

Additionally, teachers asserted that, most of their students preferred learning style with a teaching process that supports them and the way they like to learn. Teachers clearly stated that, the current method of teaching is “student- centered” approach. Unfortunately, due to the challenge of LoI to teachers it was very challenging to implement sessions that are interactive. In

other words, teachers lacked strategy for engaging students in learning despite the method to be used focused on ensuring that students are participating fully in the session. With LSP teachers were able to have strategies that helped them engage students in their lessons.

LSP has supported teachers and encouraged them to adopt a teaching style that aligns with it. For instance, with LSP teachers have been encouraged and used various styles like visual learning styles whereby students were learning by seeing guided teacher charts, graphs, power point picture aids or through the reading and writing learning style whereby students learned through reading books. This visual learning style helps students and has been found that most students understand better by reading and looking at pictures, diagrams and graphs.

Henceforth, from the experience gained by teachers during implementation of LSP it was concluded that, integration of LSP in lesson enabled students to pay more attention to the lesson and helped much in memorization of the materials, however it is important to understand that LSP is not about memorization of materials rather through long memorization students can understand well content and enable them perform well in examinations. For instance, one biology teacher who

attended the session with a picture showing the growing development of plant from early stage, commented that the class was very active and interactive, and it was in that lesson where students raised many concerns on the lesson taught comparing to other lessons in which no kind of concern or response was shown by the students. So, from teacher's point of view, such kind of participation received from students in that lesson was mainly influenced by the integration of LSP in the lesson.



Figure 5.4: *Students following up Biology session that integrated Biology in one of secondary school*

Language supportive pedagogy has encouraged cooperation among teachers during preparation, implementation and review of the lesson. This emanated from LSP as during the preparation of objectives teachers are also required to prepare language objectives. Science and mathematics teachers struggled to

understand the language learning objectives or indeed the language demand of their subjects, and so could not deliver content within the available time. Language teachers, on the other hand understood the book objectives immediately and were often willing to support their colleagues.

Language objectives include objectives for pronunciation of words wherein science teachers collaborate with language teachers to assist each other in finding out the way those words can be pronounced. Language teachers also assist science teachers to prepare short sentences that are simple for students to understand.

This collaboration has influenced team teaching among science and language teachers in schools. But also, there is a positive collaboration across science teachers especially on words that are difficult and which require some clarification. Thus, teachers have been working together in preparation of lesson and sometimes in teaching the lessons.

Fear of Academicians on Change of Language of Instruction Policy

It is important to note that, language supportive pedagogy (LSP) is an approach developed to tackle the

language barrier for secondary school students in lower classes, especially in form one. It is an interactive pedagogy focused on developing learners' academic language skills in English as a part of subject teaching. It is used to scaffold students who are struggling in understanding the content taught in English and those who do not have English language fluency.

Teachers who were exposed to LSP and those who practiced it in the classroom all agree that it has positive impact on the learning of the students. They further argue that, the use of LSP strategies in their teaching has influenced students and motivated them to participate in the lesson in comparison to other sessions that did not include LSP strategies.

Despite curiosity of teachers integrating LSP, still there was a fear among themselves that, this integration can change the education policy on language of instruction. During the discussion it was emphasized by teachers that most of the time they have been receiving orders from their supervisors prohibiting the use of Kiswahili during class sessions. These orders require them to use only English language in their sessions.

Teachers exposed to LSP at first time see it as an approach that wants to change the language of instruction. Therefore, they are not comfortable on

adopting this new way of teaching in the classroom. Most of them are conscious on avoiding adopting the new language policy which may probably infringe on the one which is currently used in secondary schools. The current language policy on instruction needs teachers to use English language, which is still the challenge to form one students who are adopting new situation and experience of learning in English after seven years of primary school they spend learning in Kiswahili.

Based on the experience from teachers, the first thing that comes up in their minds when LSP is mentioned is the use of Kiswahili or translation of difficult vocabulary into Kiswahili. This strategy to them is likely focusing on triggering the current used policy, henceforth teachers are likely not to accept it as it will not only go different to the policy but also it will lead to contradiction on what they are supposed to do in the classroom. Teachers assert that, most of the time when they are visited by their employers, they are seriously encouraged not to use other language than what is recommended in the policy. Therefore, they are not paying attention to LSP and they are not willing to take it into practice in their sessions.

However, for teachers who attended training and those who practiced LSP in their classroom they agreed that, teaching has been made simple by the use of LSP. The students are catching up with the lesson very easily due

to the use of simple language in the lesson. Also, LSP has led to being conscious that language is not only for language teachers, but for all teachers. Hence, every teacher exposed to LSP wanted to make sure that language issues are considered in classes, different from past days when science teachers were not much concerned by the issue of language, rather they only focused on content.

Conclusion

From the experience of LSP from teachers in secondary schools, it is recommended that, teachers in both private and public schools need to be informed on LSP to enable them become familiar with the characteristics of an LSP lesson. The need to expose them to training will give new insights to teachers on shifting and making their classroom most cooperative and interactive throughout the time of their lesson. The mechanism to improve is to help language and science teachers to be familiar with LSP and to enable them also to disseminate the information to other teachers.

The government should review the language policy. The policy should focus on incorporating issues that will enhance the learning situation in classroom. One among the recommended issues to be reviewed by policy makers is to integrate LSP in the curriculum. This can

influence bringing new innovations in education sector, especially for students that will be enrolled into secondary schools, middle colleges and higher learning institution. The changes will provide ample time for students to explore and learn more on materials presented; this will enhance critical thinking and learning on the part of students, rather than non-interactive learning that encourages much rote learning.

With the benefits pointed out during the visitation of schools by LSP team, it is clear that the effective use of LSP in secondary schools, especially in lower classes, will raise the passing rate of students joining secondary schools, middle colleges and higher learning institutions. With the raising of enrollment rate, it is obvious that illiteracy rate will go down.

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CHAPTER SIX

**THE USE OF LSP, CLASSROOM ACTIVITIES
AND FAMILIAR ILLUSTRATIONS IN
IMPROVEMENT OF BIOLOGY LEARNING**

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Abstract

It has been a point of concern that our public primary schools in Tanzania use Kiswahili as a medium of instructions and these same students when they go to secondary school they are taught in English. The transition from Kiswahili to English medium of instruction causes conflict with biology learning in secondary schools since these students do not understand English. The use of language supportive pedagogy (LSP) to secondary school students helps to have a smooth transition by improving their understanding through English. The LSP requires a student to acquire knowledge through the use of simple language, using simple familiar illustrations to explain an idea, use of Kiswahili/or any ethnic community language strategically to explain an idea, and emphasizing the use of basic skills in language

development. The objective of this chapter is to analyze how classroom activities and familiar illustrations by using LSP stimulated and improved biology learning to students during Block Teaching Practice (BTP) sessions. A revisit on the lesson plans which were prepared by student teachers in different topics of Biology was conducted. The chapter focuses more on how different activities conducted in the classroom stimulated participation in the classroom and involved all students and included all features of LSP. In addition, the chapter provides examples where simple familiar illustrations and demonstrations were used to improve the level of understanding of the students. Students were allowed to practice speaking and listening in the role play, in this way they improved their listening and speaking abilities as it is emphasized in LSP.

Keywords: *LSP, Role play, familiar illustrations, Biology learning.*

Introduction

English is spoken by a very small section of the Tanzanian population, Kiswahili is the lingua franca of the country and has been the language of instruction (LOI) for public primary schools since 1965 (Rubagumya *et al.*, 1999). In Tanzania, Kiswahili is the medium of instruction for primary education and English

which is also the second official language, is the medium of instruction for secondary education (Biswalo, 2010). The transition from Kiswahili to English in secondary schools as medium of instructions causes conflict in learning since these students do not understand English very well. It is because of these challenges which secondary school students are facing in understanding English language that caused LSTT project to come into existence. LSTT is a beneficial project to individuals who want to achieve success in education and consider teaching as their preferred profession, since the project provides essential skills that increase teachers' teaching competence. The aim of LSTT is to make sure that English does not become a communication barrier that limits healthy interaction between teachers and students and among students themselves during classroom sessions and outside the classroom (Barrett *et al.*, 2014).

In its second phase LSTT project introduced language supportive pedagogy (LSP) to universities and teachers' colleges to enhance preparation of teachers in colleges. LSP provided knowledge and skills to help science and mathematics students in improving language of teaching and learning, increase interactive teaching approach (learner-centered), LSP material development and proper use of teaching and learning materials. The premise on which Language Supportive Pedagogy (LSP) is built is that every teacher should also be a language teacher,

since no learning can take place without language. It is important that all teachers, whatever subject they teach, be conscious of, and help their learners in, the language of instructions in order to understand the subject matter easily.

In language learning, a person, at first, learns to speak in their mother tongue to convey a message and then gradually uses other methods like reading and writing to communicate with others. Similarly, when a person targets to acquire a second language, the speaking method is very effective for acquisition (Priscilla & Tazria, 2013). In Tanzania, writing and reading are given more priority for second language acquisition especially English and for that reason students find it difficult to speak and communicate in English language.

In secondary schools the language that is used for classroom interaction is English. However, in Tanzania, most of the students are from Kiswahili medium of instruction. As a result, when students are given a task in classroom, they find it difficult to express their feelings in the target language as their native language stands as a barrier. The students usually do not get exposure to the right environment to practice speaking in English as it is not practiced nationwide. As a result, in the classroom, when they are asked to give a speech they do not feel at ease. To overcome this problem, role play can be used as

an effective tool to help the students regain confidence. In an English-speaking class, it is important for the students to comprehend the situation to communicate effectively outside of the classroom. Role play is the medium which enables the students to get an idea about different situations through various activities taken from the scenario of real life. In a classroom, besides other oral activities like picture description, storytelling and quizzing, it is important as teachers to have also given the students role plays for them to practice speaking as new English speakers (Priscilla & Tazria, 2013).

LSP Features

In order for the student teacher to be able to use LSP skill in teaching and learning, the student teacher must know the LSP components. The LSP components include use of short and simple sentences, and correct grammar, use of Kiswahili strategically (where necessary) to support students to understand the content, to allow students to discuss in Kiswahili and present their ideas in English, to correct students' pronunciation errors, to support students to construct English sentences (short and simple sentences, and correct grammar) to support students to learn English through practicing four basic skills- listening, reading, speaking, and writing, lastly is to provide team working. LSP encourages cooperation among Science and English teachers during

preparation, implementation and review of the lesson. Among the LSP features are the use of different activities and use of familiar illustrations which help students to understand the subject under study. In this chapter, I show different activities and familiar illustrations and how they helped form one students to understand the subjects under study using LSP during Block Teaching Practices (BTP).

Personal experiences with LSP in teaching Biology

Overall, my experience with LSP mainly deals with biology learning in secondary school. Earlier, I explained that this chapter describes student- teachers' use of activities and familiar illustrations and how they facilitate learning within class setting using LSP. In addition, this chapter assesses the effectiveness of use of different learning activities and familiar illustrations in learning biology using LSP. In my experience, I had an opportunity to use various techniques especially classroom observation to collect information of my experiences in classroom settings. Further to capture more information and evidence of my experience, questionnaires were used. The analysis of observation and checklist results for activities performed in the classroom and the use of illustrations was done by means of thematic analysis for qualitative data.

LSP enhances students' interaction in Biology learning

Interactive teaching is among the things which are emphasized in LSP. Interactive teaching is all about instructing the students in a way they are actively involved in their learning process. There are different ways to create an involvement like this. Most of the time is through teacher- student interaction, student-student interaction, the use of audio- visual equipment, hands-on demonstrations and exercises. During BTP session student-teachers managed to prepare lessons with interactive aspect like role play by students. The motive was to encourage a student -teacher to be more dedicated on preparation of lesson planning which would facilitate learning on the side of student and easing the teaching load on the teacher's side. The student -teacher used more time to prepare some interactive teaching tools like drawing illustrations and the diagram of a snake showing fangs. She used some interactive teaching ideas like using familiar language, for this case use of Kiswahili in providing meaning of some vocabularies like poison and fangs which would be unfamiliar to many students. More over the student- teacher used interactive teaching games like the use of role play by students to understand the concepts of first aid. Using illustrations, role play and other similar activities in the class stimulated students become active members in the class, thinking on their

own, using their brains, which eventually resulting in long term memory retention (Banikowski & Alison, 1999)

Not only were students' knowledge improved, but their interest, strength, knowledge, team spirit and freedom of expression increased as well when a teacher provided these conditions in the classroom.

The use of role play in LSP classroom

Activities which were arranged by the student -teacher to teach form one students who were not familiar with English language activated the urge to learn more. During BTP session student-teachers used LSP to help students understand biology. The topic was first aid where a student- teacher involved her students in a role play to help them understand the meaning of first aid and different terminologies such as venom meaning poison, fangs which means the two sharp teeth of a snake which usually are left after a snake has bitten his prey, snake bite which means a wound left if someone has been bitten by a snake. First aid is the initial treatment or help given to a sick person, particularly injured individual before professional medical care becomes available with the materials at hand. Such intervention aims at reducing the pains that threaten the victim until a professional arrives or the sick individual is brought to a health

facility. To understand this better in the classroom setting with students who do not understand English well, a student- teacher arranges a group of students to participate in role play to make students understand more of the subject being taught. The role play covered first aid management after a student has been bitten by a snake. Through the role play these activities were shown.

- ▶ Lay the victim down and advise not to move
- ▶ Calm the victim
- ▶ Immobilize the affected part and keep it below the level of the heart
- ▶ Wipe the wound of venom
- ▶ Apply a firm cord just above the bite
- ▶ This must be removed in 15 minutes if you are sure that anti venom has been injected and you cannot get the victim to hospital in time.
- ▶ If there is no anti venom do the following: Tie a cord tightly around the limb just above the bite. Using a razor blade or a clean knife make a cut 1 cm deep
- ▶ Suck the liquid which is coming out of the wound
- ▶ Continue to suck and dispose for 5-10 minutes
- ▶ Loosen the cord around the patient's limb
- ▶ Disinfect the wound
- ▶ Refer to hospital for anti- venom injection.

Students were given tasks to perform in a role play like one can act as a snake, the other one can act as victim and the other student will act as the person who will provide first aid to the victim of snake bite. Students who acted in the role play were given some actions to perform while a teacher was reading everything according to the action performed. Afterwards, all students in the class were told to repeat after the teacher all the actions which a first aid provider was acting in providing first aid to the victim of the snake bite.

The activity continued on for five more groups of three students each who participated in the role play. At the end each student was asked about the actions and the steps taken in the first aid. At the end of the lesson students were happy because they had participated in the play and they remembered almost all actions shown on a role play. Moreover, they were happy they had learnt some difficult words like fangs and they knew the meaning and knew how to pronounce those words correctly. Happy said ‘Today’s lesson was very much interesting because the teacher used a different method of teaching. Rehema said *‘kwenye hiki kipindi watu hatukusinzia kwani tulifurahia mchezo wakuigiza na wote tumelewa’* ‘Mwalimu ametufafanulia vizuri sana yale maneno magumu kwa Kiswahili mpaka tumelewa’. Meaning “in this session we did not sleep because we were watching a role play and all of us understood the

contents. The teacher has translated well all the vocabularies which were new to us in Kiswahili”.

For students with Kiswahili medium background usually they do not practice speaking using role play technique. For this reason, the student- teacher assigned them a role play for practicing speaking in English as it was new and it challenged them to be creative (Qing, 2011). Communication was not confined to one situation and role play gave them the scope to play a series of different situational interactions. Another reason was that it helped them to practice English in a controlled situation so that they could gain confidence to perform in a ‘real life situation’ (Woodhouse, 2007). However, role play took up a lot of time, it became difficult for the teachers to accommodate the activity for all students within the allocated class time.

The student- teacher wrote different vocabularies found in the topic and helped the students to understand their meaning. For instance, the words venom, fang, and wound were given explanations and different examples were given. In areas of difficulty the student- teacher explained by using local language of students, in this case Kiswahili. When the student- teacher uses a Kiswahili term to explain something to students we say that he uses Kiswahili strategically to help students understand more as a common feature for LSP. So, in

this way the student -teachers introduced and explained concepts of first aid through the use of a role play which students themselves participated. In addition to that the student -teacher helped the students pronounce the vocabularies found in the topic and helped them to read and listen well. Pictures also were provided for the whole topic to emphasize what they already know as shown in figure 6.1.

Snake Bites

A poisonous snake has two fangs, one on each side of the upper jaw. The fangs are as sharp as needles. At the root of the fang there is a poison gland. When the snake strikes, it jabs downwards hitting the skin with its fangs and releases a few drops of venom.

Venom is the poison of the snake. The action of striking forces the poison out and it is injected into the victim's skin.

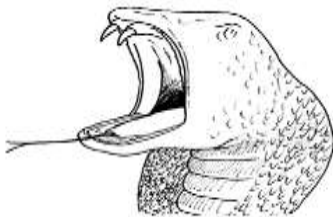


Figure 6.1: *Snake mouth showing fangs*

Sign and symptoms

- Immediate pain and swelling after the bite
- The skin becomes purple. One or two punctured points may be seen where the fangs passed through the skin

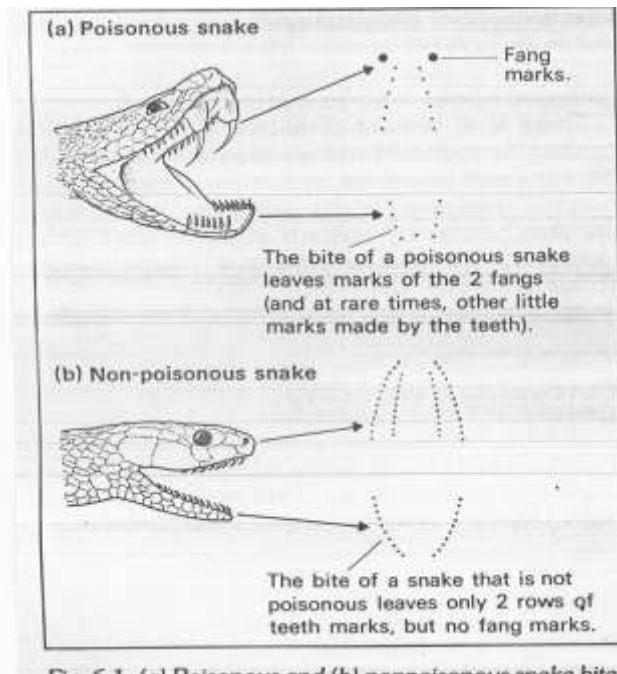


Figure 6.2: *Poisonous snake and Non-poisonous snake*

At the end of the subject the student -teacher provided an assignment in which about 90% of students did well.

Illustrations and role play have attracted attention, aid retention, enhance understanding (Shabiralyani *et al.*, 2015) and create context in those students who participate. Gaining the attention of students is a precondition to any kind of learning. It appears first in most lists of events in the instructional process both because it is a precondition and because it can be too easily slighted among the more "constructive" aspects of instruction. In terms of cognitive psychology, gaining attention is critical because of the limited capacity and duration of the "short-term" or "working" memory (Cowan, 2017) (which has a capacity of five to nine items and a duration of 10 seconds, according to most researchers). Working memory is the place where conscious mental work is performed. If new items need to be brought into working memory, others must be dropped. If items are not used or rehearsed, they tend to be forgotten. If they have been used sufficiently for this case the role play, will be stored in long-term memory for later recall (Cowan, 2008).

After the session students were interviewed to get the feedback on their opinion on how the class was conducted. Majority of students who were interviewed enjoyed the session very much. They reported that they were able to concentrate more on the role play and they were attentive. They managed to be active for almost all 80 minutes of the period. They liked more the way the

English teacher was correcting the pronunciation of their fellow students on different terminologies and in this way they both learned. Also, students reported that the role play made them understand the concepts and retain them for a longer period of time. The use of Kiswahili strategically was also observed where students said some of the vocabularies and their meaning were very difficult in English but the teacher managed to give their meaning in Kiswahili and this has increased the urge for them to learn Biology. For those who participated in the role play, they said that at first they had to memorize a lot without understanding but when the teacher explained some concepts in the class using examples, they were able to understand and learn better by doing action and this caused high memory retention of the concepts. The subject teacher invited an English teacher to help in the pronunciation of English terminologies and the feature of team teaching was observed. The English teacher was present to make sure students pronounce well terminologies like fangs, venom and poison and managed to formulate sentences using those vocabularies in this particular biology topic.

The use of illustrations in teaching

Illustration and text work closely together to create meanings. Illustrations are helpful to learners of all ages and abilities (Hammond *et al.*, 2020). Learners can use

both the words and the illustrations to gather information about the texts they read. In BTP session one teacher prepared a lesson plan on the circulatory system. In the activities he prepared an illustration which shows how oxygen is used to circulate in the blood from left side to the right side of the heart. The colors which were used were red and blue. The medium, or what the illustration is made with (red and blue colors) helped to communicate a tone that matches the story. Students usually learn circulatory system when they are in standard five of primary school and in ward schools all are taught in Kiswahili. Therefore, for the teacher to help students recall and understand the concepts, she just prepared two diagrams of circulatory system. The first was labeled using Kiswahili language and the other one was labeled using English. In this way students' attention to the subject was stimulated because of the familiar terminologies used. These same students, when asked how they feel, appreciated the teacher on the ground that she had gone an extra mile to see them understand the topic under study. The same students suggested also that teachers should have multiple ways of ensuring students understand. The reasons for them not to be interested in learning science subjects is because of the vocabularies and hard terminologies. They went further to explain that normally they are

losing interest of studying science and other subjects because they do not understand English language.

The color which showed de-oxygenated blood was blue and the color which showed oxygenated blood was red, and arrows were shown to direct the movement of blood in the veins from the left ventricle to the right. Then the heart and the capillaries vein and arteries were given their names. In this way the Illustration made the concept of oxygenated blood and deoxygenated blood to be very clear to students. Because of the illustration, students were able to capture well the concept and the pronunciations of new vocabularies. According to Saracho, (2017), illustrations serve to expand, explain, interpret, or decorate a written text.

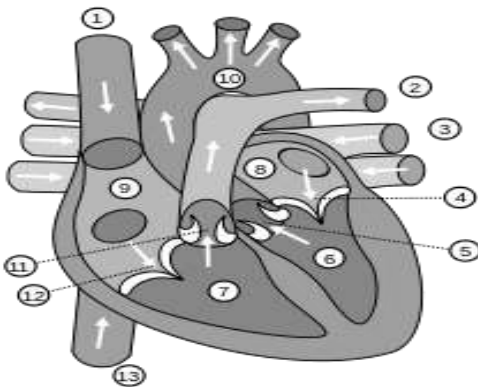


Figure 6.3: *Muundo wa moyo wa binadamu*

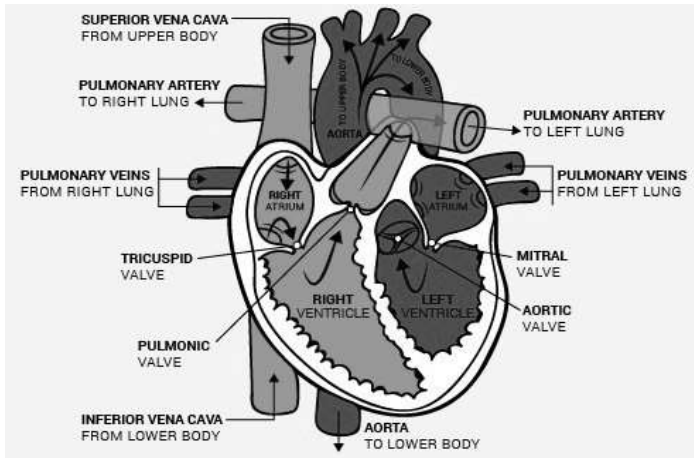


Figure 6.4: *Anatomy of the heart*

Muundo wa moyo wa binadamu

- *1 Vena kava ya juu (damu inaingia kutoka mwilini)
- *2 Ateri ya mapafu (damu inatoka kwenda mapafu)
- *3 Vena ya mapafu (damu inarudi kutoka mapafu)
- *4 Vali mitralia - 5 Vali ya aorta
- *6 Ventrikali kushoto - 7 Ventrikali kulia
- *8 Atiria kushoto - 9 Atiria kulia
- *10 Aorta (damu inatoka kwenda mwilini)
- *11 Vali kwa mapafu - 12 Vali triskupidia
- *13 Vena kava ya chini (damu inaingia kutoka mwilini)

Conclusion

The use of familiar illustrations and role play has managed to stimulate learning science subjects especially Biology. Role play technique has positive impact in improving learners' speaking skills as it gives the students a chance to explore different situations of real life and enables them to speak accurately and confidently in those situations in the target language. Students were allowed to practice speaking and listening in the role play, in this way they improved their listening and speaking abilities as it is emphasized in LSP. Also being involved in role play they learned how to pronounce difficult English words. The use of role play also increased concentration capacity of students and hence increased understanding. Familiar illustration was also observed to stimulate learning among students. Illustrations stimulate recalling capacity and helped students to grasp new ideas. Therefore, the language supportive pedagogy can be ensured when teachers try to use different methods to make students master English language as well as understand the science subjects.

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CHAPTER SEVEN

LANGUAGE SUPPORTIVE PEDAGOGY: THE USE OF KISWAHILI STRATEGICALLY IN LEARNING SCIENCE SUBJECTS IN SECONDARY SCHOOLS IN TANZANIA

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Abstract

Due to advancement of science and technology, the government of Tanzania is making effort to make sure that the teaching and learning of science subjects in secondary schools is given a priority. However, many students still regard science subjects as tough and hard to learn. This chapter, therefore, explores how student-teachers from one university in Tanzania used one of the LSP features – ‘using Kiswahili strategically’ to teach science subjects during Block Teaching Practice (BTP) during 2018/2019 academic year. Data were collected through interviews with teachers, classroom observations and a reflective diary. The results have revealed that the ‘use of Kiswahili strategically’ was well received by both student-teachers and secondary school students. Additionally, classroom observations data have revealed that by allowing students to use Kiswahili to express their ideas and opinions, the

classroom atmosphere was free, teacher-student relationship was enhanced, and most students were fully engaged in learning. However, some student-teachers reported that they were not free to use the strategy for the fear of violating the country's educational language policy, which requires them to use English only. This chapter, therefore, calls for policy makers and other educational stakeholders to find ways of incorporating Kiswahili as a resource, to be used when needed, in teaching and learning of science subjects, which are perceived to be difficult to most Tanzanian students. Implications for teacher practice and future research are identified.

Keywords: *Language supportive pedagogy, Science subjects, Kiswahili, Tanzania*

Introduction

The concept of LSP within the Tanzanian context was introduced by Language Supportive Teaching and Textbooks (LSTT) project in 2013. Among the LSP features is '*using Kiswahili strategically*', which means using Kiswahili where necessary to allow students understand the lesson concepts. According to Barrett et al (2014), Language Supportive Pedagogy (LSP) is considered to be one of the best approaches to facilitate the teaching and learning of science subjects to students in secondary schools in Tanzania. The LSP feature of

'Using Kiswahili strategically' allows students to use Kiswahili during classroom discussions and group activities, and then English is enforced when presenting or reporting students' ideas in the whole class. When students use Kiswahili during class discussions, it helps them to be free and since it is the language the majority students speak, the atmosphere of learning and sharing ideas is enhanced in the classroom.

Although the LSP feature of *'using Kiswahili strategically'* was recently introduced by LSTT project, the concept of using Kiswahili during teaching and learning is not a new concept/ strategy to most secondary schools in Tanzania. Thus, most student-teachers were aware of it, and it was positively received and used by majority of science student-teachers during BTP in secondary schools where they were teaching. However, there is a relative paucity of knowledge of its application at secondary school level since English is the medium of instruction (the MOI) at secondary education level. As explained above, this strategy was introduced to assist students learn better science subjects. Science subjects in the Tanzanian context that are referred to in this study are: Mathematics, Chemistry, Biology, and Physics. Underachievement by majority of students in science subjects in secondary schools in Tanzania necessitated the need for more effective approaches to support students in learning such subjects.

Studies conducted by Brock-Utne (2002, 2006) and Qorro (2006) have revealed that many students in secondary schools fail to understand their subjects because they are not proficient in the language of instruction (English). Therefore, many students are actually disadvantaged by a fundamental misalignment between their own languages, including Kiswahili, and that of the school. Since science subjects are perceived by many secondary students as tough and hard to learn, it is the argument of this study that there is a need of revisiting our language of education policies to enable students understand and learn these subjects better. The study argues that, although English is the MOI at secondary school level, there is a need to rethink how Kiswahili can be used strategically, along with English to allow learning occur since majority of secondary school students have low level of English proficiency, and thus, it becomes difficult for them to understand the material that is presented through English language. Although English is taught at the primary level, it appears that students do not learn enough to be able to use the language in secondary education for communication and learning purposes (Biswalo, 2015).

Research shows that African languages, including Kiswahili, are still marginalized in the education system

in Tanzania today (Brock-Utne, 2002, 2012; Qorro, 2013). This suggests that Kiswahili is seen as '*a barrier*' rather than '*a bridge*' to learning secondary school subjects, including science subjects as Neke (2005) has put. On the other hand, this contributes to the low quality of education, which has negative implications for development. These studies' findings highlight the importance of using students' languages in learning in order to minimize problems or missed opportunities arising from mismatch of language of the school, which is English and students' learning experiences through their home language, in this case, Kiswahili. To develop knowledge and skills to successfully support culturally diverse students (Qorro, 2013), it is important that teachers need to use Kiswahili strategically to allow students get relevant learning experiences, since students will be able to freely share their opinions and ideas in the class, rather than being limited in using English, the language which they are not even familiar with. This study explores the use of Kiswahili strategically in learning science subjects in secondary schools in Tanzania, focusing on seeking evidence of its value.

Literature review

Tanzania got her independence in 1961 from the British colonial rule. After independence, Tanzania inherited the

British colonial system whereby English remained the MOI at secondary and tertiary education levels. Therefore, English language plays a pivotal role at the secondary education level in Tanzania. Tanzania is a multilingual society with more than 120 spoken indigenous languages (Qorro, 2013), plus Kiswahili, which is the country's national language. In Tanzania, Kiswahili is the MOI for primary education, while English is taught as a subject. Studies conducted in Tanzania show that the shift of the MOI from Kiswahili to English in secondary education has brought a lot of confusion to students and acts as a barrier to learning because the language is not familiar to them (Brock-Utne 2002, 2006; Qorro, 2006). As English is not intensively taught at the primary education level, many students may finish their primary education with low proficiency in the English language. These students, according to Qorro (2013), "face serious difficulties using English knowledge in all subjects taught in English during the four years of secondary education" (p. 31). As the lingua franca of the country, Kiswahili is the national language and most students use it in their everyday life communication. English is mostly confined to the classroom for students. Thus, because English is not the home language for the majority of students, many find it hard to learn and use because the language does not link directly to their everyday life experiences. It is the

argument of this study that since Tanzania is a multilingual society, building on the languages students are familiar with (in this case, Kiswahili) is crucial to help student learn better science subjects that are taught through English. The study suggests that Kiswahili should be seen as ‘a resource’ rather than ‘a problem’ when teaching and learning science subjects.

This study therefore, shares some experiences of student-teachers of science subjects during their BTP in the 2018/2019 academic year. It presents an argument of using Kiswahili ‘as a resource’ when teaching science subjects to secondary school students in Tanzania. It argues that when Kiswahili is used strategically, students will understand the material and improve their performance since these subjects are perceived by many as difficult and hard to learn. These students, if not supported, may find school as a boring place since the language is not familiar to them, and thus, fail academically. These students need support in order to understand the material and enjoy the lessons. This study, therefore, focuses on how *‘using Kiswahili strategically’* can help students learn the material and enjoy the class. The next section explains more on the status and usefulness of Kiswahili in the teaching and learning of science subjects at secondary school level.

Kiswahili and its usefulness in secondary education in Tanzania

In Tanzania today, Kiswahili is used by the majority of the population, and is considered as a lingua franca of the country (Qorro, 2013). It is the language of communication in the parliament, lower courts of law, and most government businesses (Neke, 2005). It is also the language of the local media — TV and radio. This status of Kiswahili in Tanzania today brings an argument of this study that if it is used as a resource, it will benefit students in secondary schools since English is still not a familiar language to majority of students. Studies have shown that when students are educated in the language they know better (in this case, Kiswahili), learning occurs (Brock-Utne, 2012). Brock-Utne says that children learn better when they understand what the teacher is saying. Similarly, May (2005) and Brock-Utne (2012) have argued that maintaining students' languages and cultures in their education is important because it allows them to learn successfully. This also helps in building students' self-esteem, and improve their academic performance.

Lianza's (2014) study in a Kenyan classroom demonstrates how teachers can use students' cultures and experiences in learning. In her study, Lianza (2014) observes the teachers' code -switched between students'

first language — Kikamba or Kiswahili— when teaching them. They used familiar contexts and students' experiences. Lisanza's study supports the view that students' first languages and cultures are important to include in their learning because they allow students to make connections between home and school knowledge, and thus facilitate their learning. This study, however, discusses how student-teachers in one of the universities in Tanzania used Kiswahili strategically to support students' learning science subjects that are considered hard to learn by majority of students. The study explores the relevance of Kiswahili as a resource in a Tanzanian context, and its application in learning science subjects at secondary education level.

Methodology

This study focuses on how student-teachers of science subjects used Kiswahili as a resource and enabler to allow their students learn different concepts in their respective science subjects they were teaching. It used purposive sampling to gather data. A pre-requisite for teacher participants was that, student-teachers should be those who study and expect to teach science subjects in secondary schools in Tanzania. Thus, teacher participants were a purposive sample. I purposely selected teachers of science subjects to be part of this study because the student-teacher participants sample was not representative of all Tanzanian secondary

schools, thus, it would be inappropriate to draw inferences from findings for the profession in general.

Classroom observations

During observation, I positioned herself at the corner so that she could see the teacher clearly and observe what was going on in the classroom. Although the focus was on the methods and approaches teachers were using in the classroom, occasionally there was observance of teacher/students' interaction and students' behaviors on how they responded to the teacher's methods and approaches. I also video recorded teachers' and students' actions in the classroom. Physical environments of the visited schools were also observed.

Interviews

Interviews were important to allow expression of personal experiences and individual ideas. Pre- and post-interviews with teachers were used to understand more about teachers' pedagogical approaches in the classroom, particularly when they used Kiswahili in their teaching. All the interviews were conducted in schools, immediately after a lesson or at the teacher's convenient time on the same day. This was done due to limited time the researcher had. Merriam (1998) recommends that the language used during interviews should be the language of the interviewee. It was considered that the use of English only might limit their freedom to express their

ideas freely, thus, the participants were free to use either English or Kiswahili, or both. Teachers used both languages.

Reflexivity

My knowledge of the students' languages and their impact on learning influenced my thinking when collecting and analyzing the data. In order to understand the influence of background experience in students' languages, I recorded in a reflective diary all my feelings, thoughts, experiences, reactions, reflections, and perspectives when collecting and analysing the data. The notes helped me to reflect constantly on how the data were gathered and interpreted, and the part I played in the process. I also used the reflective diary to record my observations about the school environment and specifically students' interactions outside the classroom. It was noted for example, students used Kiswahili for interaction both outside and inside the classroom. Also, I observed signs put on top of doors which read "Speak English Only". Additionally, I used a reflective diary to record students' activities in the classroom, and also, teachers' approaches in teaching. Therefore, using a reflective diary was useful for me to record both my reflective thoughts and descriptive notes during data collection all of which later helped in the analysis of my data.

Teachers' pedagogical practices

Teachers' pedagogical approaches appeared to reflect their knowledge of the science subjects they were teaching. Moreover, the use of Kiswahili strategically was accepted to majority of teachers of different science subjects. They admitted that students' low level of English proficiency was a major reason for them to use Kiswahili strategically while teaching. When asked why he used Kiswahili while the language of instruction is English, one teacher explained:

“These form one students know very little English, therefore, if you just concentrate using English, they will not understand the lesson, and they will fail to do lab practical” (Interview, 2019).

The above student-teacher comments imply that, the teacher acted as a facilitator in the teaching and learning process. Research suggests that it is important for teachers to become facilitators of knowledge to allow students' freedom of expression in the classroom. This is what Zhao and Coombs (2012, p 251) refer to as “replacing the teacher at the center of instruction to facilitating a more student-centered learning paradigm”. When the learner is placed at the center, it means that he or she has more agency and, learning becomes more enjoyable and relevant on the part of the learner (Zhao & Coombs, 2012). This was evident in the classroom where

students were free to express their ideas in Kiswahili, and the classroom atmosphere was free and peaceful. Each student had an opportunity to share what s/he has by using the familiar language, Kiswahili.

From the above findings, it could therefore be argued that, the use of Kiswahili was necessary to enable students learn the material. As highlighted in the literature review, in Tanzanian classrooms, students come from different cultural backgrounds. Kiswahili is the national language of the country, and the MOI at the primary education level; the majority of Tanzanian students use Kiswahili as their main language of communication in their everyday lives (Qorro, 2013). This study therefore suggests that Kiswahili should be used ‘as a resource’ (Sleeter, 2010) in the teaching and learning of science subjects at secondary education level.

Moreover, the study’s findings have revealed that majority of student-teachers were afraid of using Kiswahili during teaching for the fear of violating the country’s educational language policy for secondary schools, which requires teachers to use English only. One Biology teacher in one of the visited schools reported that:

“This school is very strict, and the headmaster wants all teachers to use English. You can even

hear students in recess, they are using English because they don't want to be caught speaking Kiswahili. Therefore, it is risky for us to use Kiswahili because it is forbidden in this school” (Interview, 2019).

The educational language policy of the government of Tanzania has clearly stated that English is the MOI at secondary education level. This implies that, teachers as implementers of the policy may need to adhere to language policy that is put in place by the government. The student-teacher's comment above appeared to suggest that, teachers may want to help their students learn better science subjects but they fear to go against the school's rule that requires them to use English only. Although the teacher used English most of the time during teaching, when students were asked to sit in small groups' activities, I observed them using Kiswahili in their discussions. But when I moved closer to them, they immediately shifted to discuss in English. This clearly shows that, the government and school rule of speaking English only has a lot of impact on students' achievements. This is because majority students are more conversant with Kiswahili than with English. These findings corroborate with studies of (Brock-Utne, 2002, 2012; Qorro, 2013) which suggest that Kiswahili is still marginalized in the education system in Tanzania today. In other words, Kiswahili is seen as 'a barrier'

rather than ‘a bridge’ to learning secondary school subjects, including science subjects (Neke, 2005).

Similarly, the researcher observed the school environments and in all visited schools there were signs above classroom and staff-room doors which read ‘Speak English Only’ (Observation notes, 2019). These signs were used as a reminder to both teachers and students that, they must use English in the school premises. They were obliged to follow the school rule of speaking English only. In other words, both teachers and students were forced to assimilate to a school culture that requires them to use English only. This could imply that the education system in Tanzania inhibits students speaking their home or national languages by having them “speak English only” (Qorro, 2013, p. 40). The use of these signs supports the notion that students’ first languages and cultures were excluded and marginalised in the school, because the teachers considered that they may be impediments to learning. This implies that students’ languages and cultures are not used as a resource for their own learning (Sleeter, 2012). Studies suggest that culturally responsive teaching and learning is needed if the goal is to empower students (Sleeter, 2010). Additionally, studies suggest that students’ first languages and cultures are actually important in learning a second language (Lisanza, 2014; Newton et al., 2010).

Moreover, in different classrooms, the researcher observed student-teachers using both English and Kiswahili to enable students understand the lesson. The researcher observed that, when students were free to express their ideas and points in Kiswahili, the classroom atmosphere was changed, and students were fully engaged in learning. In the classroom, students were actively participating in learning; and there was a lot of student-talk in the class (Classroom observation, 2019). In their small groups, when teachers initiated discussion by using Kiswahili, students were fully engaged, and that implied learning occurred. During presentations, students used English to share their important points learned. This implies that, the use of Kiswahili strategically resulted to the development of closer teacher-student relationships. Studies suggest that good teacher-student relationships enhance student motivation (Davis, 2003; Hullena & Hullena, 2010); and increased mutual commitment; and greater evidence of effective learning behaviors in class. Good teacher-student relationships help create safe, supportive classroom environments where everyone feels valued and had a sense of belonging. This also may lead to good academic achievement of students. It could therefore be argued that, student-teachers' positive views of using Kiswahili where necessary also seemed to be influenced

by the position of Kiswahili in Tanzania today. Kiswahili is the language of day- to- day communication in a Tanzanian community, and it is the language that connects with their day- to- day activities, as Qorro (2013) puts.

During classroom teaching, although the student-teacher allowed groups to share their points in Kiswahili, one form one student decided to use English throughout her presentation, and her English was great. When I asked the student-teacher why the student decided to use English, she explained:

“In this class, we have students who came from English medium schools, that, in their primary education, English was the MOI, and that is why she is fluent in English” (Interview, 2019).

The above student-teacher’s comment suggests that, there is a need to make room for students to choose which language they prefer to use in their class discussions and presentations. In other words, this calls for the need of revisited our educational language policies, whereby students will be free to use either of the languages, English or Kiswahili.

According to research findings, some teachers were not free to use Kiswahili to elaborate some important points to their students while teaching for the fear of violating the Tanzanian government's language education policy that requires them to use English as the MOI. Not only that, but also the schools' rule of using English only in the schools' premises. However, as Foucault (1997) has argued, that in power relations, resistance is likely to occur, when these teachers decided to use Kiswahili, it implies that they resisted the government and school's regulations and use their own alternative to enable students learn. This implies that teachers resisted government's authority by using Kiswahili strategically when teaching science subjects for the benefit their students.

The argument of this study is that, there is a need to revisit our educational language policies for the betterment of our students, since majority of students still struggle with English. The findings also highlight the mandated assessments that require the use of English may impair teachers to allow students use Kiswahili in the classrooms. However, as the study suggests, students may use Kiswahili during classroom discussion and English when presenting their ideas or comments in the class. The study therefore suggests that, Kiswahili should be allowed in the classroom for the purpose of

facilitating of teaching and learning science subjects. The next section presents study's recommendations.

Conclusions

This section revisits the core argument of this study. This study is giving emphasis on using Kiswahili strategically for students' learning of science subjects. The study has demonstrated the complexities of teaching science subjects to secondary school students in Tanzania. It has shown how student-teachers and other science teachers in secondary schools can use Kiswahili strategically to allow students understand these subjects, and therefore, improve their academic performance. Not only that, but also when students were free to use the language they know better, teacher-student relationship was improved, and students had a sense of belonging to the school because they were free to share their learning experiences freely.

The study findings have shown that due to low level of English proficiency, student-teachers had to use Kiswahili strategically in order to enable their students learn. However, some student-teachers reported that they had no freedom to use Kiswahili since the language of the school is English, and therefore they had to comply with both the school's and the government's rule of using English as the MOI. The constraint of mandated language policy requirements was seen as a barrier of

implementing the strategy of using Kiswahili where necessary. This study argues that, since majority of students have low level of English proficiency, there is a need to revisit the educational language policy, so as to allow Kiswahili to be used alongside with English, particularly where it is necessary to use it while teaching science subjects.

Recommendations

This chapter has discussed the student-teachers' experiences in using Kiswahili strategically during BTP in 2018/2019 academic years. The study's implications for teacher practice and future research are identified.

1. The study recommends further investigation of support which may help teachers to effectively draw on the use of Kiswahili strategically concept to enhance their professional practice;
2. Investigation of long-term impacts on teachers' beliefs and practices arising from using Kiswahili strategically when teaching science subjects in secondary schools;
3. The study recommends formal training to enhance integration of pedagogical strategies which support students' learning of science subjects;
4. This study also recommends that the educational language policies need to be revisited for the

benefits of students, and not just for fulfilling the country's policies. This will allow students to develop interest and learn science subjects more effectively.

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CHAPTER EIGHT

A POWERFUL TOOL FOR A LARGE CLASSES: LANGUAGE SUPPORTIVE PEDAGOGY

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Abstract

This chapter is prepared to inform of the excitement and questions that went through my mind when I taught large classes at university. Before being involved in the Language Supportive Teaching and Textbook (LSTT) project, I thought it was hard to teach in large classes due to some complex challenges related to the teaching and learning process. The knowledge and expertise I developed through my engagement in the Language Supportive Teaching and Textbook (LSTT) project was a point of transformation from the traditional way of teaching to knowledge and competence accessible teaching or interactive teaching method. This chapter, therefore, outlines changes that teachers need to make to create excitement in teaching and learning. I draw from personal reflections from the traditional teacher to a transformational teacher in the language deprived classroom of learners. My main experiences are through classroom observation, interviews with students as well

as my personal teaching and learning activities. The chapter further describes my experience in teaching and learning with LSP as a tool for teaching in large classes. It is my hope that Language should be taken into consideration to properly transfer the intended knowledge and skills. Moreover, it should be understood that teaching in large or small classes makes no huge differences; it depends on resources available and teachers' willingness to fully engage students in the learning process by employing different techniques and approaches.

Keywords: *Teaching and learning, class size, large class, lesson observation, traditional teacher, and transformational teacher.*

Introduction

Class size is a major concern by educational stakeholders to any educational system in the world (Normore & Ilon, 2006). However, people have varying opinions on how “large” the number of students should be in a so-called “large class”. “There can be no quantitative definition of what constitutes a large class, as perception of this varies from context” (Hayes, 1997).

In this chapter, a “large class” refers to a class with the number of students ranging from 50-150. At university

level, a class of any size (small or large) appears to be an acceptable norm. However, when classes are too large, they are considered to contribute some complex challenges related to the teaching and learning process. In fact, whether the class is big or small, instructors are expected to teach and assess students effectively. This chapter presents a general reflection on the author's personal experiences with teaching large classes at undergraduate level at a university by the aid of Language Supportive Pedagogy (LSP). The chapter aims at sharing this personal account of experiences with fellow educators who may find themselves in similar situations of teaching and assessing large groups of students at any level of education. This chapter is based on the critical reflective practices and experiences as I draw most of the evidence based on narrative practices and principles from Language Supportive Teaching and Textbook (LSTT) project on how large classes can be taught.

Attitudes towards teaching in large classes

Many teachers tend to view negatively teaching in a large class. They always associate teaching in a large class with lack of control, loss of students' attentiveness, poor interaction between students and teachers and therefore, lack in efficiency and effectiveness (Xu, 2001). This means that many teachers possess bad

attitudes towards teaching in large classes and it has been gaining popularity regardless how educators emphasize helping students with multiple challenges

However, after being introduced to Language Supportive Pedagogy (LSP), I came to realize that teaching in a large class may be similar to teaching in a small class. As Kennedy and Kennedy (1996) argue, "what worries her (a Greek language teacher), however, is the size of the class since she believes that as soon as the number of groups passes a certain number, it is difficult to 'control what happens'." Moreover, Wankat (in Felder 1997) went even further by saying that "anything you can do in a large class you can do better in a small one". This means that successful teaching in large or small classes depends on teachers themselves. Teachers need to develop passion and curiosity to help their students by employing different approaches and styles for students to comprehend the message.

Through LSP, I came to understand that class size does not really matter. If teachers are so committed to teaching, such teachers would say that good teaching is good teaching: what holds true for small classes also holds true for large ones. Richard (1997) holds that "there are ways to make large classes almost as effective as their smaller counterparts." Recent research shows (Kickbusch, 2000) that "Reductions in class size to less

than 20 students without changes in instructional methods cannot guarantee improved academic achievement." and that "class size appears to have more influence on student attitudes, attention, interest, and motivation than on academic achievement." So, I came to find that teachers have to change their mindset and approaches. More activities reflecting students-teacher interaction should be the centre of learning. Teachers need to transform from traditional teaching methods to more transformational teaching whereby knowledge is shared between students and teachers and not delivering or teaching students. After I was introduced to LSP, teaching in a large class became a part of my teaching setup at the university.

Challenges of teaching and learning in large classes

There are many perceived problems associated with teaching in large classes like physical problems: physical weary (tiredness) and unwilling to speak louder for teachers. (Xu, 2001). Physical problems like unwarily speaking louder have occurred in large classes. However, it should not be an excuse for teachers to ignore teaching in large classes; instead it has to be taken as challenges needing immediate solutions.

Xu (2001) further identified another problem of teaching in large classes as psychological problems in terms of

feeling intimidated to face a crowd of students. “Teachers do not see students as people, but faces” (Xu, 2001). This means that many teachers do not consider students in classroom as a normal class which need all effort to help them to learn (people), rather they consider them as problem (faces) which hinder learning to take place. This is psychological problems teachers hold when getting in classroom for teaching. In fact, if teachers are not committed, then seeing students as faces may also appear in small classes. What matters, teachers have to develop and change their mindset and regard classes as an important area where students, regardless of their challenges, have to develop their careers. In the classes where there are many students, teachers need to use microphones to make their students hear, so inadequate use of such classroom equipment may lead to the lack of interest and involvement of the students in the classroom learning.

Xu (2001) generally mentioned many challenges associated with teaching in large classes, like monitoring attendance and checking assignments. Also Xu (2001) held that teachers are often worried by the discipline aspects of large classes. They feel they are unable to control what is happening, and that classes tend to become too noisy.

Hayes (1997) added other problems in teaching large classes as individual attention. Many teachers are concerned that they are neglecting the needs of their students as individuals. However, teachers may identify students who need special attention by assigning different tasks with different approaches to see who is willing to learn through working in pairs, group work, individual assignment or any other method.

In checking students' effectiveness in learning, teachers feel a responsibility for checking all of their students' work, and are worried if they cannot do so (Hayes, 1997). Teachers want their students to learn the targeted contents. They are understandably worried if they do not know who is learning what. So, teachers may use a student evaluation report whereby students may evaluate their fellow students' work or use a grade final report which shows the total score of students after a certain assessment.

Hayes (1997) summarized the problems with teaching in large classes as follows: Many teachers are worried by the physical constraints imposed by large numbers in confined classrooms. They feel unable to promote student interaction, since there is no room to move about. Some teachers also feel that teaching in large classes is physically very wearing. However, problems such as these are not impossible to be solved. In fact, it

depends on teachers' readiness, approach and mentality. When I was observing integration of Language Supportive Pedagogy (LSP) approaches into science methodology courses to university students' large classes, I found out that students can learn better in large classes using LSP approaches.

My experience with LSP as a tool for teaching in large classes

I started my journey in using LSP in the classroom in 2017. I was introduced to LSP by the Language Supportive Teaching and Textbooks project. I was a member of the project as English language expert working together with science and mathematics methodology teachers as well as pedagogy experts from the education department. We were working together by sharing experience and challenges of using LSP in large classes at St John's University of Tanzania. The journey gave me the knowledge and skills to use LSP in my large classes in teaching and learning activities. The features of LSP facilitate students' learning in large classes.

The use of Kiswahili strategically in a large class

I came to understand that language supportive pedagogy works better in a learning environment which is safe and relaxed. Prior to the lesson, students were told to use

Kiswahili where necessary when answering and making discussion. This builds students' interest to participate in the lesson because everyone has something to share at the end of discussion. I was excited by the way students participated in the lesson regardless of the size of the class of 60 students. So, I came to realize that in the large class, students are very active and feel relaxed. One student said "I can't learn very well when I am under the pressure of being asked by the teacher to answer any questions using English, but with Kiswahili sometimes I have nothing to fear"

Also, in my observation, I came to noticed that in the large classes, every time a question is raised, there are always some students who come up with some answers. So, I could compare and reflect about the answers. To me, having many students in the classroom is a big resource to get as much feedback as possible. Therefore, having many students in the class was an advantage for me to use them as resources to extract knowledge and comments from them.

In my experience at university level, I came to realize that the issue of large classes is a reality and will still be there for many years to come. Teachers need to find the best solution on how students can learn better in large classes. David (1997) holds that "given that size is most unlikely to be reduced in the foreseeable future, teachers

need to come to terms with their problems”. Allright (1989) in Hayes (1997) argues that “class size may not be the problem many teachers think it to be”. In addition, Littlewood (1998) classifies that students should not see knowledge as something to be transmitted by the teacher, rather it should be discovered by the learners. This statement reminded me of LSP's emphasis on making modes of learning which are learner-centred in which learners interact and interpret knowledge with the help of the teacher.

Students' activeness in the large class using LSP

In my reflection, I noticed great rivalry in a large class unlikely in a small class. The teacher needs to create a good and warm environment for every student to have interest in the lesson. In my LSP lesson, the atmosphere in the large class was relatively better and livelier. Students from pairs or small groups were secretly competing with another group, which enhances learning. During micro-teaching in biology methodology course, students expressed their opinions with regard to learning in large classes. One student said “I can always learn not only from the teacher, but also from my classmates”. The student here is showing how learning in groups helps them to understand more. Moreover, in groups students can teach each other.

Another student expressed that “because we had many small groups in today’s class, our sense of competition was strengthened. We feel that we can’t be left behind”. This comment reminds us that learning happens also in a large class. So, with the use of small groups as one among elements of language supportive pedagogy, learning in large classes is even more enjoyable than learning in small classes. To be sincere, LSP has opened my eyes that I have never thought how interesting it is to teach large classes. I got experience, skills, and commitment to prepare lessons for large classes. Moreover, in a large class, competitiveness is everywhere, especially when the class is composed of students from departments or schools unlike in a small class where only few excellent students may always volunteer to ask and answer questions. Therefore, in order to help our students, we should change our mindset and be ready to employ new approaches (LSP) in teaching and learning.

Friendly and collaborative atmosphere in a large class using LSP

In the process of integrating LSP at university level, I found out that in order for the learners to learn well in large classes, teachers should create a safe learning atmosphere and take advantage of having many students in the classroom to build up a friendly, collaborative and

lively learning atmosphere. This idea was elaborated more in a survey by Senior (1997) that many teachers held that a good language class has an atmosphere of “a feeling of warmth”, “mutual support”, “an absence of fear”, “a safe environment”, “a feeling of comfort”, “mutual respect”, “people mindful of other people’s abilities and limitations”, “a feeling of cooperation”, “a feeling of relaxation”, “a feeling of trust” and rapport between class members”. To me the quality of the classes depends on how far the students cooperate with each other to form single, unified and classroom groups for the excellence of the whole class.

Teaching and learning are the heart of social interaction between teacher and students or among students (Vartuli, 2005). It is easier to make more friends in a large class than in a small one. LSP emphasizes creating a good and comfortable environment for students to learn. It includes making students your friends for them to learn and easily interact with each other. This helps teachers to easily identify student’s interests and differences in order to choose the appropriate assessment to be applied to the students.

I came to realized that in a large class, the teacher needs to create an environment where students are willing to share, interact and make more friends for learning to take place. This was also evidenced through one student’s

comment “when I am taught in a large class, I get to know more people who share my interest and hobbies”. This shows that teaching in large classes is the same as teaching in small classes when class setup allows interaction and friendship.

Bringing the teacher authority into full play and teaching knowledge and learning methods

After integration of LSP in teaching at university level, I came to find out that the teachers who teach in large classes were expected to adopt lecture based teaching. In large classes, the teaching of knowledge is as important as the teaching of learning methods. It is a well-acknowledged fact that, telling a 13 year old boy how to cook ugali is more important than merely cooking for him, no matter how you love him. This example implies that teachers should draw information/knowledge from students. Students should be the centre of learning. LSP emphasises building capacity of each student by giving them a chance to try and interact with other students through project work, group assignment and pairwise discussions. For example, during micro teaching, students in groups of less than ten were given a task to prepare a LSP lesson and teach it in normal classes. It was so interesting because students were keen to participate and learn the subject.

Taking advantage of the size of the large classes

After LSP, I came to realise that the more students, the more ideas. Before LSP in the beginning of the lesson I could introduce the topic, subtopic and the major concern of the targeted day's lesson, but after integration of LSP, I developed a habit of warming up before the start of the lesson and this entailed assigning a number of students to write down on the board or piece of paper few ideas they know about the topic or subtopic before the class begins. Then, I ask students (individually or in group) to read loudly what they had written, which normally attracts the attention of the large class.

This idea was also highlighted by Yang (1999) who stated "These warm up activities motivate students. Not only do they arouse students' interest and associations with the texts, but they also improve their thinking skills. No sooner has the class begun than the students become involved in these creative activities, which in turn foster a positive learning environment. So, the coming of the LSP project was a powerful weapon to learn how to teach in large classes by taking crowded classes as an advantage to lessons.

LSP assists in interrelated and unified class

During integration of LSP, I learnt that a large class can be unified and organized. Teachers need to have a proper approach in which students will enjoy and feel valued and their presence appreciated. I came to realize that students like to be encouraged, engaged, loved, valued and respected regardless of their imperfection. For example, I usually prepared a list of topics in a respective course and asked students to register their names in relation to the topic they want to present. Then, students prepared a short presentation of 40 minutes in their seminar session. Thereafter, students discussed the presentation and comments given to enrich their work. In my experience and through student evaluation forms, students did enjoy the session and it had been a powerful weapon to teach a large class. These activities made the whole class interrelated and rather lively.

Collaborative spirit among tutors in large class

LSP emphasizes team teaching which starts with preparation. A subject teacher can collaborate with a language teacher or other teacher with the knowledge of teaching in a large class to get techniques on how smoothly a large class can be taught. The aim is to come up with a strategic approach which will help students to learn. Toubia (1999) held that “The teachers’ skill in

classroom management is the primary ingredient for success with group work in large classes.” Many teachers who are teaching in large classes may come up with few tips on the skills in classroom management. For example, teachers of large classes may come into the classroom a bit earlier and chat with a few students; they may move around the classroom while giving the lecture and the whole class what they have just talked about. The skills shared by the teachers, the more likely it would be for these teachers to apply them to their classroom management. They will automatically adopt them and will be helpful in the future.

Teaching LSP lesson with limited resources

After integration of LSP lessons, I came to realised that it is possible to teach well in a large class with limited resources. Renaud *et al* (2007) held that many students in developing countries do not have textbooks. The only materials they bring to class are a notebook and, sometimes, a pen or pencil. Besides, sometimes we need to adjust to the existing problem by raising innovation and creativity among ourselves. Corps (1992, 11) stated “We cannot direct the wind, but we can adjust the sails.” This means that we are ones to fix the problems we found during the teaching and learning process.

By considering these challenges, I came to find that teachers can use their own available resources to teach the class well. For instance, in physics classroom in ordinary secondary school, the teacher taught the topic of measurement and subtopic of density and relative density from Tanzania ordinary level syllabus. I observed one of the micro teaching lessons in physics. After clear explanation and demonstration on a meaning and uses of beakers, the teacher asked student-teachers (in their small group) to create their own sample of beakers and bring them to classroom to be used in micro teaching class. Then, one small group prepared a lesson to teach the whole class. Student-teachers were given activity to find the volume of irregular objects by displacement method. Teaching and learning resources were stone, water, string, calibrated beaker, eureka can, regular and irregular solid, insoluble substance.

There are three kinds of beakers in the picture below. Two beakers indicated by red and blue arrows which represent many others not seen in the picture were created by students themselves. They measured a scale using the scale of the beaker indicated in black arrow.



Figure 8.1: Shows list of Apparatus

Procedures for the experiment:

- Fill a beaker with water to the brim
- Place the beaker such that any overflowing water can be collected
- Dip an irregular body into the beaker and collect the displaced water
- Using a measuring cylinder measure the volume of the displaced water
- Volume of the solid body = volume of the displaced water



Figure 8.2: *Shows amount of water displacing after dip the irregular body into the beaker*

Therefore, in large classes demonstrations and illustrations are best methods to keep students in touch with the subject. The use of real objects brings students' attention and feelings too eager to learn unlikely explaining concepts. Besides, during integration of LSP pedagogy I realised that teachers have to be creative especially in a place where there are limited resources. Additionally, if students are given clear instructions, they can demonstrate difficult concepts using real objects. If all these are done, the classroom will be a community and encourage student responsibility and participation in the activity. It will also help to save time during class.

Student-teachers' Opinions on LSP pedagogy in large classes

After being introduced to LSP, student-teachers were given a chance to give their opinions with regard to learning in large classes. Most student-teachers agreed that LSP has opened their minds on how large classes can be taught well. Moreover, they admitted that LSP approaches are amazing; they keep students in touch with no pressure to language barriers and methodologies. They mentioned some features of LSP which they considered effective in helping students to learn: the use of simple language, illustrations, real objects, use of Kiswahili strategically and having a list of glossaries. . This is a great achievement of LSTT project at university level. One student-teacher highlighted that learning in large classes has been his life and that he feels even comfortable being in crowded class. His statement below (figure 8.3) verifies

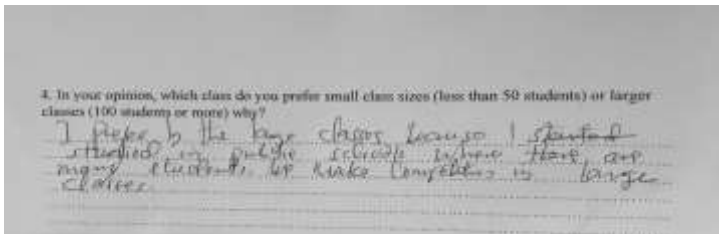


Figure 8.3: Shows student-teacher's opinion (data, 2018)

This shows that learning in large classes has been normal practice in many countries especially in Tanzania. So, teachers need to find out strategies to help students learn better. They have to stop complaining about having many students in the classroom because it will not help. We have to cope with the situation and help students to learn.

Another student-teacher pointed out the issue of language which previously looks like a challenge to accomplish the specified learning objectives of the course, but with integration of LSP there were positive feelings indicating that student-teachers have learnt.

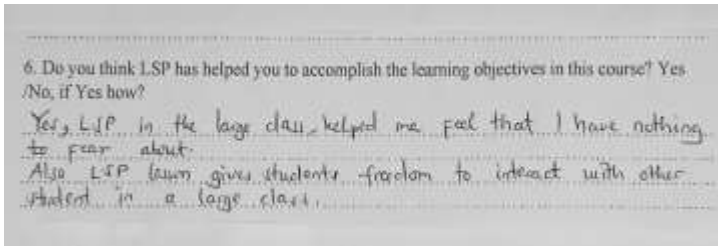


Figure 8.4: Shows student-teacher's opinion (data, 2018)

In figure 8.4, a student-teacher shows how LSP has solved some of the challenges resulting from language barriers like fear and lack of freedom to interact with other student-teachers. It is clear that LSP has left a positive impact on this student-teacher. It is my hope

when she gets into the teaching field she is going to do well and help other teachers to value the issue of language in helping students to learn.

In the same vein, another student-teacher's opinion based on level of agreement if to him there was any difference when studying in small class or large class.

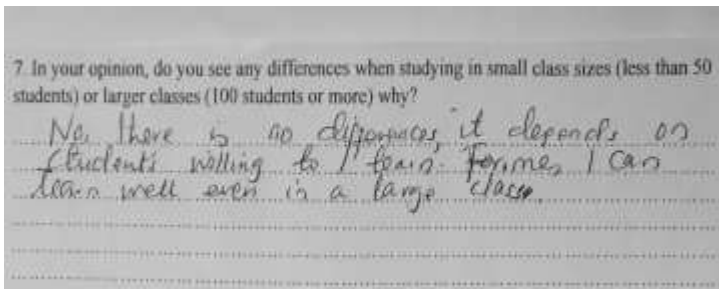


Figure 8.5: *Show student-teacher's opinion (data, 2018)*

Figure 8.5 indicates that teachers have a task to make a lesson as attractive as possible to students. As it was explained earlier, teachers have a duty to create a good environment for students to be motivated learners. If students are internally motivated, they are likely to be willing to learn. If the classroom is not well prepared, students feel bored. If students are interested in the class, many discipline problems disappear. Students who are paying attention, who are involved in activities that appeal to their interests and needs, do not act up and often help control more problems caused by classmates.

As teachers, we should build our own empire which will motivate students to learn even in the absence of subject or discipline teachers. From the student-teachers' opinions, it is now clear that having a successful class depends on the teacher's preparation, creativity, willingness, good mindset, and readiness to apply new skills and knowledge like LSP to the field of teaching and learning. All teachers have to build a sense of ownership of their classes. They should view their classes as their home where the environment should be of interest and more attractive to the family members (students). By doing so, the classroom will be a better place for teaching, innovation and learning of new ideas, resulting from students fully participating in their studies.

Conclusion

Teaching in large classes is still not preferred by many teachers today. In other words, most teachers wish not to, but have to teach in large classes. However, from the discussion and evidence above, there are significant changes that teachers may take to solve the challenge. So, teaching in large classes can now be seen as reasonably saving human and material resources to ease the problems caused by limited resources. In addition, many innovations in teaching methodologies like the use of LSP strategy can be applied to teaching large classes

as well as to small classes. Moreover, the large size of a class should not be an excuse for not improving from traditional methods to transformational methods. In fact, as we have seen, many student-teachers at university level are supportive of new innovation like LSP. So long as the teachers know the features of teaching in large classes as explained in this chapter, and adjust how they teach accordingly, we can make teaching an effective and interesting undertaking.

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