THE EFFECT OF A DISTANCE EDUCATION TEACHER TRAINING PROGRAMME ON THE PERFORMANCE OF TEACHERS OF NOMADIC LEARNERS

Tichapondwa S. Modesto

School of Business
Botswana College of Distance and Open Learning

Abstract

The study addresses the question:

> What effect does a distance education teachers' training programme have on teacher discourse effectiveness in the classroom?

This is with reference to classroom situations in nomadic communities of the Basarwa in Botswana. The Zimbabwe study, based on the pretest-posttest control group design, focused on the enhancement of oracy to achieve cognitive intentions. Results were analysed quantitatively and qualitatively to determine the extent of teacher dominance, teacher effectiveness, and learner initiative regarding the use of discourse. Comparison of pre-intervention and post-intervention discourse practices led to the conclusion that teachers who participated in the intervention programme dominate interaction less and choose more effective discourse to promote learning. In turn, learners show a higher degree of initiative than their counterparts. Some of the recommendations are that an in-service course taking into account the culture and language of the Basarwa should be designed and offered as a way of enhancing teacher discourse and increased learner participation in the learning situation.

Key words: Nomadic communities, interaction, constant migration, marginalise, construction of knowledge

Corresponding author: stmodesto2006@yahoo.com

1. INTRODUCTION

Learners from disadvantaged communities are in a plight regarding accessing of education as well as benefiting from attending classes. In the broader sense, disadvantaged learners are those separated by extensive distances from service centres and those commonly referred to as nomadic populations. According to Professor Tahir (2006) nomadic communities have no fixed home, and their movement is necessitated by culture and economic demands such as hunting and gathering, cattle rearing and fishing. It is estimated that nomads in Africa constitute about 6% of the total population, and are to be found in 20 African countries.

Without exception, all governments share a common goal regarding the education of nomadic communities. The goal is to integrate them into national life through relevant education, and thus increase survival skills through improved methods and practices. In one form or the other, the communities in question display

certain characteristics that we readily associate with nomadism, and these include:

- Constant migration,
- Geographical isolation,
- Restricted social interaction with the larger society,
- Language differences, and
- Cultural differences.

Basing his argument on the above-mentioned characteristics, Tshireletso (2001) identifies some of the negative behaviours of learners from the Basarwa communities of Botswana. Traditionally, these are hunter-gatherers, and as will be explained later, are being encouraged to adopt a sedentary type of life. It is reported that the children desert school; see nothing wrong with absenteeism; do not communicate freely in class and prefer to be silent; are slow to learn; do not know certain ideas and concepts; and want to talk in a language that the teachers do not understand.

Clearly, there is a problem, which has to do with learners who fail to learn and teachers who fail to teach. My assumption is that teachers fail to teach because they do not know how to handle the situation mainly because pre-service teacher training does not deal with the pedagogy of nomadic learners. More than enough has been said about the negative behaviours of learners, the poor implementation of national policies to deal with such learners, and how marginalised these populations are. It is now time to examine how best the facilitators or teachers can be prepared to teach more competently under nomadic circumstances.

I, therefore, hypothesise that systematic intervention can equip classroom practitioners to address the main problems. I have in mind the offering of an in-service course for teachers through distance education. It is assumed the language course will have some positive influence on teacher performance, and in turn on learner capacity to benefit from the curriculum. On the basis of the assumption about the potential of interacting more systematically, the following question guided the investigation:

> What effect does a distance education teacher-training programme have on teacher effectiveness in the classroom?

A brief theoretical background will be given to shed light on the research environment in which the present study was conducted.

2. IDEAS ABOUT CLASSROOM INTERACTION

Teachers and facilitators are at the heart of the teaching profession, and the quality of education imparted is dependent on the quality of training they receive. With particular reference to disadvantaged classes, a non-antagonistic understanding of the culture of nomads and their language plays an important role in retaining children in school.

Classroom interaction is conceptualised as the way teachers and learners negotiate learning during the teaching-learning process. Interaction theory recognises that comprehensible input and appropriately contextualised

second language data are necessary for learning to occur (cf. Krashen, 1982; Long, 1990). Thus, focusing the attention of classroom practitioners on ideas about teacher talk is expected to enhance teacher-learner interaction. It is assumed that teachers exposed to such ideas will be able to see their language responsibilities in a new light, and interact from a position of linguistic enlightenment. Ellis (1986, p. 12-13) is of the opinion that when the teacher consciously selects the language of instruction, this can go a long way towards promoting active learner participation. A further elaboration of language and learning is offered by Al-Garawi (2005) who observes that learning a language in the classroom is a consequence of the exposure of the learner to the linguistic environment manifested in the interaction between the participants in that context. It is noteworthy that such interaction will be across the different subjects that use English as the medium of communication.

Active learner participation entails the acquiring of knowledge from school subjects during the process of interaction, and knowledge is acquired through the teacher's linguistic influence in the process. This makes constructivist theory relevant to the study. The theory posits that knowledge is socially constructed, meaning that learning is a process that involves dialogue as a joint activity. Collaboration is mediated through language in which the teacher provides support to the learners so that they can eventually stand on their own. For that reason, Mercer (2004, p.139) observes that "educational success or failure may be explained by the quality of dialogue, rather than simply in terms of the capability of individual students or the skill of their teachers". It is on the basis of this view that in any pedagogic situation, it is accepted that the construction of knowledge is a guided activity. The origins of this sociocultural view repose in the work of Vygotsky (e.g. 1978), which treats communication and thinking as related interactive processes leading to the learner's self-regulation. Put differently, the teacher's language, in the form of questions, clues, prompts, and clarification requests, helps in the achievement of insights that learners by themselves seem incapable of (www.funderstanding.com/theory/constructivism/).

Bruner (1986) has referred to this support as a kind of scaffolding, described as a particular quality of cognitive support that an adult can provide through dialogue so that the child can more easily make sense of a difficult task within a given cultural context. Constructivist theory thus postulates that vicarious consciousness provided by the adult is essential in the acquisition of curricular knowledge. In that respect, classroom discourse will, in the words of Mercer (1995, p. 79), "be used to carry out the social and intellectual life" of the classroom as a speech community. This view is corroborated by Pea (2009). Teachers, therefore, need to be trained that classroom language follows specific conventions in order to achieve specific goals, one of them being to make learners more interested and more involved in the learning agenda (cf. Council of Europe, 2001).

Systematic language input by the teacher, necessarily eventuates in systematic language output by learners. Teacher input motivates free expression of views, opinions and perceptions of a given topic (Taylor, 2006). Canale and Swain (1980) have referred to this as communicative competence, described as linguistic ability to produce or understand utterances that are appropriate to the context in which they are made. Communicative competence, according to (Finlay, Tsou, & Sugimoto (2015), the dynamic nature of communicative competence has produced a need to create a clear position on what more effective discourse entails.

These theoretical ideas from the field of applied linguistics are foundational to the present study mainly because they are facilitative of the crucial discussion of how best to retain learners from disadvantaged communities, whose learning is often disrupted by constant migration, geographical isolation, restricted social interaction, language and cultural differences. The ideas support the important effort of maximising classroom engagements, for it is in the classroom that the purpose of coming to school is consummated. These theories underpin procedures for the present study, and as Spolsky (1990, p. 4) puts it, "the effectiveness of practice depends on relevant theory; the relevance of theory depends on effective practice".

3. THE RESEARCH DESIGN

A study was conducted in Zimbabwe to establish the effects of an intervention programme aimed at upgrading teaching skills, especially teacher competence in the discourse of learning. The programme was taught by distance for already qualified teachers who had a lower qualification, and operating at secondary school level. The primary focus of the study was on classroom oracy, best described as optimum structuring of interaction to maximise learning (cf. Modesto, 2000). Tshireletso (2001, p. 177) in his argumentation observes that systematic structuring of classroom interactions could empower the Basarwa children to process knowledge more autonomously. However, he found it difficult to specify the effectiveness of the approach since, at the time of his investigation, "research was rather scanty particularly in the African context". It is fortunate that research in the area is steadily gathering strength (cf. the study conducted in Botswana by Kasule and McDonald, 2006 and Modesto, 2007).

The results of the more extensive study in Zimbabwe were published in 2008 (cf. Modesto, 2008). The study captured typical classroom interaction between teachers who were doing the course by distance and learners under their care in conventional classrooms. It is a defensible argument that the principles of effective interaction are universal and apply to any situation where interactants have the negotiation of learning as the objective. Due acknowledgement is made for contextual differences, the age of learners, and the level of teaching and learning in any given situation. Upon that rationalisation, it is assumed that

the findings of the study will be applicable to disadvantaged classrooms such as those for nomadic populations. In short, the present study is structured as follows:

- There will be a brief description of the context where ideas from the study ought to be applied. The context is the Kalagadi area of Botswana with specific reference to classrooms for Basarwa.
- Procedures of how the study was conducted in Zimbabwe will be outlined.
- The findings of that study will be discussed.
- Implications of the findings regarding the Basarwa classrooms will be presented
- The article will conclude with a discussion in which the potential applicability of findings from the study is shared

4. THE APPLICATION CONTEXT

The findings will be applied to schools for the Basarwa community. They are also known as the San. Basarwa are an ethnic minority in Botswana, and according to Wilmsen (cited in Nthomang, 1999, p. 54) "it is generally believed that they have from time immemorial lived a predominantly nomadic mode of life centring on hunting and gathering". They are referred to as remote area dwellers (RADs), a label which identifies the group by its socio-economic conditions.

The government of Botswana has introduced RAD settlements to bring the bands of hunter-gatherers together into one geographical location where they can have access to facilities such as schools, clinics, tribal administration offices and fresh reticulated water. The RAD settlements are, therefore, "a transitional phase of the Basarwa from the nomadic hunter-gatherer lifestyle to sedentary living" Tshireletso (2001, p. 170). This development makes the life of the population semi-nomadic, a fact, which renders the present study feasible because there are schools established to especially cater for the children. Of immediate interest are the attitudes held by parents towards the education of their children. Tshireletso (2001) reports that some parents view the school as a place where the young can have a meal, and are less concerned about their children's attendance. On the other hand, parents and children alike have also expressed enthusiasm for school because it prepares them for a good future after learning how to read and write. This positive attitude is influenced by developments they see happening among the dominant Tswana populations they interact with. For that reason, it is worthwhile capitalising on the positive attitude when training facilitators.

At the same time, language remains a barrier to performance and progress for Basarwa children in school. They have to learn Setswana, the medium of communication, and English, the language of the classroom. For the learners, Setswana becomes their second language, while English is

their third language. Against this background, teachers bring into the classroom their own cultural views of teaching and learning, mainly because the teachers are from the dominant ethnic groups of Botswana. Inevitably, teaching becomes teacher centred, with less regard for the learners' background, especially with reference to language and culture. The situation is further compounded by a curriculum that is divorced from the culture. Problems of communication take centre stage with numerous barriers resulting in conflicting expectations, where meaningful learning, involving concept formation and situating knowledge in the cultural context become problematic. This, inevitably, leads to the high rate of attrition. Notwithstanding the semi-nomadic lifestyle, nomadic tendencies still persist.

In the classroom the question of power assigns unequal conversational strengths between the interactants. Conversations reveal the power of the teacher in determining what knowledge to teach, and how to teach it. Typically, transmission of information while learners are expected to simply listen is a familiar feature. Allocation of turns to speak and arbitration of what answers are correct or wrong repose with the teacher. Research has shown a culture of silence on the part of the learners (e.g. Tshireletso, 2001). At the same time teachers have developed a high level of frustration, not knowing how best to involve learners, to make them contribute to class discussion, and to make them interact without coercion.

It is this state of affairs that needs to be addressed systematically from a more informed position of how language can be used to make learners think and be productive, rather than to make them parrot and reproduce what teachers say. The aspect of language focused on in the present study is oracy as verbal interaction when the teacher and learners engage together in an episode of learning.

5. RESEARCH CONSTRUCTS

Three constructs were tested, namely, teacher dominance, teacher effectiveness, and learner initiative.

Presuming that the welfare of learners is taken care of regarding physical comfort, food, clothing, and transport to school, it is important for the teacher to handle classroom interaction and the discourse of learning more systematically. Where this occurs, learners will see purpose in learning, thus reducing absenteeism and withdrawal. The teacher is expected to be less dominant and allow learners to take more control of the learning event. It is, therefore, argued that enhancement of teacher discourse, with special focus on interaction, will impact positively on learner initiative.

Discourse effectiveness is directly linked with reduction of teacher dominance during interaction. Dominance refers to the situation where the teacher talks more than he/she should within a given lesson. It is a feature of classroom interaction characterised by the lack of shared aims between the teacher and learners (cf. Fisher, 1996), and failure to appreciate the culture of learners. Teachers are said to be dominant when

they use discourse that is marked by the transmission of content at the expense of meaning and form. For most of the time teachers ask polar and display questions with answers in mind, and on their part learners are expected to listen or give short formulaic answers in the same words used by the teacher. Characteristically, therefore, interlocutors rarely build on the talk of previous speakers. With regard to quantitative operationalisation, dominance can be measured in terms of the proportion of teacher discourse acts to those of learners.

Effectiveness, on the other hand, refers to the conscious choice of language that enables the discourse participants to achieve learning goals. It is manifested through the way teachers select language to negotiate learning. One of the features of effectiveness is comprehensibility of teacher input in which clarifications are sought through the use of open-ended questions (cf. Cullen, 1998). With regard to quantitative operationalisation, as will be elucidated later, effectiveness is measured in terms of the proportion of certain discourse acts, used by the teacher.

Initiative refers to the willingness of learners to participate in the classroom discourse. Quantitatively, it is measured in terms of the frequency of specific turn types and discourse acts. Typically, initiative can be measured by counting the number of times learners bid to respond to teacher elicits, as well as how often they self-select (cf. Van Lier, 1988). Learners who show initiative tend to participate more actively, and this will be tested in terms also of the proportion of certain discourse acts they use. These include extensions, clarifications, and counter-informs. In as far as quantification is concerned, initiative is, therefore, defined in terms of a subset of the discourse acts used by learners including those that do not reveal particular initiative.

Two variables around which operationalisation of the three constructs is centred are the intervention programme (the independent variable) that was aimed at causing changes in the discourse behaviour of teachers and, concomitantly, that of learners (the dependent variable). I was cognisant of the fact that there are other factors that could have a moderating effect on the discourse behaviour, and these include maturation and history, but steps were taken to control them by using the pretest-posttest control group design.

6. METHOD

A number of procedures were followed, starting with the *pre-intervention* stage, which involved sampling of participants and deciding on subject grouping. This was followed by the *preparation* stage. It involved contacting school heads and in-service teachers participating in the course. *Pretesting*, which was the next stage involved recording two lessons for each one of the teachers in the experimental and control groups. The *intervention* stage was the next one during which course tutors discussed content from the course modules with in-service teachers. The *interim testing*

stage focused on recording the four lessons taught by each teacher (one after each module). Finally, the *posttesting* stage involved recording of the lesson taught after the final examination. Altogether a total of 40 lessons was transcribed and analysed qualitatively. For statistical purposes only the nine pretest lessons, and nine posttest lessons were considered for analysis.

6.1. The participants

The sample was made up of the experimental and the control groups. The discourse of these two was recorded and assessed before intervention (the pretest), and after intervention (posttest). The assessment measures derived from an analytical framework specifically developed to test the hypotheses so as to establish the presence of dominance or the lack of it; the effectiveness of discourse; and evidence of learner initiative.

From the two groups, the control group comprised one teacher of English, one of Geography and one of Mathematics and their classes, while the experimental group comprised two teachers of each of these subjects and their classes. A total of nine teachers participated in the experiment. All teachers taught classes doing first year of high school (Form One) during the first term. The groups are said to be non-equivalent because the classes had differing numbers of learners. There were no changes in the composition of classes for the duration of the experiment. The groups thus remained intact.

For each teacher, two lessons were recorded at the pre-intervention stage. The intention was to establish whether there was any initial equivalence in the patterns of discourse used by the two groups, as well as to determine the proportion of discourse acts used by teachers compared to that by learners. Four lessons were recorded during intervention (interim tests), and one at post-intervention stage over a period of nine months.

The teachers were supposed to be practising in high school with a minimum of five years' teaching experience. Only certificate holders were selected so that after undergoing the in-service training they would receive a higher award, the Diploma in Classroom Text and Discourse. This would be an incentive for doing the course as it led to professional recognition that attracted two additional salary notches.

There are 10 administrative regions in Zimbabwe's education system. For the in-service course, taught by distance education mode, each region enrolled 50 participants, giving a total of 500 in-service trainees countrywide. It was not feasible to identify research subjects randomly given the daunting geographical distribution of schools. Random sampling was, therefore, ruled out.

I, therefore, opted for purposive case study sampling. In this research, the term case study is used to refer to a detailed account of the development of a small group of individual teachers (cases) over a period of nine months. Purposive sampling refers to the identification of participants on grounds of convenience and participant accessibility.

For purposes of identification, reference and analysis of lesson transcripts, the teachers are referred to as T1 and T2 for each subject (as shown below). For example, Mathematics T1 simply means the first Mathematics teacher, and Mathematics T2 means the second Mathematics teacher:

Mathematics – T1 and T2
Geography – T1 and T2
English – T1 and T2

Three teachers (control group), as opposed to six in the experimental group, were identified to teach the selected three high school subjects. These teachers were not exposed to the intervention programme, and identified as follows:

Mathematics – (C)
Geography – (C)
English – (C)

In this case (C) stands for 'control' lesson.

The rationale for having two groups was to control for history and maturation, thereby enhancing reliability and validity.

6.2. Hypotheses testing

Three constructs were tested, namely, dominance, effectiveness and initiative.

6.3. Testing for dominance

One of the hypotheses tested was:

Teachers who participate in the course will dominate discourse less than teachers who do not.

In their discourse analytical account of classroom interaction, Sinclair and Coulthard (1975) highlight the turn-taking pattern of moves that has come to be known as Initiation- Response-Feedback (I-R-F). On the basis of this pattern, they describe the speech act as the smallest functional unit of interaction. The pattern implies that the teacher talks for two-thirds of the time when interaction takes place around a given topic. My study, therefore, sought to determine the extent to which exposure to the intervention course resulted in reduced dominance if the I-R-F pattern remained largely in place. Testing involved comparison of the proportion of teachers' versus learners' discourse acts before and after intervention. Basically, quantities of discourse acts were objectified as a reliable measure of dominance.

Dominance is a feature of classroom interaction in which the teacher affords limited opportunities for self-expression, and is characterised by the prevalence of extensions, question tags, polar interrogatives and display questions. The comparison of the proportion of the acts was made using the chi-square statistical test. Fifteen minutes of oral interaction for a given lesson were recorded to ensure reliability and validity of the results. It was assumed that the lower the proportion of discourse acts by learners, the more dominant the teacher was.

7. RESULTS

The following results were obtained regarding dominance

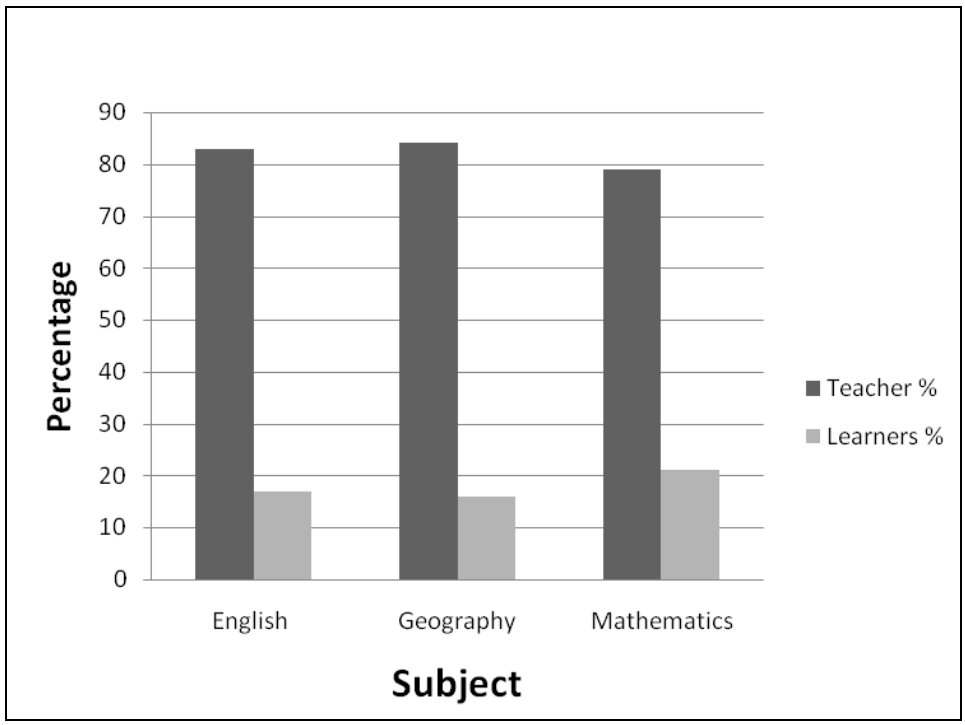


Figure 1: Dominance measures – control group (pretes)

It is clear that the proportion of teacher discourse acts in each of the three subjects is much higher than the two-thirds to one-third ratio established by Flanders (1970), with the Geography (C) lesson, for example, having the highest teacher-learner proportion of 84% to 16% respectively.

The performance of the experimental group at pretest shows a close similarity with that of the control group. The Geography (T1) lesson has by far the highest teacher dominance level at 89% to 11% as illustrated in Figure 2.

For both groups the ratio of teacher discourse acts compared to that of learners is much higher. This shows that before teachers from the experimental group were exposed to the intervention course their discourse performance was comparable to that of teachers from the control group, hence there was initial equivalence.

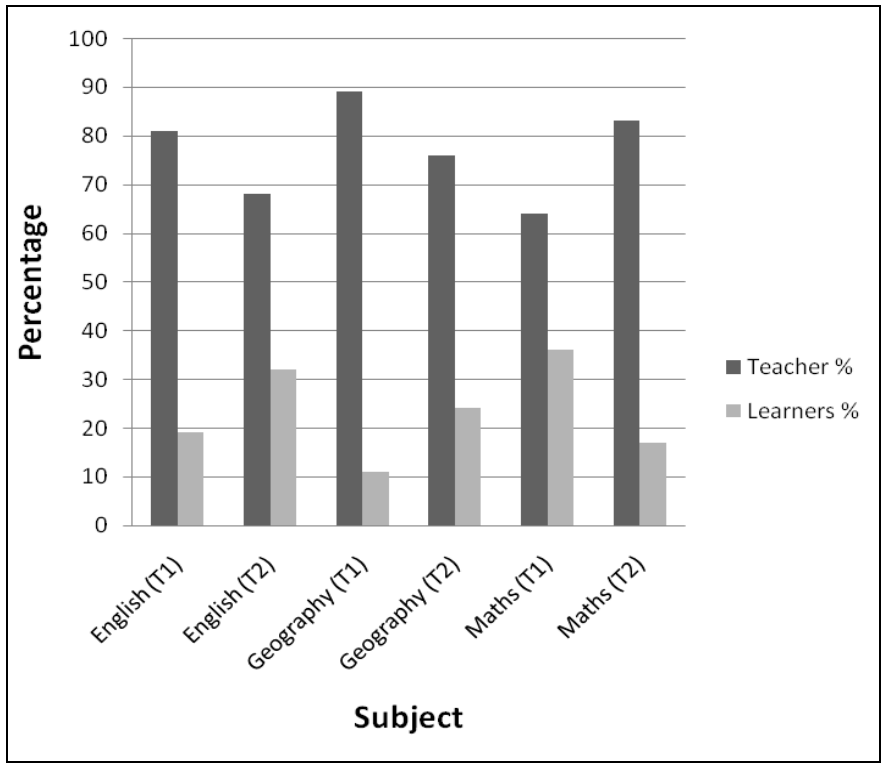


Figure 2: Dominance measures – experimental group (pretest)

At posttest there was no significant change in the level of dominance by teachers from the control group. With reference to control group teachers (English (C), Maths (C) and Geography (C) the proportion of teachers' discourse acts was much higher than that of learners, and remained unchanged at both research stages. For example, in the pretest, Geography (C) teacher accounts for 84% of the discourse acts, and learners for only 16%. The ratio of the posttest is even higher, at 95%, showing that teachers continued to dominate interaction. This is illustrated in Figure 3 where the other two results show an equally high level of teacher dominance.

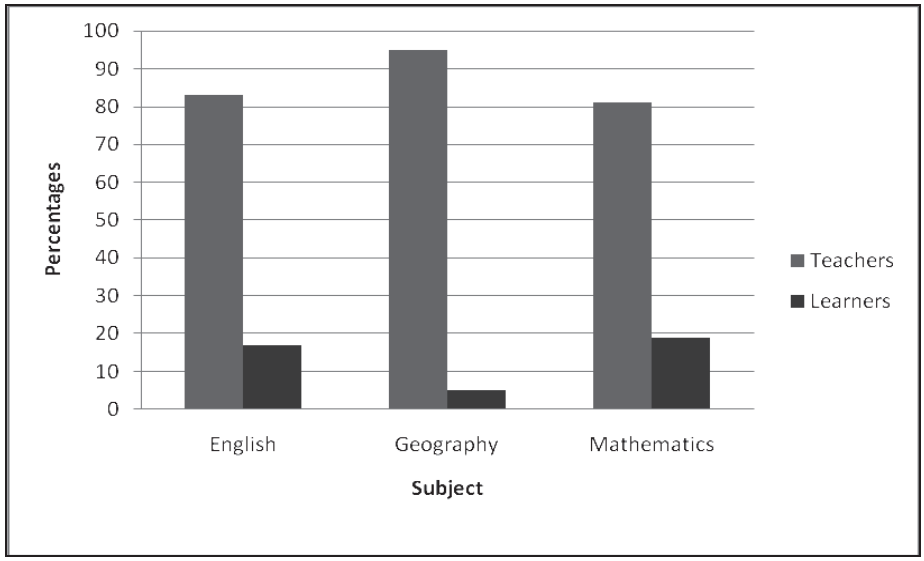


Figure 3: Dominance measures – control group (posttest)

For the experimental group, the statistics show a different trend. In the pretest, the proportion of discourse acts by teachers is higher than that of learners. However, there is a significant reduction of acts in posttest lessons as in Geography (T2) where the ratio is 76%: 24% (pretest), and 49%: 51% (posttest). The one exception, however is the English (T2), which has remained high at 77% discourse acts for teachers compared to 23% for learners. This variation shows that there are exceptions regarding the amount of teacher discourse. It varies from lesson to lesson depending on a number of factors. One such factor is the objective of the lesson, and what role the teacher should play to ensure that intervention produces the desired results. Figure 10 illustrates the teacher-learner discourse proportions at posttest.

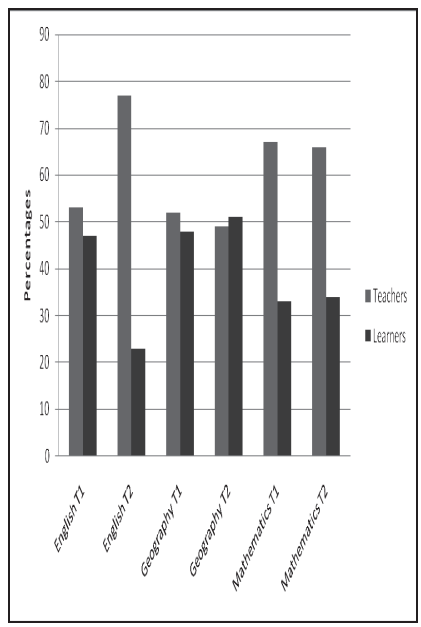


Figure 4: Dominance measures – experimental group (posttest)

The teacher dominance hypothesis, like the other hypotheses, was tested statistically by way of Chi-square tests (source: *Vassarstats*: *Web site for statistical computation at* http://faculty.vassar.edu/lowry/VassarStats.html). Here, the tests compared the pretest and posttest totals of the set of teacher discourse acts identified relative to the learner discourse acts in each group. The result for the control group confirmed that there was no significant difference between the two stages. Statistically, where the value for Chi-square is 1.13, and so at 1 degree of freedom the significance level (p) is 0.2878, which is far too high for the required significance threshold of $p \leq 0.05$. The result for the experimental group, on the other hand, revealed a very significant difference between the pretest and posttest. Statistically, this indicates a value for Chi-square of 33.92, and so at 1 degree of freedom the significance level is $p < 0.0001$, well below the significance level required. In combination, given also the broad equivalence of the control and experimental groups prior to intervention, the two statistical tests thus provide strong support for the dominance hypothesis.

It is worth noting that a decrease in the quantities of discourse acts does not necessarily mean that teachers used more effective discourse. The decrease, however, implies a higher level of awareness of oracy principles. Thus, for teachers to be less dominant it is necessary for them to develop explicit knowledge of the language of teaching and learning, and Rutherford (1987) has referred to this as input enhancement.

7.1. Testing for teacher effectiveness

One of the interaction hypotheses to be tested was:

Teachers who participate in the in-service course will be more effective in making better use of discourse to promote learning than teachers who do not participate in the course.

Effectiveness is a construct involving the conscious selection by the teacher of language to achieve learning goals in terms of the following discourse acts:

Clarification requests, used to call on learners to explain their points; referential questions, which are asked without specific answers in mind; evaluations, used positive feedback that spurs learners to speak on; prompts, which are used by the teacher to encourage more contribution; clues, which are hints given to help the learner to speak on; and instructional pauses, which are momentary silences to afford the learner time to think before giving a response. These acts were then used to measure teacher discourse effectiveness.

7.1.1. Results

When comparison of the use of the more effective categories by the two groups at pretest stage was made, it was clear that there was limited use

of such acts. For example, from Geography lessons (Geography (C) and Geography (T1) pretest), the percentages of effective discourse (defined here in terms of the occurrence of the six acts) in the 15-minute interaction time, is 12% and 7% respectively. However, for the posttest, there is a marked difference between the discourse performance of the two. Geography (C) makes use of 0% of effective discourse, while Geography (T1) shows a jump from 7% to 33%. More generally, it appears from scrutiny of the frequencies for other lessons that teachers belonging to the control group consistently used less effective discourse at both stages, while the opposite is true for members of the experimental group.

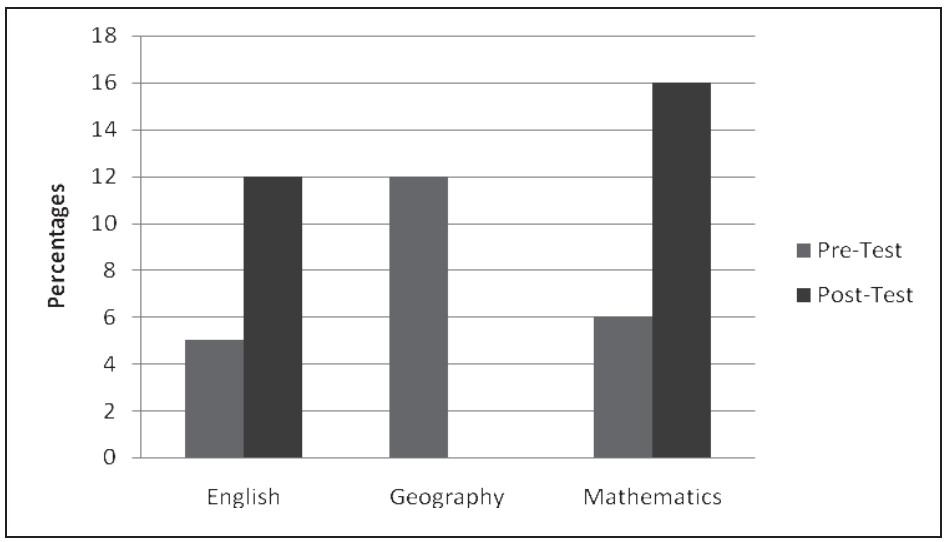


Figure 5: Effectiveness measures – control group

Figure 6 illustrates the performance of teachers from the experimental group in terms of effectiveness measures. It will be clear from the statistics that those teachers who had exposure to the in-service course showed some consistency in the selection and use of more effective discourse. This is the exact opposite of their counterparts in the control group. In a sense, therefore, the results show that the course on classroom text and discourse has some effect on teacher discourse.

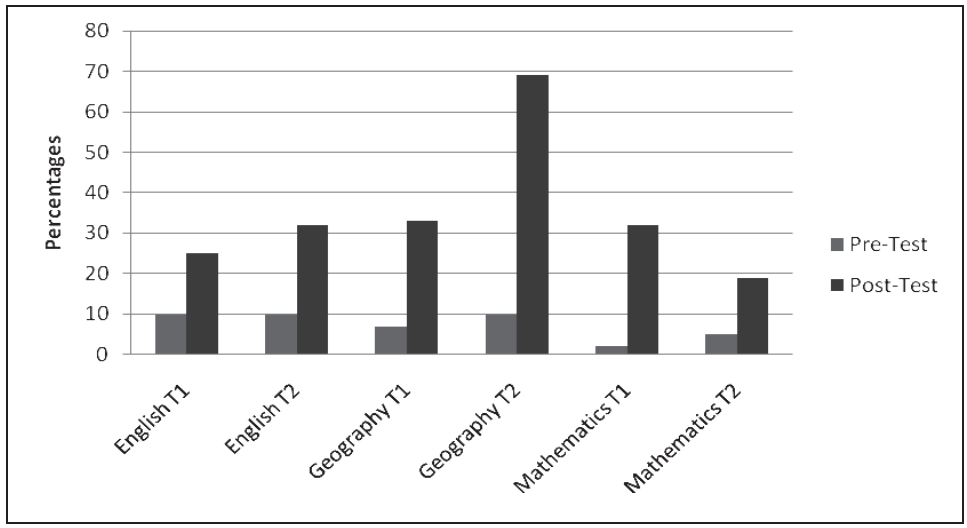


Figure 6: Effectiveness measures - experimental group

The teacher effectiveness hypothesis was tested statistically by way of Chi-square tests that compared the pretest and posttest totals of the set of teacher 'effectiveness' acts identified relative to the remaining teacher acts in each group. The result for the control group confirmed that there was no significant difference between the two stages. Statistically, the value for Chi-square is 0.23, and so at 1 degree of freedom the significance level (p) is 0.6315, which is far too high for the required significance threshold of $p \leq 0.05$. The result for the experimental group, on the other hand, revealed a very significant difference between the pretest and posttest. Statistically, it indicates a value for Chi-square of 63.11, and so at 1 degree of freedom the significance level is $p < 0.0001$, well below the significance level required. In combination, then, given also the broad equivalence of the control and experimental groups prior to intervention, the two statistical tests provide strong support for the effectiveness hypothesis.

In sum then, the discussion in this section pointed out some of the consistent differences in the choice and use of discourse acts between pretest and posttest lessons for teachers in the experimental group. Four important more general characteristics of effective talk can be inferred from the transcripts. Firstly, there is an appreciation of the purpose of talk by teachers; secondly, there is a shared understanding of relevant vocabulary between participants; thirdly, much more talk was focused on a task in which knowledge is shared; and lastly, the teachers consciously used discourse acts to negotiate learning. These findings confirm the more effective use of discourse by teachers who participated in the course in classroom text and discourse. Rex, Steadman, and Graciano (2005)

confirm that when specific manipulations of teacher behaviour are made to strategically change the interactions in class, this creates more productive negotiation of learning as has indeed been the case in my study.

7.2. Testing for learner initiative

Later in the study, focus shifted to the third hypothesis, namely:

Learners taught by teachers who participate in the course on classroom text and discourse will show more initiative than those taught by teachers who do not.

Initiative, which in this study is a measure of the quality of participation shown by learners. The more general term 'participation', is simply the proportion of learner acts relative to the teachers'. Not all acts of participation, however, necessarily indicate initiative. The discourse acts: extensions, clarifications, and counter-informs were identified as the most typical indicators of initiative. In turn initiative is also shown when learners bid for turns and when they self-select. These turn-based categories, in conjunction with the three discourse acts, were also posited as further evidence of the active participation that one associates with the idea of initiative during interaction.

A clarification is output that follows a request for further information, or elucidation of a point made previously. A counter-inform is used by the learner to dispute a position, and probably signifies the most initiative because it is evaluative and introduces a new element, which takes the discourse in a new direction. An extension is reflected when the learner provides additional information to topic initiations, while remaining within the same topic sphere.

A statistical test is then applied to establish whether there are significant differences in use of discourse acts associated with initiative between pretest and posttest transcripts.

7.2.1 Results

Statistics confirmed that the proportion of teachers' discourse acts in both the control and experimental groups was much higher than that of learners at pretest. The findings can be interpreted to mean that learner participation at pre-intervention stage was minimal. On the other hand, the proportion of discourse acts by learners, whose teachers had participated in the intervention course increased very significantly given that the findings on the teacher dominance hypothesis are at the same time findings on learner participation.

Figure 7 shows that there is little evidence of discourse acts reflecting either participation or initiative.

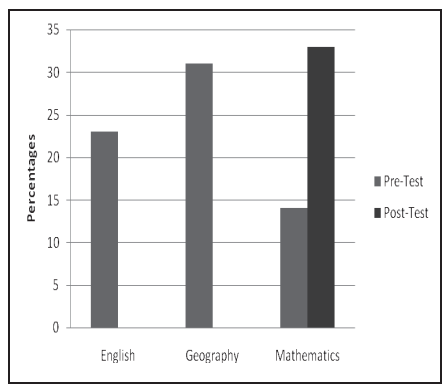


Figure 7: Initiative measures – control group

Turning to statistics, which deal with the experimental group, the pattern is similar to that of the control group at pre-intervention. There was a lower proportion of discourse acts of initiative. Statistics, therefore, showed that the level of initiative for the two groups is comparable before intervention. On that premise, it was logical to do intra-group comparison with the experimental group to establish whether learners displayed improved initiative at posttest (having been taught by teachers who participated in the intervention course). This is shown in Figure 8.

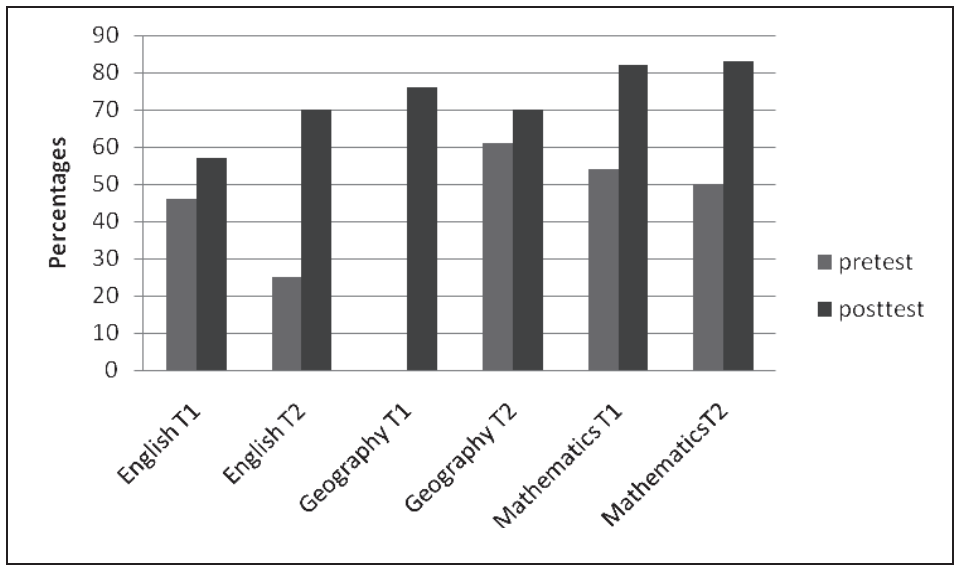


Figure 8: Initiative measures learners-experimental group (Pre-test and Post-test)

The learner initiative hypothesis was tested statistically by way of Chi-square tests that compared the pretest and posttest totals of the set of learner 'initiative' acts identified relative to the remaining learner acts in each group. The result for the control group confirmed that there was no significant difference between the two stages. Statistically, where the value for Chi-square is 0.24, and so at 1 degree of freedom the significance level (p) is 0.6242, is far too high for the required significance threshold of $p \leq 0.05$. The result for the experimental group, on the other hand, revealed a very significant difference between the pretest and posttest. Statistically this indicates a value for Chi-square of 25.08, and so at 1 degree of freedom the significance level is $p<0.0001$, well below the significance level required.

In combination, then, given also the broad equivalence of the control and experimental groups prior to intervention, these two statistical tests

provide strong support for the initiative hypothesis.

It was proved that learners under those teachers who underwent in-service training developed the ability to participate more actively in classroom dialogue. Their counterparts, on the other hand, continued to use discourse as they did at pre-intervention, reflecting little evidence of initiative. In qualitative terms, the analysis of lesson transcripts confirmed evidence that learners taught by teachers exposed to the in-service course also actively used discourse of initiative.

8. CONCLUSIONS

Overall, the study confirmed that systematic intervention leads to the reduction of teacher dominance, while at the same time making teachers who took part in the experiment choose more effective discourse acts to achieve learning goals. Conversely, the study also confirmed that learners under such teachers demonstrated a heightened initiative level at post intervention stage than before.

Pretest results arising from testing for the dominance hypothesis showed that in both groups the proportion of teachers' discourse acts was considerably higher than that of learners. Transcripts showed that learners were listening most of the time, while teachers talked more than they should have. Post-intervention results, which in the experimental group showed a very significant reduction in the proportion of teacher discourse acts and a concomitantly very significant increase in the proportion of learner acts, thus provided strong support for the hypothesis and testified to the positive influence that ideas from the intervention course can have on teacher discourse.

More qualitative examination of the data in context supported this conclusion as it showed that before intervention teachers tended to use many more discourse acts that stifle origination of discourse. The I-R-F pattern characterising much of the pretest interaction reflected a pattern of teacher-led recitation, which tended to reinforce the teacher's authority as the transmitter of received wisdom, while imposing restrictions on student initiative.

The teachers' changed perception about oracy was confirmed by the findings on teacher discourse effectiveness as operationalised in terms of the total proportion of six teacher-specific discourse acts relative to all other acts in a given episode of speech. The difference in the proportion between the analysed pretest and posttest lesson transcripts for the six teachers taking part in the course, showed a statistically very significant change, thus reflecting improved discourse effectiveness through a more conscious choice and use of discourse acts.

The more qualitative analysis of teacher discourse effectiveness also reflected how improved language awareness, derived from the course, led to more conscious attempts by the teacher at interaction evident, for example, in the use of open-ended questions that stimulated original language based on personal experience.

Results about the operationalisation of the initiative hypothesis confirmed that in the experimental group, learners at posttest stage showed statistically very significantly more initiative. At the same time qualitative discussion showed learner initiative to be supported when teachers gave explicit instructions for group work, asked more referential questions and made clarification requests, a type of scaffolding. However, counterparts in the control group did not manifest this change in discourse behaviour. The findings help to confirm the theoretical viewpoint that knowledge is socially constructed and is mediated through language (cf. Mercer, 1995).

9. APPLICATION OF RESULTS

Teacher-learner interaction is a universal phenomenon in situations where the objective is to achieve learning goals on the basis of a formal curriculum. This is a mitigating factor for the limitation that the research context from which the results emanate was different from that of the Basarwa where application of such results is recommended. Results deriving from the experiment are as applicable to the original context as they are to classes for nomadic or semi-nomadic learners.

It is also admitted that the size of the research population was small, therefore limited. However, in terms of my analytical framework, discourse had to be analysed intensively in order to arrive at reasonably objective quantitative measures for testing the hypotheses, as well as to enable me to interpret the statistical findings more qualitatively. Breadth of scope was therefore sacrificed for depth.

The study has application potential in the schools of Basarwa and any other nomadic communities in terms of its contribution at theoretical-methodological, descriptive and applicational levels. At the theoretical level, the study has contributed by developing a framework for explicating, in a reasonably objective manner, the notions of teacher dominance, teacher effectiveness and learner initiative from a discourse analytical perspective. This framework was applied within a quasi-experimental research design to establish the effects of an innovative course on classroom text and discourse in terms of these three key constructs, and the findings that emerged feed ideas back into theory about what types of act characterise classroom discourse that enhances the negotiation of learning.

The study can be applied to the Basarwa schools because of its descriptive strength. At the descriptive level, one is more concerned with description of a particular situation, in this case the detailed analyses of the classroom discourse of certain groups of teachers and learners that are made available, as well as the account of changes brought about in the discourse behaviour of some of these teachers and learners by the in-service course. Context specific descriptions could then be made from a more informed position to influence pedagogy in comparable situations.

Insights from the study have the potential to also make a contribution at a more applicational

level. In showing that by focusing on oracy teachers achieve better learning results with their learners, it implies changes needed in teacher education, especially in-service training responsive to specific challenges such as those of nomadic learners.

In sum, exposing teachers of Basarwa to the intervention programme would raise their level of awareness at both the linguistic and cultural levels, thereby enhancing a more professional sense of purpose. Additionally, systematic interaction would inevitably result in intellectual benefits observable in the ability by learners to control knowledge more autonomously, independent of the teacher. Given the above, the more defensible argument can be made that when learners see results, learning becomes more enjoyable, and as a direct consequence the absenteeism or withdrawal noted by Tshireletso (2001) is likely to be reduced. In other words, the intervention programme has the potential of transforming the failure to teach and the failure to learn to successful teaching and learning.

10. RECOMMENDATIONS AND FURTHER RESEARCH

The foregoing discussion carries numerous implications, and from those, recommendations compatible with nomadic pedagogic situations will be made. To begin with, the present study summarised an experiment conducted elsewhere, arguing that its results have transfer value that can benefit the Basarwa. Although that is a sustainable argument, it is strongly recommended that the study be replicated *in situ*, with typical teachers of Basarwa and learners.

As already noted, researchers have observed that the curricula used in the Basarwa schools tend to be authoritarian, and comprise knowledge that is largely alien to the learners. It is, therefore, argued that the Botswana government, as a matter of urgency, should make the first move to come up with curricula that take into account the culture of the Basarwa, for culture, far from being an obstacle to development, is its active ingredient.

Researchers have accurately identified language as a barrier to communication. The majority of the teachers in Basarwa schools are from the dominant communities of Botswana, who speak different languages. They have little clue, if any, about the San language. They, nevertheless, have to teach learners Setswana and English, and at the same time teach alien content. This is a very complex matter as the eminent novelist, Ngugi wa Thiong'o (1986, p.13) has pointed out, "learning for the English second language child becomes a mere cerebral activity, and not an emotionally felt experience". It will be noted here that the problem is even more complex. English is a third language, and not a second for Basarwa. The logical recommendation is that, the government of Botswana should develop a language policy instrument to see to it that children of these nomadic communities are taught in their mother tongue, at least during the first three years with Setswana and English as school subjects. When they get to Standard Four, English would then be used as the medium of

instruction. As far back as 1953, UNESCO recommended that children should be educated in their mother tongue. This mammoth project, obviously, implies funding to get the language written by language experts who may not be available, but it is nevertheless a worthwhile undertaking.

Arising from the above, one recommendation is that a language course for teachers of the Basarwa should be offered together with a course on the basics of Sarwa culture. This is obligatory, more especially that the teachers are not from the community where they happen to be teaching. A basic understanding of the culture will go a long way towards more meaningful interaction in the classroom. On the other hand, it is also recommended that school authorities organise regular trips for Basarwa learners to places within the communities of the dominant ethnic groups. These socialisation trips will expose learners to different lifestyles, and this will result in their appreciation of economic activities that sustain, the other communities, types of entertainment, communication patterns and different cultures.

Finally, it is recommended that the Botswana Ministry of Education should structure an in-service course to address this urgent challenge, and deliver the course as a matter of urgency. The risk of keeping the Basarwa marginalised and having limited access to education is real. Similarly, colleges of education should revisit their teacher education curricula and infuse language and cultural issues pertaining to remote area dwellers.

11. GENERAL CONCLUSION

Classroom interaction has been singled out for this particular study because as language use, it is the most crucial strategy of accessing learning. My experience in the classroom is that learners anywhere tend to write better what they have talked about, and that they also listen better when they are aware of what somebody is talking about. In actual fact, some of the most creative thinking takes place when people are talking together. One of the opportunities that the school can offer Basarwa learners is the chance to use dialogue to develop their own thoughts, and this with the vicarious support of the teacher.

12. REFERENCES

Al-Garawi, B. (2005). A Review of two approaches to L2 classroom interaction. *Annual Review of Education, Communication and Language Sciences, Volume 2, 2005*

Bagaric□, V. & Djigunovic□, J.M. (2007). Defining Communicative Competence. Metodika. Vol. 8 br. 1, 2007, p. 94 -103

Bruner, J.S. 1986. *Actual Minds, possible worlds*. London: Havard University Press.

Canale, M. and Swain, M. 1980. "Theoretical Bases of communicative approaches to second language teaching and testing". Applied Linguistics 1(1): 1-47.

Council of Europe (2001). *Common - European Framework of Reference for Languages: Learning, Teaching and Assessment*. Strasbourg.

Cullen, R. 1998. "Teacher talk and the classroom context". *ELT Journal* 52 (3):179- 187.

Ellis, R. 1986. *Understanding Second Language Acquisition*. Oxford: Oxford University Press.

Finlay,C., Tsou, A.& Sugimoto, C. (2015). Scholarly Communication as a Core Competency: Prevalence, Activities, and Concepts of Scholarly Communication Journal of Librarianship and Scholarly Communication. Volume 3 Issue 1 p 1 - 26

Fisher, E. 1996. "Identifying effective educational talk". *Language and Education* 10 (4): 237-253

Flanders, N. 1970. *Analysing teacher behaviour*. Reading (Mass): Addison Wesley.

Krashen, S.D. 1982.Principles and practice in Second language Acquisition. Oxford: Pergamon.

Long, M. H. 1990. "The least a Second Language Acquisition theory needs to explain". *TESOL Quarterly 24: 649-666.*

Mercer, N. 1995. *The guided construction of knowledge*. Clevedon: Multilingual Matters.

Mercer, N. 2004. "Sociocultural discourse analysis: analysing classroom talk as a social mode of thinking". *Journal of Applied Linguistics* 1 (2): 137-168.

Modesto, S.T. 2000. *Interactive communication and the teaching-learning process*. Gweru: Mambo Press.

Modesto, S.T. 2007. "Facilitating interaction during face-to-face tutorials in open and distance learning: Insights from the Socratic Method." *International Journal of Open and Distance Learning* 1: 74-86.

Modesto, S.T. 2008. *The Effects of a course on classroom text and discourse on oracy in high school classrooms.* (Unpublished DLitt et Phil thesis, University of South Africa)

Ngugi wa Thiong'o. 1986. *Decolonising the mind*, Harare: ZPH.

Nthomang, K. 1999. "The Basarwa/San/Bushman question in Botswana. Community Economic Development (CED): Creating opportunities for empowerment". *Journal of Social Development in Africa*, 14,1,53-67

Pea, R.D. (2009) The Social and Technological Dimensions of Scaffolding and Related Theoretical Concepts for Learning, Education, and Human Activity. *The Journal of the Learning Sciences*. 13 (3) 423 – 451.

Rex, L., Steadman, S., and Graciano, M. 2005. "Researching the complexity of classroom interaction". In Green, J., Camilli, G., and Elmore, P. (eds*). Handbook of complementary methods for research in education.* Washington, D.C.: American Educational Research Association.

Rutherford, W.E. 1987. *Second language grammar: Learning and teaching*. London: Longman.

Sinclair,J.M and Coulthard, R.M. 1975. *Towards an analysis of discourse: the English used by teachers and pupils*. London: Oxford University Press.

Spolsky, B. 1990. *Conditions for second language learning*. Oxford: Oxford University Press.

Taylor, R. 2006. "Actions speak as loud as words: a multimodal analysis of boys' talk in the classroom". *English in Education.* 40: 66-82.

Tshireletso, L. 2001. "Issues, dilemmas and prospects on the state provision of education to traditional hunter-gatherer societies of Botswana" *African Study Monographs,* Suppl.26: 169-183

Van Lier, L. 1988. *The classroom and the language learner.* London: Longman.

Vygotsky, L.S. 1978. *Mind in Society*. London: Havard University Press.

Wilmsen, E.N. 1989. *Land filled with flies: a political economy of the Kalahari.* Chicago: University of Chicago Press.

www.funderstanding.com/theory/constructivism/ (Retrieved 15 May 2017)