

# TEACHER-STUDENT INSTRUCTIONAL COMMUNICATIONS IN A SETSWANA CLASSROOM

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## Abstract

Poor academic performance the world over is a cause for concern. The abysmal failure of students in public examination has made stakeholders such as governments, teachers, parents, and learners themselves get concerned. Developed counties such as USA have experienced low academic performance in their schools. Similarly, in Africa cases of low performance have been reported. Botswana is not an exception as it has also recorded poor academic performance in different schools. Whilst causes of poor performance may in some cases be known in Botswana, the underlying factors of such causes may be unclear and hence needing to be interrogated. The current study is therefore an attempt to understand the causes of poor academic performance in one region of the country, the Tutume Sub-District, by analysing teacher-student instructional interactions (TSII) in a Setswana classroom in one junior secondary school, and the implication in learners' academic performance using Flanders Interactional Analysis as the analytical tool. Observational case study was adopted, and purposive sampling technique for participant recruitment was used. The major findings of the study revealed that content cross was the most dominant TSII.

**Keywords:** teacher-student instructional interactions (TSII), academic performance, Flanders Interactional Analysis, Junior Secondary School, Setswana.

## 1.0 Introduction

Numerous studies (Mphale & Mhlauli, 2017; Khan, 2014; Jotia & Pansiri, 2013; Novianti, Hijrah, & Anugrawati, 2023) have investigated factors that contribute to poor academic achievement in junior secondary schools in Botswana. However, consistently poor performance indicates that there may be other yet unidentified contributory factors, and yet other possible interventions to be identified. For instance, there is a conspicuous absence of investigation on classroom interaction and how it could contribute to learner performance. This is a knowledge gap which the current study sought to address. While there have been studies in the Botswana context conducted on classroom interaction, these were cross-sectional in nature (Prophet, 1995), they were narrower, and were conducted over a short period of time and at a specific point in time. A related and more recently conducted study by Mungoo and Moorad (2015) focused mainly on learner-centeredness which is by no means the only strategy that could affect teaching and learning. The current study, in contrast, sought to conduct a holistic investigation; it is a longitudinal and observational case study in one school in Tutume sub-region where data was collected from the same teaching subject and the same individual repeatedly over a longer period (Ployhart & Vandenberg, 2010), and is consistent with the general system theory guiding the study.

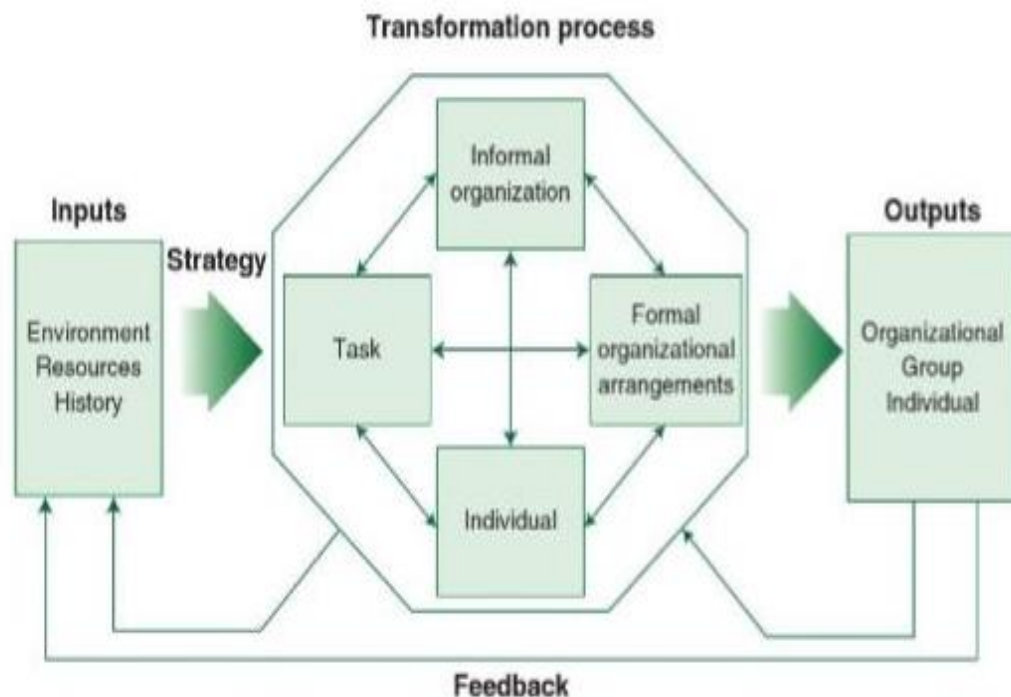
## 2.0 The Theoretical Framework

Some theories are used in reviewing classroom interaction, and one of these is the social systems theory. A classroom is viewed as a system in which all elements interact to influence its functions and it has the capacity to either support or suppress the learning of learners. The systems theory, particularly the contribution of Nadler-Tushman's Congruence Model, provides a useful theoretical framework for this study. The congruence model of organizational behaviour developed by Nadler and Tushman (1980) was therefore adopted for this study.

### 2.1 Nadler –Tushman's Congruence Model

The Nadler- Tushman congruence model provides an insight into organizations as open systems. As Kast and Rosenzweig (2002) noted, conceptual models are needed to provide the framework for a better understanding of system performance. The details of the congruence model components as described by Nadler and Tushman are found in Figure 1.

**Figure 1: The Nadler- Tushman Congruence Model**



According to Nadler and Tushman (1980), systems use three kinds of inputs.

- The environment: This includes the demands from customers.
- Resources: This includes employees, technology, capital, information, and intangible.
- History: This is how today is influenced by the past.

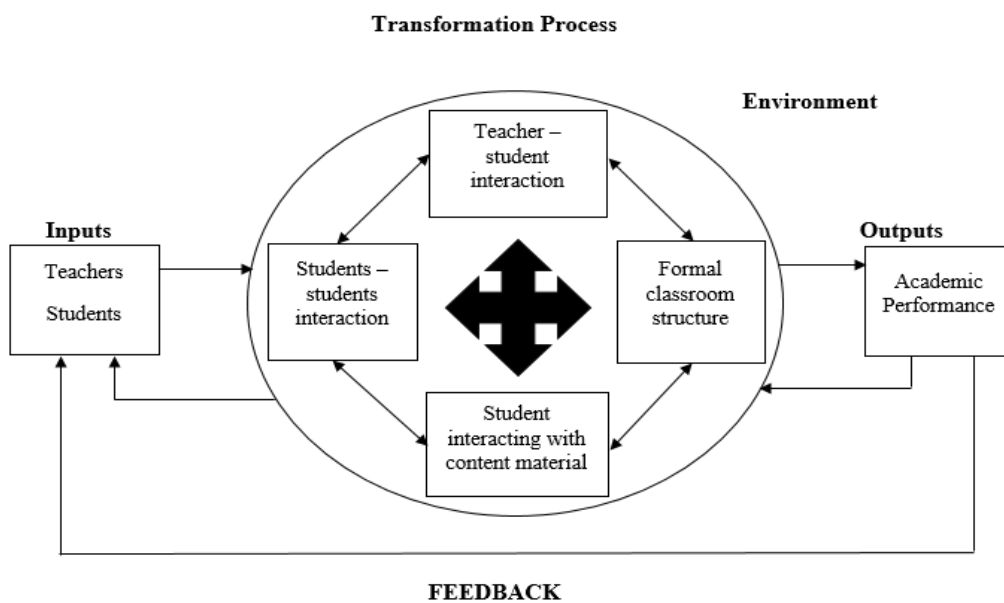
These inputs are merged with organizational strategy to influence transformation process. Strategy includes vision, mission, aims and values. Strategy is included in the congruence model as it determines what the organization will work on and how the organization must work to achieve its outputs. Transformational process denotes effective

internal processes within a system (Hoy & Miskel, 2013). In the transformation process Nadler and Tushman divided organizations into tasks, individuals, and formal and informal organizational structures. The task component encompasses work to be done, but also the skills and knowledge required to do it. The individual component includes the employee’s knowledge and skills. The formal organizational arrangements describe how the work is organized both formally and informally. All four of these organizational components must fit together in order for the organization to be effective. Individuals must be congruent with the tasks; tasks must be congruent with the formal structure, and so on. Together these four elements are defined as the primary components of the organization. They interact together in more or less consistent ways as the organization produces its output (Kast & Rosenzweig, 2002). Furthermore, an output of school as the third factor consists of organization group and individual performance (Nandler & Tushman, 1980).

## 2.2 The classroom as a social system

Afifi (2012) notes that a system consists of subsystems interacting together to save the whole system. Any group with two or more persons working together in a coordinated manner to attain common goal is, therefore, a social system (Norlin, 2009). Inferring from a systems view, a classroom is a social system consisting of a teacher and learners. It is a social system that has a structure, involves interactional patterns and some properties to organize stability and change. According to social systems view, a classroom would be a social system with borders and organized as a subsystem. It is a subsystem of a school, and each member of a classroom is a subsystem of the classroom. Consider Figure 2.

**Figure 2: Conceptual framework of the Teacher- Learner Instructional Interactions**



### **2.3 Significant concepts from Nadler and Tushman's Model which are related to the current study**

#### **i. Nadler and Tushman's concept of systems having histories**

According to Nadler and Tushman (1980), classrooms and the individuals have histories within them. As adapted in this study, the learners (Inputs) are admitted into the junior secondary schools, with different academic performance, from different social economic backgrounds and are from various Primary school backgrounds. Teachers have a history of producing good results or a history of being a graduate from a recognized university.

#### **ii. Significance of transformation process**

Nadler and Tushman (1980) also noted the importance of transformation process in the organizational performance. Nadler and Tushman divided organizations into four components and these four elements interact together in more or less consistent ways as the organization produces its output (Kast & Rosenzweig, 2002). The significance of these notions for successful learning is clear. When learners (Inputs) get into the junior secondary school system, they are allocated to a classroom with a teacher (Input). Inside the classroom, performance is influenced by how the teacher interacts with the learners, how a learner interacts with other learners and how the learner interacts with the learning materials (Throughput). A low performing learner will affect how the teacher teaches and how other learners relate within the classroom. The teacher's organizational strategies, management strategies and instructional strategies will have an impact on the low performing learners and on other learners. Each of the four elements, that is, teacher, learners learning materials and formal and informal classroom structures within the classroom environment has the potential to either a positive or negative impact on every element. The four elements interact together as the classroom produces its output (academic performance).

#### **iii. Significant classroom environment in improving learner performance.**

Nandler and Tashman (1980) made some assumptions that an organization is an open system and therefore is influenced by its environment and also shapes its environment by its output. When this is applied to the education setting it is clear that classroom environment is important in improving learners' academic performance. An output of the classroom is released into the environment (school) in the form of learners' academic performance. Without output, the school population has no way of knowing the learners' performance. The school is the environment because the classroom is within it and what happens within the school affects what goes on in the classroom. The school then seeks feedback to determine the output (performance). Usually, the school is given feedback by classroom attendance registers and analyzing classroom tests and examination results. According to Koontz and Weihrich (1988) an organized enterprise does not exist in a vacuum; it is dependent on its environment in which it is established. Therefore, by implication, a classroom is an open system that receives resources (inputs: learner abilities and needs, and teacher knowledge and skills) from the environment and transforms (processes) them into products (outputs: performance).

Each of these congruence model components may be relevant to the teaching and learning in the classroom and the educational experience of low performing learners in particular. The Systems Theory, particularly the contribution of Nandler and Tushman (1980) provides a useful theoretical framework for this study, and this study is therefore guided by this model. The model is appropriate for use in this study because the factors that are examined in this study have their basis on the interactions amongst inputs (teacher and learners) into a system (classroom) and the subsequent outputs of the system (performance).

### **3.0 Purpose of the Study: Objectives and Research Questions**

The purpose of this study was to explore teacher-student instructional interactions (TSII) in the Setswana subject in one school in Tutume sub-region and their implication in learners' academic performance using Flanders Interactional Analysis as the analytical tool. The objective of this study was to identify the TSII employed by the teacher in the teaching of Setswana in a junior secondary setting. To address the research objective, the research question of the study was What TSII are employed by the teacher in the teaching of Setswana in a junior secondary setting?

### **4.0 Research Setting and Participants**

Research setting is the physical, social, or experimental context within which research is conducted (Kombo & Tromp, 2006). This study was conducted in one of the 12 public and government aided junior secondary school located at the Tutume area of Botswana. The junior secondary school is co-educational, boys and girls are taught together, and is a six streams school, that is, two form one classes, two form two classes and two form three classes. The selected school was based on the fact that the institution was an information-rich site. It had resourceful participants such as low performing learners and teachers teaching core subjects who could share relevant information about the poor performance of the learners. The population from which the sample was drawn comprises of all the classes (180 students) and 35 teachers teaching Form 1, Form 2, and Form 3 core subjects (Mathematics, Science, Setswana and English). From the population the researcher purposively sampled Form 3 students a teacher teaching the Form 3 cohort Setswana. Purposive sampling is defined as “a non-probability method in which the researcher selects participants based on personal judgment about which ones will be more informative and as such, it is sometimes called judgmental sampling” (Polit & Beck, 2012, p. 739). The Form 3 group was chosen because it was the group which had the longest stay in the school; this was suitable for this study which sought to be a holistic and comprehensive investigation, and which was a longitudinal and observational case study.

To ensure protection against COVID-19, person interaction was minimised by purposively choosing one Form 3 class and one female teacher. The class was chosen because it was the lowest performing Form 3 class. The researcher observed this core subject because to determine the overall grade in the final junior certificate examinations, students are first graded on four core subjects (Setswana, English, Mathematics and Science), then the best optional subject. The researcher used simple random sampling method to select the subject for

the study. According to Thomas (2023), a simple random sample is a randomly selected subset of a population. In this sampling method, each member of the population has an exactly equal chance of being selected.

## **5.0 Data Collection Strategies**

One of the important attributes of a qualitative case study research project is its multiple data collection strategies which enable the researcher to gather a variety of data from various perspectives (Creswell, 1998). Multiple data collection strategies complement one another to overcome the challenges of a single method (Creswell, 2002; Merriam, 1988). The use of multiple data collection sources offsets the challenges of each of the data collection sources.

### *Observation*

In this study the method suitable for collecting data was observation because the study was concerned with what people do. Observation is a technique and observation tally sheet is a tool for collecting data (Creswell, 2002). Marshall and Rossman (1989, p. 79) define observation as “the systematic description of events, behaviours and artefacts in the social setting chosen for study.” Observations enable the researcher to describe existing situations using the five senses (Erlandson, Harris, Skipper, & Allen, 1993). It provided the researcher with ways to check for nonverbal expression of feelings, determine who interacts with whom, grasp how participants communicate with each other, and check how much time was spent on various activities (Schmuck, 1997). Observation solely depends on the researcher and the researcher can do justice to it.

### *Video Recording*

While the observation tally sheet was used to collect data during observation sessions, this, on its own, was not enough to answer a research question focussing on TSII. The video recording was also used to record the lesson. Since the camera did not capture the whole class at a time, the researcher sat next to the equipment for regular adjustments. There were cases where the researcher would focus on two-thirds of the class and leave the camera for about thirty minutes or so, and then shift it to another view of the classroom. When used as a research instrument video recording provides the researchers with a replicate of actual classroom happenings and allows independent observers and researchers to review the same observations at different times and conduct second analysis of recorded data. The video recording was thus used to supplement or improve the accuracy on classroom observations by recording data that was not captured during the classroom observations. The class was observed four times, and the classroom proceedings were recorded in two different ways: longhand recording (observation tally sheet) and videotaping.

During classroom observations, the observer focused on the interaction between (1) teacher and several learners, (2) several learners and the teacher, (3) learner and several learners, (4) teacher to learner, (5) learner to teacher (6) learner to learner. In the case of the teacher, the researcher was looking at indirect talk like accepting learners’ feelings, praising, or encouraging learners, accepting, or using learners’ ideas, and the teacher’s direct talk like



lecturing, giving direction and criticizing. In the case of the learners, the researcher focused on the learners talk in response to teacher's talk (discussion and dialogic instruction, choral responding, response cards, raising hands, guided note taking), learners' activities (group work activities, peer teaching, think-pair-share, role play techniques) and talk that is initiated by learners. All these were done with the intention of analysing teacher-learner instructional practices. Data from classroom observation was cross-checked with the data from the transcription (video camera). Collected data was then entered into the observation tally sheet to make the analysis easier.

## **6.0 Results and Discussion**

### **6.1 The result of the first meeting**

In the first meeting almost all categories of Flanders Interaction Analysis Categories (FIAC) analysis system appeared in classroom interaction. The most dominant TSII was the content cross focussing mostly on the teacher-talk. The proportion of content cross in the first meeting was 79.37% or 50 utterances from the total of 63 utterances found from first meeting. This shows that the teacher spent more time of teaching learning process, asking questions, and lecturing. The teacher spent more time talking than the students. The proportion of content cross in this meeting was lower than the second and the third meeting but higher than the fourth meeting.

The second dominant characteristic was the students' participation or student talk. The students participated in responding to the teacher's question and initiation of talk. The proportion of student's participation in the first meeting was 19.05% or 12 utterances from the total of 63 utterance found from first meeting. Even though student's participation is the second dominant TSII students were not active enough in responding to teacher's utterance because the students' participation was not even half of the content cross. The difference was  $79.37\% - 19.05\% = 60.32\%$  meaning that most of the time the teacher was talking. The proportion of student participation in this meeting was higher than the second meeting and fourth meeting but lower than the third meeting.

The third dominant TSII was the teacher control with 3.1% or 2 utterances from a total of 63 utterance of teaching learning process in the first meeting. It showed that the teacher spent a little time in giving directions and criticizing or justifying activity. The proportion of teacher control in this meeting was the lowest compared to the second, third and fourth meetings.

The last dominant TSII in the first meeting was teacher support where the teacher only spent 1.59% or 1(one) utterance from a total of 63 utterance of the teaching learning process. This shows that the teacher was rarely accepting feeling, praise or encouragement and accepting student's ideas. The proportion of teacher support in this meeting was lower than the second and third meeting but it was higher than the fourth meeting.

## **6.2 The result of the second meeting**

In the second meeting almost all categories of FIAC analysis system appeared in classroom interaction. The proportion of content cross was 96.2% or 50 utterances from a total of 52 utterances found in the second meeting. This shows that the teacher spent more time in teaching learning process asking questions and lecturing. The teacher dominated the classroom activities and in this meeting teacher domination was higher compared to the first, third and fourth meeting.

The second dominant characteristic was the students' participation or student talk where students participated in responding the teacher's question and talking initiation. The proportion of student's participation in the second meeting was 17.3% meaning that the students were not active enough in the classroom interaction. The student's participation in the classroom activities was lower than first and third meetings but higher than the fourth meeting.

The third dominant characteristic was the teacher control with 5.8% of teaching learning processes in the second meeting. It showed that the teacher spent a little time giving directions and criticizing or justifying activity. The time of teacher control in the classroom activities was higher than first and second meeting but lower than the fourth meeting.

The fourth dominant characteristic was teacher support where the teacher only spent 1.9% or 1(one) utterance from a total of 52 utterance of the teaching learning process in the second meeting. It shows that the teacher was rarely accepting feeling, praise or encouragement and accepting students' ideas. The teacher's role in supporting the students in the classroom activities was the higher than first and fourth meetings but similar to the third meeting.

## **6.3 The result of the third meeting**

In the third meeting the most dominant TSII found was the content cross where the proportion of content cross was 94.1% or 48 utterances from a total of 51 utterance. This shows that the teacher spent more time in teaching and learning process asking questions and lecturing. The teacher dominated the classroom activities, and it was higher than the first and fourth meetings but less than the second meeting.

The second dominant TSII was the students' participation where students responded to the teacher's questions and also initiating talk. The proportion of student's participation in the third meeting was 21.6% meaning that the students were not active enough in the classroom interaction. The students' participation in the classroom activities was still higher compared to the first, second and fourth meetings.

The third dominant TSII was the teacher control with 3.9% of teaching and learning processes. It showed that the teacher spent a little time in giving directions and criticizing or justifying activity. In the third meeting, teacher control was higher than the first meeting and lower than the second and fourth meetings.



The last dominant TSII was the teacher support with 1.9% of the teaching and learning processes. It showed that the teacher rarely accepted feelings, rarely praised or encouraged students and rarely accepted student' ideas. In this meeting, the teacher's support to her students was the lowest one compared to the first and the fourth meeting.

#### **6.4 The result of the fourth meeting**

In the fourth meeting the most dominant TSII was the content cross with a proportion of 73.2%. This shows that the teacher spent more time of teaching learning process asking questions and lecturing. The teacher spent more time than the students. The proportion of content cross in this meeting was lower than the first, second and the third meetings.

The second dominant characteristic was the students' participation or student talk. The students participated in responding to the teacher's question and talking initiation. The proportion of student's participation in the fourth meeting was 17% meaning that the students were not active enough in the classroom interaction. The proportion of student participation in this meeting was lower than the first, second and third meetings.

The third dominant TSII was the teacher control with 9.8%, showing that the teacher spent a little time in giving directions and criticizing or justifying activity. The proportion of teacher control in this meeting was the higher compared to the first, second, and third meetings.

The last dominant TSII in the first Setswana meeting was teacher support with 4.9%. This shows that the teacher rarely accepted students' feelings, rarely praised or encouraged them and rarely accepted students' ideas. The proportion of teacher support in this meeting was higher than the first, second and third meetings.

#### **6.5 The result of notetaking**

In the first, second, third and the third meeting, the teacher spent more time in giving facts or opinions, giving her own explanation, or citing an authority other than students. The students were not active in classroom interaction in expressing their own ideas, initiating and opinion, the percentage of talk was more dominated by the teacher. Furthermore, there was silent or confusion in the classroom interaction in each meeting although the percentage was low.

### **7.0 Discussion of the Findings and Implications for the Theoretical Framework**

Data from the observation helped in the analysis of the TSII. From the utterances found in the four meetings, the results show that content cross, 85.2% was the most dominant TSII. This means that most of the teaching-learning time was devoted to asking questions and lecturing by the teacher. A similar finding was noted by Prophet (1995) who pointed out that teacher domination of classroom talk means that the students are not actively engaged or participating and that there is dependence on whole class teaching with little group work. Nandler-Tushman (1980) aver that a classroom as a social system receives inputs such as students and teacher from the environment (school) who engage in learning and teaching

processes to produce an output or academic performance. The teacher's organizational strategies, management strategies and instructional strategies had an impact on the low performing students and on other students. Findings of this study revealed that the teacher's instructional strategies inside the Setswana lesson were domination of the lesson by the teacher who was talking too much. This interaction had a negative impact on student performance. This kind of interaction produced the output which was poor academic results.

## 8.0 Conclusion

This article discussed TSII in the Setswana class in a junior secondary school at the Tutume sub-region. Data from observation helped to analysis the TSII from 218 utterance found in the four Setswana meetings, the results showed that content cross (85.2%) was the most dominant TSII in the four meetings. This means that the teacher was lecturing a lot and adopting other means of teaching where she was the one talking most of the time. For instance, asking questions was also dominantly used by the teacher. The second most frequently used TSII was students' participation (18.34%), followed by teacher control (5.65%) and then teacher support (2.57%). The lecturer dominated the talk in the classroom and the students were less active in classroom interaction. The result showed that the students' participation (students' talk response and students' talk initiation) was lowest in all the total teaching and learning process.

Moreover, interaction in the Setswana class was a three-way communication; there was interaction between the teacher and the students, between the students and lecturer, and among students. Interaction between teacher and students was characterized by the teacher asking question, giving direction, accepting feeling, praising, or encouraging, accepting, or using students' ideas, and criticizing or justifying authority. The interaction between students to the teacher could be seen in student responses to questions and by and initiating talk. Student to student interaction appeared in the form of discussions either between individual students or within a group of students.

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