

# An Analytical Study of Errors in the Written English of Undergraduate Engineering Students, ATBU a Case Study

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## Abstract

A study and analysis of errors in the written English of undergraduate engineering students of Federal University of Technology, Abubakar Tafawa Balewa University (ATBU), Bauchi, a case study, is here by presented. Error types, causes of errors, effects of errors on their field of specialization and how the errors could be remedied were discussed. Data were collected from the engineering students' written materials in English. Three sets of materials were collected: examination scripts, tests scripts and term paper scripts. Error types were classified through careful reading of the scripts and marking them. Error analyses were presented graphically and discussed. It is observed that errors occurred most in grammar, followed by expression, punctuation, spelling, vocabulary and least in connectives. Among the three test papers, analysis further revealed that less error occurred in the term paper. The general remedial measures as to how these errors could be minimized were listed. These remedial measures could be applied to all Nigerian Federal Universities since the students of each university are drawn from all over the federation

**Keywords:** analysis, errors, written English, undergraduate, examination scripts, test scripts, grammar, causes, remediation

## 1. Introduction

English is the communication language in Nigeria and has many functions. These functions are implied in its role as a second language in the country. What this actually means can be found in many books and papers. The most popular and best of them is that of Prof. Ayo Bamgbose in Spencer (1998) in which he outrightly showed the extent to which English language is used in government as the official language for all types of official records and instructions; in business and commerce for all business transactions and publicity; in education, science and engineering as the language of instruction in the classroom and laboratory reports; in the mass media as the language of information and propaganda; and in creative art and literature as the language, for novels, poems, short stories, music and drama. Therefore, one could say that the gate to educational advancement, job opportunities and fuller participation in the social life is blocked for those who cannot speak and write English language communicatively and effectively.

It is of paramount interest to note that many students pass through the Nigerian secondary school and colleges without acquiring the basic level of proficiency in the English language. When these categories of students are admitted into the tertiary institution therefore, they come ill-equipped linguistically to face the tasks and demand of the higher education.

The above described category of students constitutes what this research work is all about. These students have partial command of the language and are broadly able to convey meaning in most situations although errors may interfere with communication. It is against this background that this research has been conducted to identify the error in Engineering students written English, identify possible causes of the error and then proffer suggestions for improving students writing. Therefore, the focus of this research is writing for specific (technical) purposes.

Issues to be discussed in this research work include the following:

- a. what is writing,
- b. what is an error,
- c. the role of error analysis,
- d. causes of errors,
- e. categorization of errors and
- f. error analysis procedure

The purpose of this research is to identify and analyze the errors found in the written English of first year undergraduate engineering students of Abubakar Tafawa Balewa University (ATBU), Bauchi.

## 2. Error Analysis Procedure

Omojuwa (1981) states that: "The first step is to identify the errors. The second stage is to classify them. The third stage is to explain them and finally to eliminate them". In a similar development, Lolt (2000) believes that

there are obvious advantages for teachers in conducting their own error analysis research. They can find out why their students are making errors and then plan appropriate remedial measures. Sridhar (1980) also enumerated some guidelines in which teachers and researchers could follow in conducting error analysis. These include the following:

- a. collection of data (either from a 'free' composition by students or from examination scripts),
- b. identification of errors,
- c. classification of error type (e.g. errors of agreement, articles, verb forms, etc),
- d. statement of relative frequency of error types,
- e. identification of the areas of difficulty in the target language and
- f. therapy (remedial drills, lessons, etc).

From the review therefore, it is clear that the occurrence of errors is normal in language learning. The important thing is for the error to be identified, analyzed and corrected.

### 3. Research Design

#### 3.1. Population and sample

The population for this research is the undergraduate engineering students in the Federal University of Technology – Abubakar Tafawa Balewa University (ATBU), Bauchi. These students are those who have completed their secondary education and have been admitted into the Federal Universities of Technology. There are several of such universities in the country, two of which are universities of Agriculture.

The sample consisted of both male and female students of the university who were admitted through University Matriculation Examination (UME) and direct entry conducted by the Joint Admission and Matriculation Board (JAMB). The students of the engineering course are said to have come from the same linguistic backgrounds as their counterparts in other institutions. The sample is therefore considered as a good representative of the population of the students of engineering course in the Federal Universities of technology in the country. However, most of them speak English language as the language that has been acquired after their mother-tongue.

It could be assumed therefore, that the errors found in ATBU, Bauchi, would be the same or very similar to those found in the other universities of technology. In almost all the federal universities of technology major and minor language groups are being represented by students' population.

In ATBU, the linguistic groups represented in the students population as reflected in their scripts include Hausa, Fulani, Yoruba, Igbo, among others.

There would also be the mixed ability sampling. The scripts would be analyzed collectively. That is there would be no discrimination between the well talented ones and less intelligent ones.

#### 3.2. Method

In order to consider the types of errors found in student's written work, three sets of students' work were used. These are: examination scripts, continuous assessment test scripts and term paper. The engineering student's written materials were collected from the three parts of the use of English courses, which are coded GNS 101 and GNS 102. The parts are term papers, continuous assessment tests and examination answer scripts. Using random sampling, one hundred each of the student's term papers, test scripts and examination scripts were collected for analysis. The term paper dealt with research in paper writing, the test scripts were on letter writing and the examination scripts on essay writing.

To identify and collect the errors to be analyzed the scripts were studied one after the other and the errors in each scripts recorded according to types. Marking symbols were used to identify the errors. At the end of the identification of the errors, frequency Tables were drawn to show the occurrence of error types.

### 4. Data Analysis

The analysis of the errors was done in terms of:

- i. the error types,
- ii. possible causes of the errors,
- iii. frequencies of the errors and
- iv. effects of the errors on their areas of specialization.

#### 4.1 Error types

In order for the analysis to be done effectively, the errors have been classified according to the following types:

- i. grammar: - the grammar aspect is concerned with subject verb agreement (concord), tenses, articles, omissions, sentence fragment, etc.,
- ii. vocabulary: - the vocabulary is concerned with choice of words in which context such are used,
- iii. expression: - this is the language uses, formal or informal expressions, repetitions, collocation, etc.,

- iv. punctuation: - this involves capitalization and the use of punctuation marks,
- v. connectives: - this is paragraph linkage or the use of connective markers and
- vi. spelling: - this is wrong spelling of words (words wrongly written).

#### 4.2 Causes of the errors

The possible causes of the above listed error types are hereby listed below.

- i. The term paper requires students to do a mini research work as a preparation toward writing industrial attachment reports and the final year projects. Several types of errors were identified in this work from the students scripts. A random sample of one hundred scripts term paper were analyzed.
- ii. A random sampling of one hundred examination scripts used in this section were on essay writing. Several types of errors were also identified
- iii. A random sampling of one hundred test scripts, on letter writing, for continuous assessment were used. In each of the different test items, errors according to type were identified and tabulated for analysis. The analyses have hereby been presented under the forgoing sub-topics.

#### 4.3 Frequency distribution of error type

Here are presented the analysis of error types for each of the data type. A histogram and a pie chart have been drawn for quick visualization of the error types. The three sets of data were compared by pictorial representation on a histogram. These are seen from Tables 1 to 4 and Figs.1 to 5.

Table 1: Frequency distribution of error types in term paper

Error type	Frequency	Percentage
Grammar	2010	29.51
Vocabulary	538	7.90
Expression	1750	25.47
Punctuation	1462	21.47
Connectives	367	5.39
Spelling	684	10.04
Total Number of errors	6811	100

Table 2: Frequency distribution of error types in continuous assessment test.

Error type	Frequency	Percentage
Grammar	2956	31.35
Vocabulary	785	8.33
Expression	2225	23.60
Punctuation	1986	21.06
Connectives	526	5.52
Spelling	956	10.14
Total Number of errors	9428	100

Table 3: frequency distribution of error types in examination scripts.

Error type	Frequency	Percentage
Grammar	3012	29.72
Vocabulary	798	7.87
Expression	2509	24.75
Punctuation	2150	21.21
Connectives	658	6.49
Spelling	1009	9.95
Total Number of errors	10136	100

Table 4: (a) A combined frequency distribution of error types in the three tests.

Error type	Frequency	Percentage
Grammar	7978	30.19
Vocabulary	2121	8.03
Expression	6484	2.68
Punctuation	5598	21.25
Connectives	1551	5.80
Spelling	2649	10.04
Total Number of errors	26375	1000

Table 4: (b) A combined frequency distribution of total errors in the combined tests.

Script	Total Error Frequency	Percentage
Term paper	6811	25.82
Continuous Assessment	9428	35.75
Examination	10136	38.43
Total	26375	100

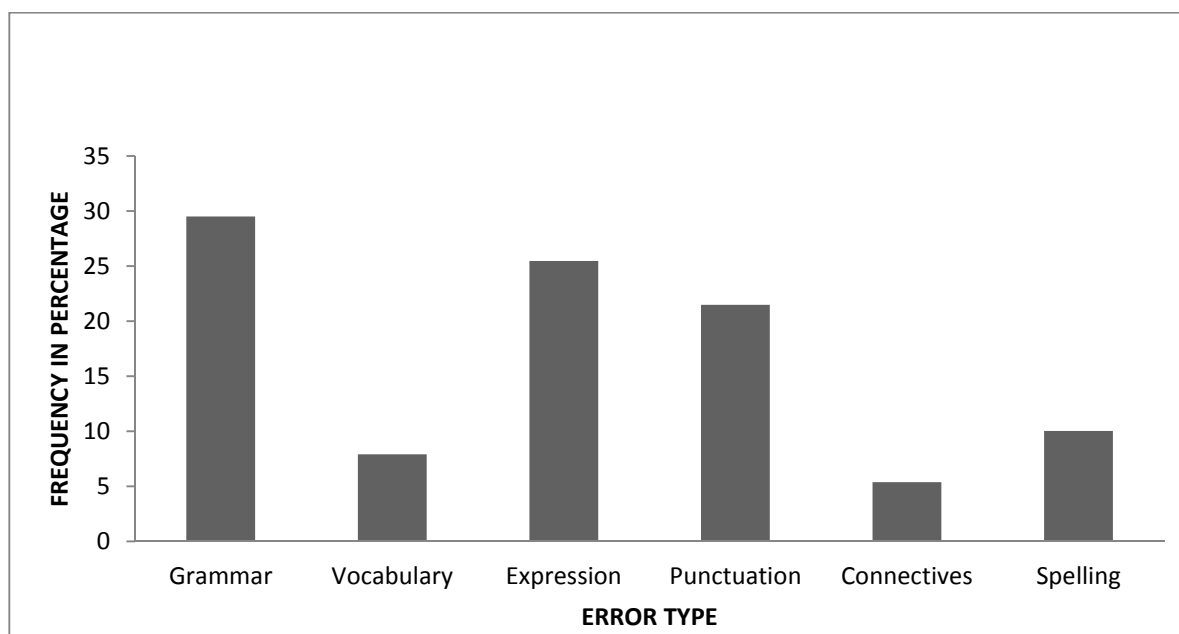


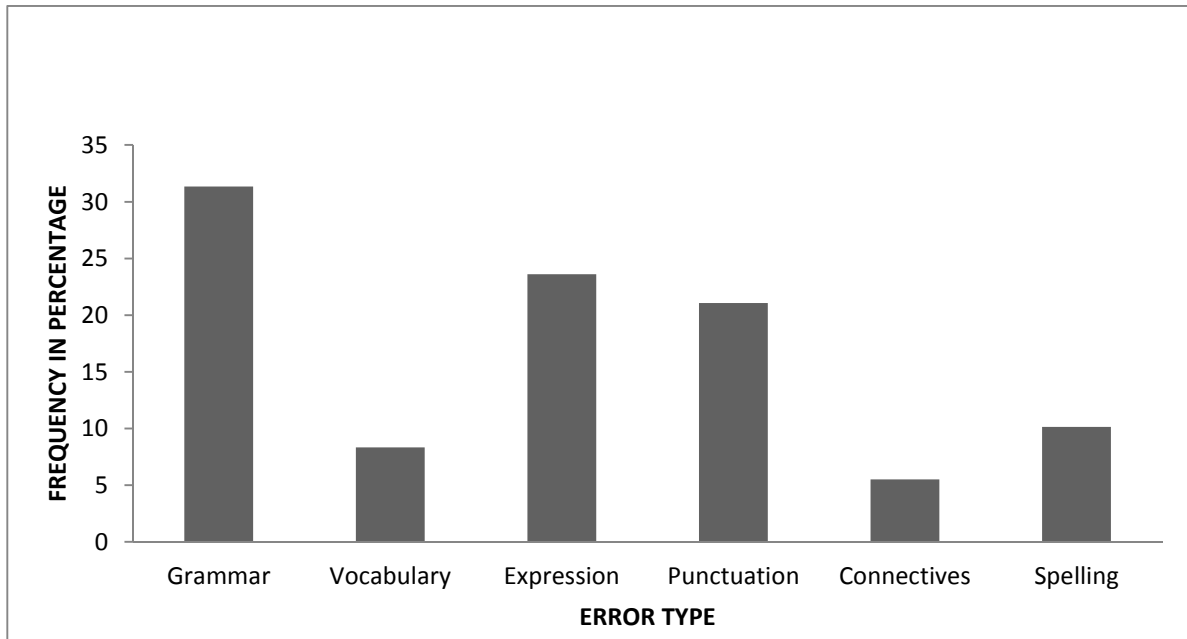
Fig. 1: Frequency distribution of error types in term paper

## 5. Discussion

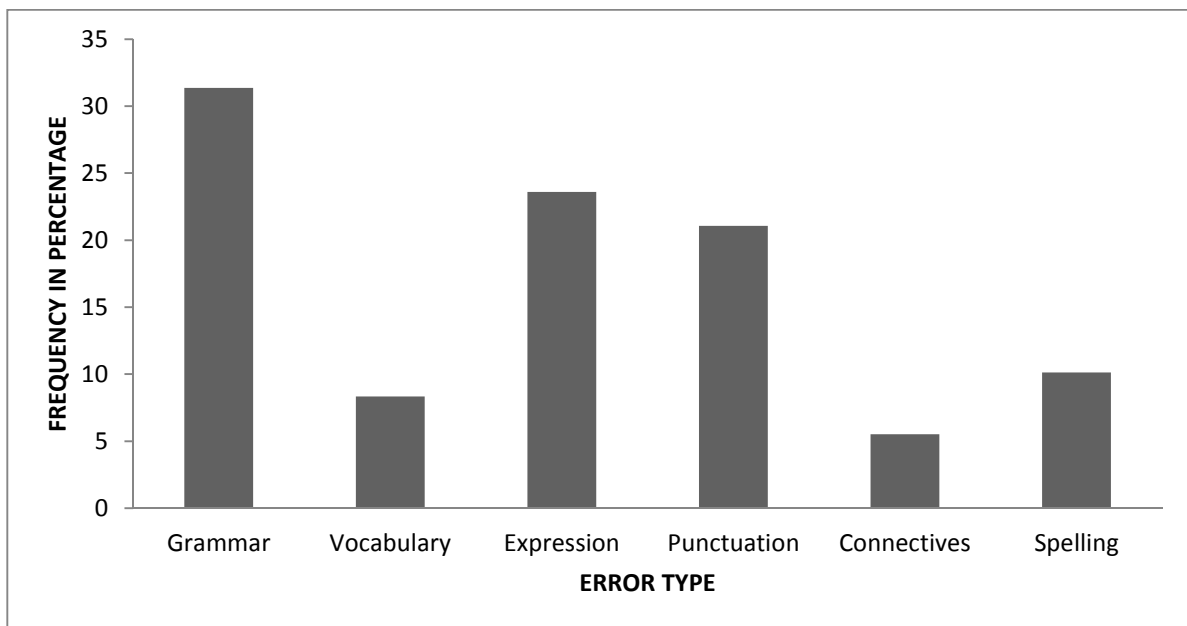
### 5.1 General discussion

From the Tables and histograms, it can be seen that in each of the three tests papers the error types can be classified in descending order of frequency of occurrence: Grammar, Expression, Punctuation, Spelling, Vocabulary and Connectives. This can be seen from Tables 1 to 3 and Figs. 1 to 3 with a summary in Table 4 and Fig. 5.

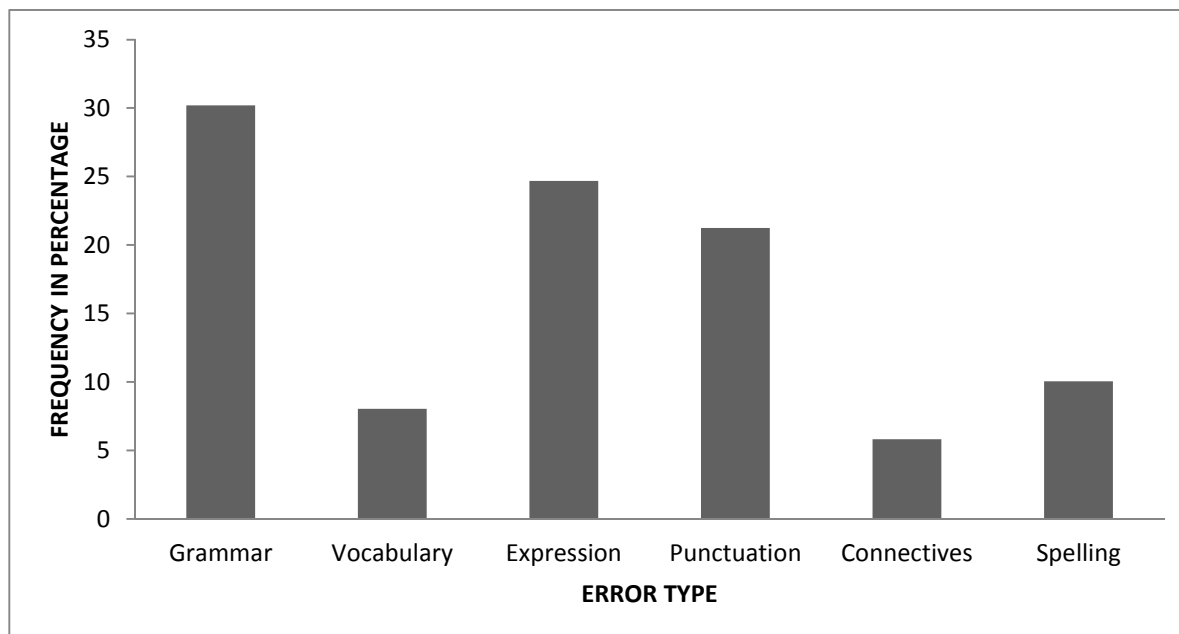
From the frequency distribution of errors in the three tests, depicted in Table 4 (b) and Fig. 4, it can be deduced that under graduate students commit more errors in examination test followed by the continuous assessment test and least in the term paper. This is because the term paper was written within a long period of time, which ranged from one to two months.



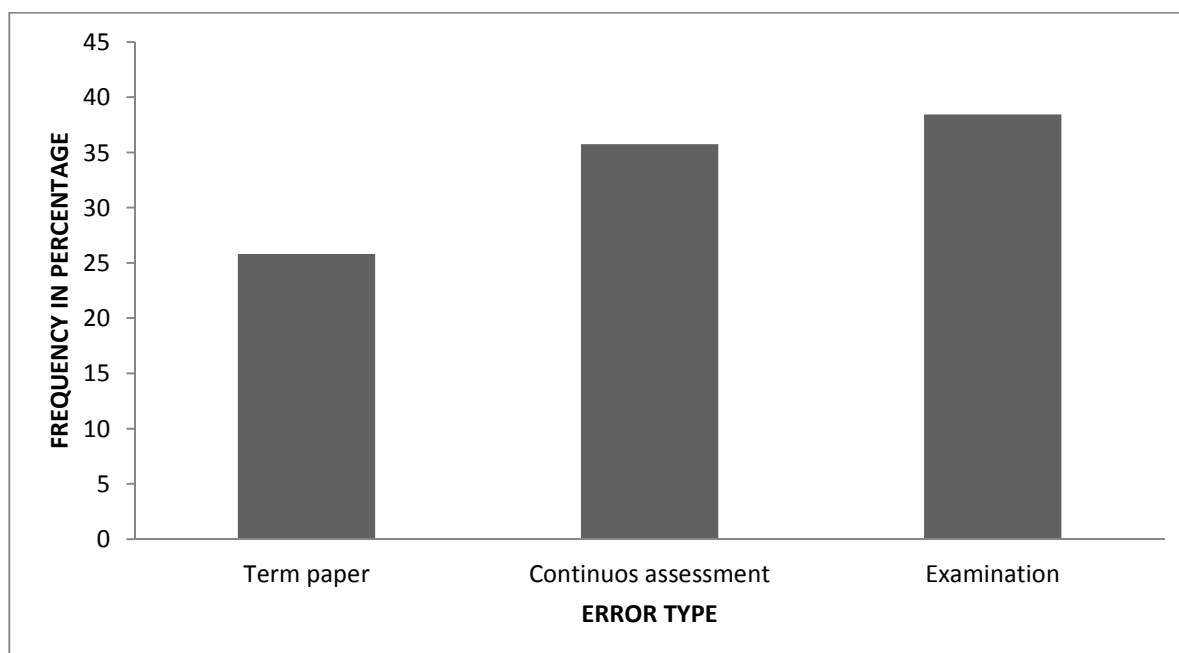
**Fig. 2:** Frequency distribution of error types in continuous assessment test



**Fig. 3:** Frequency distribution of error types in examination scripts



**Fig. 4:** Frequency distribution of error types in the combined three tests



**Fig. 5:** Frequency distribution of errors in the three tests

During this period, students have several options: grouping themselves, free discussions with their colleagues, consulting library materials, etc.

On the other hand, the examination and continuous assessment tests were strictly written under examination conditions. Therefore, students were bound to commit more errors. These can vividly be seen from the histogram of Fig.5.

### 5.2 Causes of errors

There are several reasons as to why errors occur in students writing. The possible causes which have been identified and analyzed can therefore be attributed to the following:

- (i) Interlingua difficulties
- (ii) Intralingua difficulties
- (iii) Lack of much exposure to the target language
- (iv) Faulty teaching and learning
- (v) Forgetfulness

### 5.2.1 *Interlingua difficulties (mother tongue interference)*

Sehinker (1999) referred to this as language transfer while other writers such as Omojuwa (1981), Richards (2001) referred to it as interlingua errors. These errors are derived from transfers from another language. Therefore, the interlingua errors are those caused by the interference of the learner's mother tongue. The errors here reflect the learner's inability to separate two languages. Mother-tongue interference causes over-extension of analogy. In this case the student misuses a vocabulary item because a lexical distinction does not exist in his mother-tongue. For instance, most Nigerian languages do not make distinctions between words like say/tell, lend/borrow, make/do, etc. Normally just one word is being used for both of them. For example, the basic distinction is: when you use 'say'-it means speak or produce words. Tell on the other hand is to give information, make known, order or direct.

Furthermore, under mother-tongue interference, it was observed that students make errors of grammar because a grammatical distinction in tense and concord do not much exist in most Nigerian languages. For example; the samples revealed some of these which include the following:

*'He come here every day'.*

*'She go to church every Sunday'.*

*'The students performs practical's in the laboratory on Mondays'.*

*'I am coming', while the speaker is actually going away.*

This clearly indicates that the students have problem with regard to subject verb agreement. This can also be as a result of the Nigerian languages in which these subject verb agreement do not much exist.

### 5.2.2 *Intralingua difficulties*

This is another possible cause of errors. The origin of some errors can be found within the structure of the language itself, (Richards 2001). Some linguists have reckoned that language may consist up to fifty percent (50%) of redundant features (Corder, 2003). The second or foreign language speakers can well risk reducing that without running into serious failures of communication. Some instance of over-generalization could be the result of the learner reducing his linguistic burden. An example from the data is 'During the Christmas I go to Yankari Game Reserve and I see many animals'. Here the student has minimized the tasks involved in sentence production.

In English language, other areas of difficulty are spelling and tense. The speakers of English as second language has difficulty in spelling words like 'accommodation', 'predominantly', 'pseudo', verbs like the tenses for irregular verbs like come-came, fly-flee, eat, ate, burst-burst, go- went, etc.

### 5.2.3 *Lack of much exposure to the target language*

In the target language learning situation, students are not normally adequately exposed to the language. This can be a source of error. It causes errors in choice of words (vocabulary). An important part of learning a language is mastery of its vocabulary. The success of the students in becoming proficient in the language depends to a large extent on the richness of his or her experience. Since the learners of English as a second language hardly bring to the task of learning English, the background skills required of them, several vocabulary errors occur in students' writing.

*Examples:*

*... many families have resulted to using kerosene in cooking when the scarcity of petrol and gas hit the country'.*

*... he was released when he had the news finally ...*

In the first sentence the student meant to write resorted to instead of resulted to. In the second sample, the student meant to write relief instead of release. Students make these errors because they have not been adequately exposed to the target language. Therefore this is a source of problem in producing appropriate word in the right context.

### 5.2.4 *Faulty teaching and learning*

Corder (2003) referred to this category of errors as 'systematic errors'. Richard (1971) and Head Bloom (1979) referred to them to be under intra-lingual and developmental errors'.

This could be probably the major cause of errors. This is because when the teaching and learning is faulty, errors occur. When the teaching and learning is faulty, it brings about poor mastery of the rules and the structure of the target language and also pronunciation problems.

Example from sample: *'I collects result for my department'*. This is so because the student has not mastered the rules boarding subject-verb agreement. Another sample is where a student wrote: *'the live pish was put in the dam'*. In this case, the student meant to write 'fish' and not 'pish'. This is due to the Hausa problem of pronunciation of not being able to distinguish between 'p' and 'f'.

### 5.2.5 *Forgetfulness*

This is also a cause of errors in students writing. Corder (2003) referred to it as 'post-sytematic' error. In this case the errors occur because there is a temporary forgetting of what has been learnt. It could be due to stress and tension most especially under examination situation. It is not strange therefore to hear students say that they forgot how to write 'you', 'is' in the examination hall. A possible example of this is the student who wrote from

one of the sample: *I came earlier for registration nad nobody was there*. Here the student is considered to have forgotten the spelling of 'and'. Thus it must be noted that forgetfulness could cause errors to occur in any aspect of the language; concord, tense, spelling, among others.

### 5.3 Effects of Errors

These errors students make have effects on their areas of specialization which include:

- (i) incorrect answers in answering examination questions,
- (ii) in correct reports while writing industrial attachment findings and
- (iii) ineffective written communication while functioning in their target situation.

### 5.4 Remedial Measures

The following are remedial measures for the causes of errors and their effects on students.

i. Where there is mother-tongue interference, it is necessary to make some constructive analysis. This is done by contrasting the two languages involved - the learner's mother-tongue and the target language. It is therefore important for a language teacher to be conversant with his student mother-tongue.

ii. There is a need for the language teacher to explain to his learners the difference that exists between their mother-tongue and English language. The teacher should also make the importance of this clear to them.

iii. The provision of more materials in a form that available choices can be readily perceived by the learners is essential, for instance, if a learner's error has something to do with the present tense, choice is made within the same category. Therefore knowing this would mean acquiring the knowledge of knowing the past tense and other tenses.

iv. In order to remediate errors of over generalization of rule application, the language teacher should avoid giving students exercises that are made up of sentences that interfere with one another so as not to confuse them. Opportunities for confusion can be minimized by selecting non-synonymous contexts for related words and by treating them at different times.

v. There is a need for the English teacher to expose the learners to a wide variety of experiences by which unfamiliar words and concept can be developed. This can be done by giving them a lot of exercises, giving them constant practice of list of words and giving them incomplete sentences to complete with appropriate words and so on. In this way, student's vocabulary errors could be remedied.

### 5.5 Recommendation to the Use of English Teachers

i. The English language teachers should introduce the use of drama and the use of audio-visual materials so as to increase the learner's retention memories.

ii. English language teachers including the ESP teacher should pay much attention to the fundamentals of English language. The teaching of aspects of English language such as grammar, vocabulary, expression, spelling and punctuation should be the pre-requisite to the teaching of essay writing and letter writing.

iii. The teachers themselves should ensure that they have proper pronunciation of words so as to be able to correct their learners.

iv. Teachers are encouraged to individualize lessons by carefully observing any behavioral or personality problems so as to try to correct them.

v. Learners of English as a second language should be encouraged to think in English while they write in English pointing out the differences that exist between the structures of the mother-tongue and the second language.

vi. Use of English teachers should ensure that their learners are exposed to a wide range of experiences through which unfamiliar concepts can be developed.

vii. The use of English teachers should encourage learners to write fairly short sentences pointing out the importance of this to them. This is because when a learner writes long complex sentences, errors are bound to occur.

viii. Use of English teachers should make sure that the learners understand that they have limited vocabulary but they can expand it by reading widely and constantly checking up words in dictionary. They should understand that forming a reading habit is also very important in language learning.

ix. Teachers should devise ways of making their learners relax when writing tests, examinations or any other form of measurement. The learners should be reminded of the outcome of stress and tension which they mount unnecessarily.

x. However efficient teaching techniques and materials are, errors are bound to occur in one form or the other in language teaching and learning situations. Language teachers should therefore conduct their own research based on their student's errors with the view to providing remedial measures or a way of eliminating them.



## 6. Conclusion

This research reveals that there are errors of grammar, expression, vocabulary, punctuation, spelling and the use of connectives. The analysis indicated that grammatical errors occurred most frequently followed by expression, punctuation, spelling, vocabulary and the use of the connectives in descending order. The results have been plotted graphically through histograms and pie-charts. The analysis further revealed that mother tongue interference, faulty teaching and learning, intralingua difficulties and lack of much exposure to the target language are the possible causes of errors in the students' written materials.

It is expected that errors in students' written English would be less at the tertiary level because of the level of education attained and assumed knowledge of the language. But the reverse is the case. This is an alarming rate at which errors occur in students written English at ATBU, Bauchi, as a case study. It can therefore be concluded that:

- (a) Such errors are evidence of mother- tongue interference.
- (b) Faulty teaching and learning is responsible
- (c) Intralingua difficulties occur.
- (d) The teaching and learning process calls for occurrence of errors.
- (e) Lack of much exposure to the target language.

The categorization, analysis and explanations of errors as well as the remediation methods were quite in agreement with the opinions of the examiners of these test papers.

## 7. Acknowledgement

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