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Toward an Integrated Framework for Language Testing and Intervention

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Abstract

An integrated framework for language testing and intervention with a paradigm $T_1 \rightarrow LI \rightarrow T_2$ was proposed and illustrated. The proposed framework combines approaches from Error Analysis, Need Analysis and Systems Instruction. The operation of the framework was illustrated based on data derived from a corpus consisting of the transcripts of hundred (100) students from a college in Yola metropolis. The transcripts were analyzed using the COMPFORM-MARKCHART method of error correction. The test served as a pre-intervention language test and the first component of the framework (T_1). The result of the analysis was then used to design the ERROR PROFILE of the students based on which a Language Intervention technique (LI) comprising of two sub-components: Language Teaching for Common and Specific Errors [LTCSE], and Language Task for Specific Students [LTSS] was designed. The last component of the framework is a post language intervention test [T_2] which was designed to test the efficacy of the language method/approach adopted. The paper concludes with a discussion on the prospects of the framework within the context of Teaching English as a Second Language (TESL).

KEYWORDS: Pretest, Language Intervention, Post-test, EPD, LTCSE, LTSS.

1. Introduction

In the past four decades, language teaching and learning has witnessed a number of paradigm shifts in the areas of teaching methodology and pedagogic aims. Some language teaching methods/approaches resulting from the paradigm shift include Audio-Lingual Method, Functional Notional Method, The Natural Approach, The Communicative Approach, Delayed Oral Physical Response, the Silent Way; Computer assisted Language Learning, Suggestopedia, etc (Lopez, 1989). In respect to teaching aims, one of the shifts was from a pedagogy that aims at preventing errors to learning from errors. The first perspective, which has gained paradigm status in ESL research until now, is premised on the belief that the occurrence of errors in student's written composition is as a result of inadequate teaching and the use of unsuitable teaching materials. Empirical findings in psycholinguistics have however fostered a change in attitude among language teachers on their student's errors. This trend is predicated on the views of a number of scholars. Lakoff (1987), Harris (1990), Halliday (1994) & Beaugrande (1996) argue that the formation of (correct) sentences is not determined exclusively by linguistic rules, but also by the cognitive and social constraints of contexts. While Michaelides (1990) asserts that teachers do not need a contrastive analysis between mother tongue and the target language to draw attention to areas their students are likely to make errors but rather teachers should classify and arrange students' errors according to their seriousness and degree of occurrence, and on the basis of this, design a remedial syllabus. In view of these intellectual currents, language teaching changed from teaching learners the structure of the language [only] to teaching them the use of the language (Malgwi, 2000). This trend forms a major theme in many ESL/EFL journals advocating that, language teachers should realign their

pedagogic procedures in line with newer insights on how language is learned. In ESL research the emphasis has shifted from Contrastive Analysis to Error Analysis. Regrettably, language testing and evaluation in Nigeria is still under the influence of the classical approaches. Significant progress therefore awaits studies that develop frameworks for language testing and evaluation within the context of error analysis. In the next section of the paper, the discussion will be on the prospect of an integrated framework for language testing, intervention and teaching. This procedure will be followed by an illustration of the components of the framework. In conclusion the implications of the framework will be discussed within the context of second language teaching and testing.

2. Methodology

The methodology underpinning the study combines approaches from error analysis, need analysis and system approach to instruction. Data for the study was derived from a corpus consisting of language tasks given to hundred students (100) over a period of six months at Concordia College in Yola, Nigeria. The pretest (T_1) identifies the learning problems of the students and serves as a basis for designing language intervention technique(s). The "COMPFORMMARKCHART" as developed by Josephson (1989) was modified and used as the instrument for the pretest (T_1). The chart consists of three components: one is a composition form with spaced, consecutively numbered word length lines for students to write on so that each word is designated by the number underneath. The second component is a mark chart consisting of organized list of errors and blank boxes. The mark chart also contains provisions for indicating total number of errors, total number of words, and percentage of errors and level of grade. Using these components can serve as a framework for monitoring students' learning progress (i.e., Error diagnosis). The post-test (T_2), which follows the same process with the pretest(T_1) but with slight variations, comes after the language intervention(LI).The post-test(T_2) comes with progress indexes that indicate individual student's overall performance at eliminating errors.

3. Components of an Integrated Language Testing and Intervention Framework

Literatures on language testing contain several techniques and suggestions for correcting students' written compositions but few studies suggest techniques for language testing and evaluation. A consequence of this bias is that some language teachers find it difficult to design language intervention techniques to cater for the language learning challenges of their students. The first component of the framework is a pretest (T_1).This test involves the use of the COMPFORMMARKCHART method of error analysis proposed by Josephson (1989).Here language teachers can use the COMPFORMMARKCHART to identify their students' language learning problems(i.e., Error diagnosis) and thereafter design intervention technique(s) (i.e., Error prognosis) based on the error profile of each student. Other components of the framework include two variables namely; (a) Language Intervention or LI [which consist of Language Task for Specific Students (LTSS) and Language Teaching for Common and Specific Errors (LTCSE)] and (b) post-test or T_2 . When these variables are subjected to computation, we will have a pretest design with a linear paradigm $[O \rightarrow X \rightarrow O]$. Going by the paradigm, our framework for language testing and evaluation then is represented by the algorithm $[T_1 \rightarrow LI \rightarrow T_2]$, where T_1 = Pre-intervention Language Testing, LI = Language Intervention and T_2 = Post-intervention Language Testing. This is interpreted to mean that, *in language teaching, an initial language testing [T_1] should precede language intervention in order to identify the language problems of learners and that, a summative language testing is necessary in order to verify the efficacy of the language intervention technique adopted.* In what follows, we shall illustrate the application of this paradigm using the results from a language intervention program involving 100 students of Concordia College, Yola, Adamawa State, Nigeria.

3.1 Language Testing (Pretest or T_1)

Language testing involves error analysis. By error analysis we mean a type of linguistic analysis concerned with the identification, description and explanation of errors either in spoken or in written form (Teh1990). The systematic analysis of errors involves the following steps; first, the identification of errors by the use of symbols, abbreviations and marginal comments; second, the description of the errors identified based on a grammatical model; third, the classification of the errors into categories and sub-categories; fourth, the explanation of why the errors have been made; and last, the evaluation of the errors to determine how much they deviate from the target language or to what extent they affect communication. In language testing, the use of the COMPFORMMARKCHART follows a systematic and thorough method of marking composition that combines two procedures of error analysis. The method was developed based on insights from the communicative approach to language pedagogy. Josephson (1989) opines that this method has a number of advantages for language teaching. This is because it accomplishes the tasks of error identification and classification simultaneously. The method also facilitates an error count and percentile calculation which helps teachers to grade objectively. Other strengths underpinning the method are that it shows the students: (a) which of their words are wrong; (b) what these errors are called;(c) why such constructions are wrong;(d) what their problems are; (e) how many errors they make;(f) what percentage of their words are errors;(g) how to revise; and (h) whether they are making progress or not. This method serves as a framework for designing students' error profile.

3.2 Error Profile Design

Systems Approach to instruction emphasizes the uniqueness of individuals in the learning process. The development of an error profile is predicated on this view. We find in this component a basis for teachers to reorganize their

language learning materials to address learners' language problems based on the needs of the learners. Table 1 presents a sample of an error profile of a Concordia student after a pretest (T₁).

Table 1: Error Profile Design after Pretest (T₁)

Error type	Frequency	Word range	Percentage (%)
1. Capitalization	7	400	12.3
2. Spelling	7		12.3
3. Wrong word	1		1.8
4. Verb tense agreement	2		3.5
5. Auxiliaries	1		1.8
6. Word repetition	2		3.5
7. Abbreviation	8		14.0
8. Omissions	2		3.5
9. Articles(definite&indefinite)	2		3.5
10. Hyphenation	15		26.3
11. Wrong preposition	4		7.0
12. Wrong tenses	6		10.5
13. Sentence fragment	0		0
Total	57	400	100%

3.3 Language Intervention (LI)

By Language Intervention we mean the use of a language teaching method/approach to solve a language learning problem (Kamai 2011). Some common language teaching methods and approaches include; The Direct method, Grammar Translation Method, Audio-Lingual Method, Functional Notional Method, The Natural Method, The Communicative Approach, Delayed Oral Physical Response, the Silent Way and Computer Assisted Language Learning, Suggestopedia, Cooperative Language Learning Strategy etc. This component of the framework is concerned with the development of a pedagogy tailored to address specific language challenges. It consists of two subcomponents: Language Teaching for Common and Specific Errors and Language Task for Specific Student(s) [LTCSE and LTSS respectively] (i.e., Error prognosis).

3.4. Language Teaching for Common and Specific Errors

This process involves language assessment (a pretest or T₁) of many students in a class or school using a broader base of categorization. After the pretest (T₁), deficiencies of each student are identified and classified. Based on this task an error profile is designed for each student (see Table 1). This profile is given to English language teachers handling the different levels of students. Significantly, this method of error analysis operates alongside normal teaching. In other words, individual student error profiles are used by teachers to form a remedial scheme for language intervention (LI). Deficiencies common among students are handled in the normal English language class where Language Teaching for Common and Specific Errors (LTCSE) is applied; this method forms the first component. While individual deficiencies are handled in the remedial class where Language Task for Specific Students (LTSS) is used; which forms the second component. A sample of Language Task for Specific Student (LTSS) is presented in Table 2.

Table 2: Language Task for Specific Student Sheet

LANGUAGE COMPONENT	TASK DESCRIPTION
Mechanics	Review Punctuation Marks.
Grammar	Read up Brighter Grammar Book 1 on countable and uncountable nouns and Book 2 on regular and irregular verbs.
Vocabulary Building	Learn one word every day.
Lexis/structure	Identify ten simple sentences from a novel or newspaper.
Handwriting	Practice with handwriting copy book.
Continuous Writing	Write the introduction of a paragraph on the most pleasant day in your life.
ALE	Read a novel every week for a month.

ALE = [Alternative Linguistic Environment]

Table 2 presents a sample of Language Task for a student whose profile indicates that he has difficulties in the use of tenses and insufficient vocabulary to develop a statement. The rationale for this template is to guide the teacher in designing a remedial syllabus to cater for the language needs of a student.

3.5 Language Testing (Post-test or T₂)

After the language intervention, a post-test (T₂) was carried out to test the effectiveness of the intervention. This test follows the same process with the pretest (T₁). The overall results of students performance at eliminating observable errors was analyzed and evaluated for future language intervention. The process is ad infinitum.

4. Application of the Framework in Nigeria

Table 3 is an excerpt from the results of 100 students at the end of a post-test. It serves as a sample of an integrated language intervention chart showing: (a) the framework of the model [T₁→ LI→ T₂] and the progress index of three (3) out of the hundred(100) students tested at Concordia College, Yola, Adamawa State. Pretest (T₁) stands for problem areas identified, Language Intervention (LI) represents areas taught, Post-test (T₂) represents aspects remedied and Progress Index (PI) stands for level of achievement in error reduction.

Table 3: An Integrated Language Testing and Intervention Framework

S/N	PRETEST (T ₁)	LANGUAGE INTERVENTION (LI)	POST-TEST (T ₂)		PROGRESS INDEX (PI)
			ELIMINATED ERRORS	PENDING ERRORS	
001	Vowel, consonant sounds, synonyms, summary Comprehension	Vowel, consonant sounds, synonyms summary Comprehension	Consonant sounds, synonyms, Comprehension	Vowel sounds summary	✓ Rapid Gradual Slow No progress
002	Idioms, registers, synonyms Word stress summary, narrative essay	Idioms, registers, synonyms Word stress, summary, narrative essay	Registers, synonyms Word stress, Narrative essay	Idioms, summary	✓ Rapid Gradual Slow No progress
003	Vowel sounds, synonyms Clauses, phrases, summary Letter writing	Vowel sounds, synonyms Clauses, phrases, summary Letter writing	Vowel sounds, synonyms,	Clauses, phrases, Summary, letter Writing	Rapid Gradual ✓ Slow No progress

As Table 3 indicates; student 001 had five (5) language problems, while student 002 had six (6) and student 003 had six (6) after the Pretest (T₁). The next step was the Language Intervention (LI) where language problems identified in the Pretest (T₁) were addressed. In order to test the efficacy of the Language Intervention (LI) after six (6) months, a post-test (T₂) was conducted. The post-test (T₂) showed that student 001 had remedied three (3) out of the five problems identified in the pretest (T₁). Likewise, student 002 who had six (6) identified language problems had remedied four (4) with two (2) pending. While student 003 had six (6) identified problems but was able to remedy only two (2) with four (4) pending. In calculating the progress index of the students the procedure followed was: Pretest (T₁) → Language Intervention (LI) → Post-Test (T₂) = [T₁→LI→ T₂]. The progress indexes were marked as follows; rapid, gradual, slow and no progress. The indexes counts provided data that were subjected to statistical analysis using the formulae: $PI/TNI \times 100/1$. Based on the above computation; where PI represents Progress Index (R-rapid, G-gradual, S-slow, and NP-no progress) and TNI indicates Total Number of Indexes, the results show that student 001 had a rapid progress index; student 002 also had a rapid progress index, while student 003 had a slow progress index.

5. Conclusion

An Integrated Framework for Language Testing and Intervention proposes and illustrates how students' language errors can be used as tool to foster language testing, intervention and teaching. The paradigm $[[T_1 \rightarrow LI \rightarrow T_2]]$ is a **chain-reaction-process** involving three uninterrupted procedures of testing, intervention and testing. The first procedure is the Pretest (T_1) which involves the use of the COMFORMMARKCHART to develop an Error Profile Design (EPD). Language Intervention (LI) forms the second procedure; where two components, the Language Teaching for Common and Specific Errors (LTCSE) and Language Task for Specific Students (LTSS) are employed in teaching. The third and last part of the procedure is the Post-Test (T_2) in which similar methods like the pretest are used with the addition of a Progress Index that serves as a tool of evaluation. Based on the specificity of the data from a secondary school in Nigeria where the framework was experimented and the result(s) of the analysis got from the post-test, the Integrated Framework proves an efficacious alternative to language testing and intervention.

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