Categorical Representation of Lexical Specification Errors : An Experimental Study at Tertiary Level

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Abstract: The research represents a categorical framework in understanding various lexical specification errors; i.e. morphological errors in the written discourse made by the learners at the tertiary level. In addition to that it looks into the nature of the learner language that studies those procedures of identifying, describing, explaining, and evaluating the occurred errors that are different than mistakes. To add to its certainty, it marks the hesitation points of the learners on different lexical errors. Thus, it presents not only the categories of the occurred errors but also clarifies if there is any certain error developmental pattern by mapping the various rates of those errors.

Introduction

An Overview of the Research

The word 'lexicon' gives rise to the studies of lexical specifications; the conceptual structure of its phonological and morphological constructions. These constructions are considered as an integral part of the linguistic competence (O'Grady, et al., 1987 : 132) since it is crucial in understanding the structure of a language. Hence it necessitates the studies of its components or properties for further clarity. One such clarity initiates the studies of the errors in its construction process. This research, in particular, represents a categorical framework in understanding such errors; specifically, the morphological errors. It emphasizes in the written discourse; particularly in the lexical errors made by the learners at the tertiary level and further extends to represent a categorical framework that includes the various types of errors that occurs. In addition to that it looks into the nature of the learner language that studies those procedures of identifying, describing, explaining, and evaluating the occurred errors that are

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different than mistakes. To add to its certainty, it marks the hesitation points of the learners on different lexical errors. Thus, it presents not only the categories of the occurred errors but also clarifies if there is any certain error developmental pattern by mapping the various rates of those errors; i.e. which are the most occurred errors, etc. To add to the theoretical background, the studies have included the concepts of Errors and Mistakes, Errors of Omission, Errors of Overgeneralization, Morphological Processes; i.e. Word-Formation that includes the processes Derivation and Compounding, and Word-Form Formation that includes the process Inflection; Morphological Operations that includes Concatenatives, Non-Concatenatives, and other operations such as Reduplications, Suppletion, etc.; Interlanguage and L1 Transfer explains the Transfer Errors, Restructuring Systems, Varied Learning Strategies, Fossilization, Psychological Distances caused by Language Shock and Lack of Motivation; Written Language Processing that includes Recognizing Familiar Words, Phonemic Similarity Effect, Activation of Connected Bases, Word-Level Processing, Parallel Models of Language Planning, Language Production, and Affective Filter Hypothesis to explain Anxiety that affect the Lexical Specification Errors.

Significance of the Study

The study adds to the systematic overview of the lexical specification errors; i.e. morphological errors in particular. Therefore, it identifies and analyzes the types of spelling errors learners make in written discourse. This categorical representation of spelling errors adds an insight in understanding the nature of the learner language, error analysis, the analysis of word structure, interlanguage and L1 transfer, levels of written language processing, language production, and linguistic performance.

Questions

The queries below add to its practicality.

(a)   What are the different types of lexical specification errors; i.e. morphological errors in particular; those occur in the learners' written discourse?

(b)   Which morphological processes and operations are involved in those errors?

(c)   What are the frequencies of these occurred errors? Which is the most occurred one?

(d)   What theoretical frameworks develop the understanding of this study?

Literature Review

The Theoretical Background

The concepts below add to the understanding of the lexical specification errors; it starts with the steps of error analysis to comprehend the nature of learner language.

The Nature of Learner Language and Error Analysis: The first step in analyzing the learner errors is to identify those. In general, errors reflect gaps in a learner's competence; those occur because the learner has a lack in knowing what the correct form is. Mistakes reflect occasional lapses in learners' performance; those occur because, in a particular instance, the learner is unable to perform on the knowledge. The consistency of the learner's performance can help indicate an error. If it is often correct and often incorrect that indicates mistakes as it suggests that the learners possess the knowledge of the correct form and are just missing it. Another way to identify is to ask the learners to correct their own incorrect forms; the success indicates earlier those have been mistakes. Once the errors have been identified, they are described and classified into types. To a large extent, errors are not only systematic but also many of those are predictable and universal. Some errors are common only to learners with the same L1. Both errors of omission and overgeneralization are common in the speech of all L2 learners. Even the learners often attempt to make use of their L1 knowledge. In both cases, these are known as transfer errors. Often the learners 'create' their own rules and write their own created words. Hence, it is important to study how the learners evaluate their errors. The global errors violate the overall structure of a sentence whereas the local errors, affect a single constituent in the sentence (Ellis, 2002:15-20). The reasons of the errors could be explained with the concepts below; the analysis of word structure is a crucial aspect in discussing this issue.

The Analysis of Word Structure: The most important category of this analysis is called a morpheme as in the smallest meaningful constituents which has two variants; the free morpheme and the bound morpheme. The free morpheme is a constituent that stands by itself as a linguistic expression while a bound morpheme must be attached to another element to have a meaning (Haspelmath, 2002 : 16). Various morphological processes and operations add to its explanations. The morphological processes include the studies of word-formation and word-form formation. The word-formation processes involve a base form that is modified either by a morphological operation or there is a process where there is a simple concatenation of one base for with several other base forms. The formal subdivision between the main types is the derivation and compounding. Derivation forms a word with a meaning and/or category distinct from that of its base through the addition of an affix; for example, '-er' as an affix; i.e. suffix; that when added after the word 'teach' changes the category from verb to a noun; it changes the meaning along (O'Grandy, 1987 : 144). Compounding takes two base forms to form a word; for example, class and room are two different lexical categories that form the word classroom once those are combined. Morphological operations consist of Concatenatives where two or more entities can be added, and Non-Concatenatives where the base is modified with vocalic changes, tonal changes, and such additional operations. Further operations include Reduplications, Suppletion, and such. The inventories of morphological processes and operations are crucial in the analysis of word structure for its discourses. Another crucial aspect is the studies of L1 transfer by the learners that explains the psychological aspects of interlanguage and lexical specification errors.

Interlanguage and L1 Transfer: A learner's interlanguage is a unique linguistic system that involves these listed premises about L2 acquisition; '(a) The learner constructs a system of abstract linguistic rules which underlies comprehension and production of the L2. This system of rules is viewed as a 'mental grammar' and is referred to as an 'interlanguage'; (b) The learner's grammar is permeable. That is, the grammar is open to influence from the outside; i.e. through the input. It is also influenced from the inside. For example, the Omission, Overgeneralization, and Transfer Errors; (c) The learner's grammar is transitional. Learners change their grammar from one time to another by adding rules, deleting rules, and restructuring the whole system. This results in an interlanguage continuum. That is learners construct a series of mental grammars or interlanguages as they gradually increase

the complexity of their L2 knowledge; (d) Some researchers have claimed that the systems that learners construct contain variable rules. That is, they argue that learners are likely to have competing rules at any one stage of development. However, other researchers argue that interlanguage systems are homogeneous and that variability reflects the mistakes learners make when they try to use their knowledge to communicate. These researchers see variability as an aspect of performance rather than competence; (e) Learners employ various learning strategies to develop their interlanguages. The different kinds of errors learners reflect in their learning strategies; (f) The learner's grammar is likely to fossilize. It is suggested that only about five percent of learners go on to develop the same mental grammar as native speakers. The prevalence of backsliding (i.e. the production of errors representing an early stage of development) is typical of fossilized learners. Fossilization does not occur in L1 acquisition and thus is unique to L2 grammars. L1transfer refers to the influence of that the learner's L1 exerts over the acquisition of an L2. The negative transfer denotes the L1 elements transfer to L2. However, it can also facilitate acquisition; in that case it is called a positive transfer' (Ellis, 2002:31-41). In Acculturation Model it has been proposed that, 'pidginization in L2 acquisition results when learners fail to acculturate to the target language group. The main reason behind this is the social distance. It has also been recognized that social distance is sometimes indeterminate. In such cases, psychological distance becomes important and identifies a further set of psychological factors, such as language shock and motivation to account for this' (Ellis, 2002 : 39-41). 'Vivian Cook while explaining multi-competence have stated that not only morphemic similarities between two known languages influence translation performance but also bilinguals consult the lexical stores associated with both their languages when taking vocabulary tests in one of their language (Singleton, 2000 : 183). The levels of written language processing add to its understanding.

Levels of Written Language Processing: There is a word-level of processing, in which array of features and letters is recognized as a familiar word. 'As the word is recognized, various properties of the word such as its spelling, pronunciation, and meaning become more available' (Carroll, 2008 : 92-93). 'The Parallel Models of Language Planning it has been assumed that multiple levels of processing take place

simultaneously during the course of language production. It has also been discussed that there are four levels of nodes in permanent memory; semantic, syntactic, morphological and phonological. Separate representations of the intended message occur at each level. As a node at one level becomes activated, it may activate the other nodes at the same level or at other levels. An example of the model at work concerns the phonemic similarity effect during lexical bias effect; i.e. the tendency for intruding phonemes to be phonemically similar in their distinctive feature composition to the target phonemes (Carroll, 2008 : 204). 'If the phonemic segments do not have invariant properties or the phonemic segments do not stand in a one-to-one relation to stretches of the speech stream, then there lie difficulties in distinguishing sounds' (Clark et al., 1977 : 176) which may lead to spelling difficulties. Other difficulties can be caused by anxiety as explained by Affective Filter Hypothesis (Lightbown and Spada, 2000 : 38-40).

Methodology of the Research

A researcher can choose to make it a qualitative, quantitative, or mixed method based on the type of research needed to be conducted. This research takes up the quantitative method since it focuses on the frequency of the occurred lexical specification errors. It also adds a brief explanation for the data. Hence, a general overview on quantitative research has been explained next.

General Overview of Quantitative Research

A quantitative research focuses on how much or how many there is/are of a particular characteristic or item. The great advantage of quantitative research is that it enables to compare relatively large numbers of things/people by using a comparatively easy index. Broadly, there are two approaches to quantitative research. These are, (1) the structured approach, and (2) the unstructured approach. In the structured approach everything that forms the research process; i.e. objectives, design, sample, and the questions that one plans to ask of respondents is predetermined. The unstructured approach, by contrast, allows flexibility in all these aspects of the process. Some of the commonly used designs in quantitative studies can be classified by examining them from three different perspectives. These are: (1) the number of contacts with the study population, (2) the reference period of the study, and (3) the nature of the investigation. Based on the

number of contacts with the study population, designs can be classified into three groups. These are: (1) cross-sectional studies, (2) before-and-after studies, and (3) longitudinal studies. This particular research is a cross-sectional one since the samples have been taken into account from different participants of different institutions. Simultaneously it can be considered as an experimental study since it is based on a task-based experiment. The data can be sub-divided into two categories; primary and the secondary. There are four basic types of primary data, distinguished by the way they are collected. These are (a) Measurement: collections of numbers indicating amounts, e.g. voting polls, exam results, car mileages, oven temperatures, etc.; (b) Observation : records of events, situations or things experienced with senses and perhaps with the help of an instrument, e.g. camera, tape recorder, microscope, etc.; (c) Interrogation: data gained by asking and probing, e.g. information about people's convictions, likes and dislikes, etc.; (d) Participation: data gained by experiences of doing things e.g. the experience of learning to ride a bike tells the different things about balance, dealing with traffic etc., rather than just observing. In general, one distinguishes between two basic kinds of variables; i.e. categorical variables and continuous variables. Categorical variables are those variables whose values can be easily separated into discrete categories. The data can be nominal, ordinal, interval and ratio. Nominal measurement is very basic; i.e. it divides the data into separate categories that can then be compared with each other. Nominal data can be analyzed using only simple graphic and statistical techniques. Bar graphs, for example, can be used to compare the sizes of categories and simple statistical properties such as the percentage relationship of one subgroup to another or of one subgroup to the total group can be explored. In case of secondary data, there are a few types. These are briefly discussed below:

(a)   Written Materials: organizational records such as internal reports, annual reports, production records, personnel data, committee reports and minutes of meetings; communications such as emails, letters, notes; publications, such as books, journals, newspapers, advertising copy, government publications of all kinds, etc.

(b)   Non-Written Materials: television programmes, radio programmes, tape recordings, video tapes, films of all types,

including documentary, live reporting, interviews, etc. works of art, historical artefacts, etc.

(c)   Survey Data: government census of population, employment, household surveys, economic data, organizational surveys of markets, sales, economic forecasts, employee attitudes. These may be carried out on a periodic basis, with frequent regularity or continuously, or ad hoc or one-off occasions. They may also be limited to sector, time, area (Walliman, 2011 : 70-80).

Selected Designs, Tools, and Scoring Systems

As a quantitative approach has been taken into account to conduct the research, hence a structured approach has been set with objective settings and related survey. However, a little flexibility has been considered for the participants to include their opinions. A set of target participants have been considered for investigation. This particular research is a cross-sectional one since the samples have been taken into account from different participants of different institutions. Simultaneously it can be considered as an experimental study since it is based on a task-based experiment. Hence there is the presence of categorical variables where there is a Nominal measurement to have its data analyzed using only simple graphics and statistical techniques. To conduct the data Written Materials have been chosen to organize records. A Survey has been considered to collect the data. The participants are all at the tertiary level at different institutions. Stratified random sampling has been considered to collect the data to maintain an equal number of male and female participants. A significant number of spelling tests have been first recorded to assess the level of the learners' lexical specification clarity which has been shown in percentages later on. Each spelling error has been identified, and later classified under the set parameters. Students' responses on their clarity and difficulties have also been considered to further investigate the errors. Later the frequency level has been measured to identify the most occurred errors. Various test patterns have been incorporated to confirm validity and reliability of the data. Data have been collected from the learners' written samples, a number of spelling dictation along with their evaluation of spellings usingmultiple test options. Adequate space has been provided for the learners' opinions of other possibilities of spelling. For each answer, students' hesitation points have been marked to identify and confirm if it is a mistake or an

error. Each option has been given one point and the total number has been calculated, and then measured in percentage.

Data Analysis for the Research

Ratio Analysis

The research presents a survey of the lexical specification errors made by the learners at the tertiary level in Dhaka. A total of 150 participants have taken part in this survey with an equal number of male and female participants; 75 each, age 18-20, residing in Dhaka, in the year 2017. The statistical representation of the errors is shown in the bar diagram below that represents the most occurred lexical specification errors in percentage; it shows the ratio of the male and female participants in those errors.

Spelling Dictation Errors

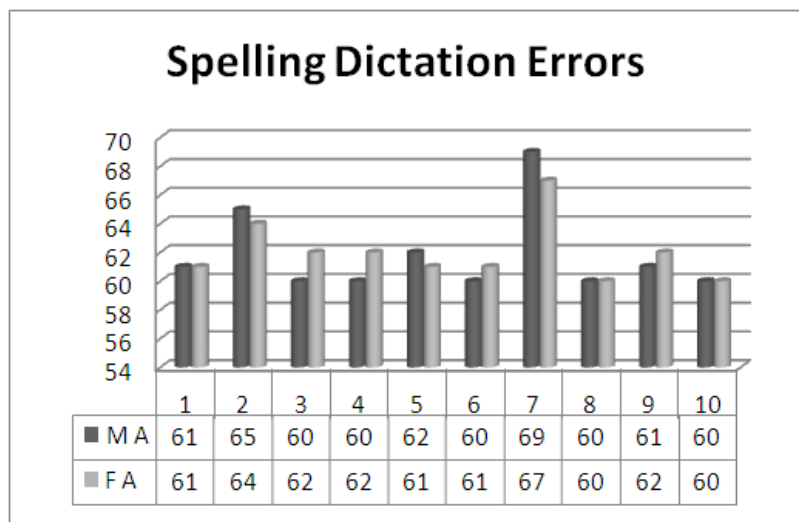|	1	2	3	4	5	6	7	8	9	10
M A	61	65	60	60	62	60	69	60	61	60
F A	61	64	62	62	61	61	67	60	62	60

Chart 01: Spelling Dictation Errors

In Chart 01: Spelling Dictation Errors, the highest number of errors occurred in the Word-Formation of Compounding where Concatenation has taken place which leads to the difficulties of Analysis of Word Structure. The second highest error happened in Letter Reversals that falls under Restructuring Systems and indicates Learners' Interlanguage. The chosen list of words was; environment, increase, impression, habit, English, until, electric, tongue, editing, refresh.

Spelling Evaluation Errors

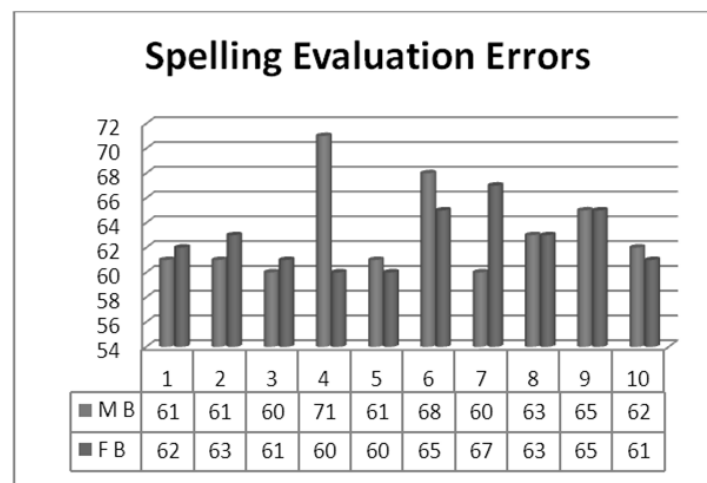|	1	2	3	4	5	6	7	8	9	10
M B	61	61	60	71	61	68	60	63	65	62
F B	62	63	61	60	60	65	67	63	65	61

Chart 02: Spelling Evaluation Errors

In Chart 02: Spelling Evaluation Errors, both the highest number of errors happened in Consonant Addition and Letter Reversals those fall under Restructuring System and indicates Learners' Interlanguage. For this matter the survey also contained identifying correct spellings for the following words; truly, occasion, necessary, forty, business, achieve, a lot, they're nice, workaholic, UNICEF.

Reasons behind Errors

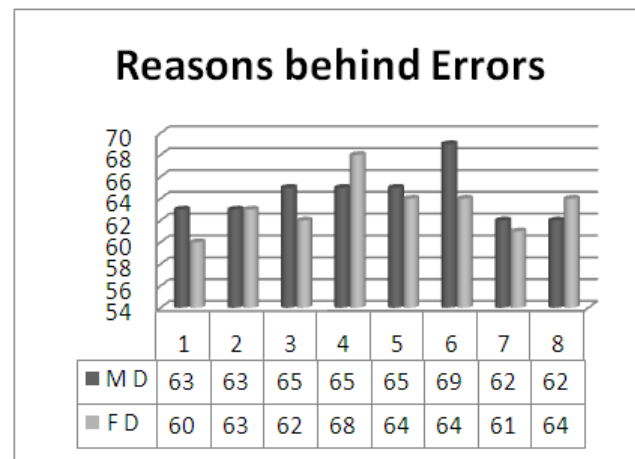|	1	2	3	4	5	6	7	8
M D	63	63	65	65	65	69	62	62
F D	60	63	62	68	64	64	61	64

Chart 03: Reasons behind Errors

Chart 03: Reasons behind Errors, shows that the most occurred errors are happen due to use of unfamiliar word, a different pronunciation system

than spelling, and the learners' anxiety. It also shows that the concept of clitic is not clear for the learners and they are not quite familiar with the abbreviated terminologies. The options are given in Appendix 01; it was further clarified by the face-to-face interviews that were taken place.

Linguistic Analysis in Relation to Literature Review and Received Data

In general, the types of errors can be represented in various categories in the chart below, such as;

Table 01: Categorical Representation of Lexical Specification Errors (Original Work by the Researcher)

Major Categories	Sub-Categories	Key Elements	Language Samples
1. Learner's Interlan-guage	Errors of Omission	Consonant Substitution	envorment, ocasion, necesary, workholic, increse
	Errors of Overgeneralization	Errors in Suffixation	workholic
	Errors of Transfer	L1 Transliteration: Fossilized Misconception of Sound	donet, imprassion, habbit, Englis
	Restructuring Systems	Consonant Addition Letter Reversal	untill, electrick, truely, fourty, buisiness, tounge, acheive, edditing, gaiming, corean, reffreshes
2. Analysis of Word-Structure	Morphological Processes Word-Form Formation	Word-Formation: Derivation; i.e. Categorical Errors	they to their
		Word Formation: Compounding	book case, alot
		Word-Form Formation: Inflection; i.e. Errors in Prefixa-tion, Errorsin Suffixations	impretion, empression, imprassion
	Morphological Operations	Concatenatives	book case, alot

The above chart shows the varied distinct categories to show various lexical specification errors; i.e. each major category is divided into

related subcategories and key elements. Later those are followed by language samples collected using the received data from the learners.

Conclusion

The study shows that various lexical specification errors occur with the learners at the tertiary level that includes Consonant Substitution, Fossilized Misconception of Sound, Consonant Addition, Letter Reversal, Categorical Errors, Compounding, Errors in Prefixation and Suffixations. The highest number of errors happens in Word-Formation of Compounding where Concatenation takes place that indicates the difficulties of Analysis of Word Structure and the Consonant Addition and Letter Reversals those fall under Restructuring System and indicates Learners' Inter language. It also shows that the most occurred errors are happened due to use of unfamiliar word, a different pronunciation system than spelling, and the learners' anxiety. It also shows that the concept of clitic is not clear for the learners and they are not quite familiar with the abbreviated terminologies. Despite its limitations, the research adds an insight in understanding the nature of the learner language, error analysis, linguistic performance, and leaves a scope for further studies in the field and related disciplines. As a follow-up to reduce the spelling errors, a workshop was conducted on the 9 December 2017 at University of Liberal Arts Bangladesh which received a positive feedback from the student participants.

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Appendix : A Sample Survey Questionnaire

A Survey

General Information

University:	Contact:
Department:	Gender:

Instruction: Please complete the worksheet accordingly.

A.   Write the spellings of the words dictated by the speaker.

1.	6.
2.	7.
3.	8.
4.	9.
5.	10.

B.   Tick (√) the correct spelling.

1.   (a) truly   (b) trully
     (c) truely   (d) truelly
     (e) other: ………………
     Are you sure of your answer? (a) yes   (b) somewhat   (c) no

2.   (a) occasion   (b) ocassion
     (c) occation   (d) occasoin
     (e) other: ………………
     Are you sure of your answer? (a) yes   (b) somewhat   (c) no

3.   (a) necessary   (b) necesary
     (c) necesary   (d) neecessary
     (e) other: ………………
     Are you sure of your answer? (a) yes   (b) somewhat   (c) no

4.   (a) forty   (b) fourty
     (c) fortie   (d) froty
     (e) other: ……………
     Are you sure of your answer? (a) yes   (b) somewhat   (c) no

5.   (a) business   (b) buisness
     (c) bussines   (d) buisness
     (e) other: ………………

Are you sure of your answer? (a) yes   (b) somewhat   (c) no

6.   (a) acheive   (b) achieve
     (c) achive   (d) acheive
     (e) other: ………………
     Are you sure of your answer? (a) yes   (b) somewhat   (c) no

7.   (a) a lot   (b) alot
     (c) alots   (d) alots
     (e) other: ………………
     Are you sure of your answer? (a) yes   (b) somewhat (c) no

8.   (a) they're nice   (b) their nice
     (c) there nice   (d) they'er nice

(e)   other: ………………
     Are you sure of your answer? (a) yes   (b) somewhat   (c) no

9.   (a) workaholic   (b) workholic
     (c) workhoik   (d) workhaolic
     (e) other: ………………
     Are you sure of your answer? (a) yes   (b) somewhat   (c) no

10. (a) UNICEF   (b) UNISEF
     (c) UNICFE   (d) UNISFE
     (e) other: ………………
     Are you sure of your answer? (a) yes (b) somewhat (c) no

C.   Write a paragraph about your favourite hobby.(Limit: 120 Words)

D.   Tick (√) what makes you misspell. (You can tick more than one option.)

(a) habit	(b) Bangla transliteration	(c) learning strategy	(d) different pronunciation than spelling
(e) anxiety	(f) unfamiliar word	(g) not interesting	(h) surprisingly different spelling systems