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The Place of Contrastive Analysis and Error Analysis in Second Language Pedagogy

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Abstract:

Second language acquisition research has the goal of providing descriptivist accounts of the different factors that underpin the lateralization of L2 structures. It makes use of the outcomes of descriptive approaches to model prescriptivist theories that have implicational capacities to improve L2 pedagogy. Contrastive Analysis and Error Analysis Hypotheses highlight the interplay between descriptive formal linguistics and prescriptive pedagogical practices. The present study highlights the underlying principles and limitations of Contrastive Analysis as a tool to predict learners' errors along with the complementary Error Analysis measures. The present study sketches a practical context for the applicability of the two methods in such a way as to circumvent the glaring weaknesses of the models and design more compelling intervention plans and teaching materials.

Keywords: error analysis; contrastive analysis; corrective feedback; multicompetence; transfer.

1. Introduction

Second language acquisition research offers insight into the cognitive processes that constraint thought generation and information processing. Questions in cognitive psychology can be addressed through SLA research. In addition, the theoretical advancements in SLA research translate to direct betterment in language pedagogy. This gives SLA as a disciplinary miscellaneous area of enquiry further importance as it not only offers answers to questions related to how a second language is acquired but also helps address cross-disciplinary issues with theories that can feed into other fields' epistemologies. In view of that, the present study offers a theoretical discussion of some cognitive features central to research in SLA; it highlights the concept of multicompetence and the representation of multilinguistic knowledge in the mind.

The goal of the study is to offer a review of the main methodologies and approaches that seek to explain multilinguistic interrelatedness. Contrastive Analysis Hypothesis, hereinafter CAH, is believed to be one of the most widely accepted and practiced measure to explain relatedness between the mother tongue and subsequently learnt languages. The present study, thus, offers a theoretical discussion of the main tenets of CAH and reviews major criticisms levelled against these tenets, which resulted in alternative stances taken to better CAH predictive and explanatory force. The theoretical discussion in this paper also sheds light on Error Analysis as a supplementary measure that can be taken into account to better our understanding of learners' linguistic behaviour. The

identification and categorisation of errors is believed to be a sine qua non for any remedial plans set for language teaching.

2. Language Representation in the Mind of a Multilingual

Research in language acquisition is fraught with all kinds of theoretical dissensions upon the nature of the language not only at the formal and functional levels but also at the cerebral level. Perhaps, the representation of language in the mind is one of the most prominent enigmas in linguistics. Part of this enigmatic trait stems from the antecedent complications commonly associated with philosophical and empirical discussions of the mind. The nature of the mind, notwithstanding our thorough understanding of brain morphology, has spilled a lot of ink, often with conflicting views. Examples of this include Robert Campbell's (1976) book "*The Enigma of the Mind*" and Sergio Moravia's (1995) bestseller book "*The Enigma of the Mind: The Mind-Body Problem in Contemporary Thought*".

The philosophical aspect of language epistemology amounts to differing views about the way language is represented in the mind. An even more challenging area of inquiry is the existence of more than one language in the brain and the prospective, or sometimes definite, interplay thereamong. Researchers are yet to recognise the existence of two languages in the mind as being elements of separate compartments or as being in a state of mix. While aphasic multilinguals offered cases in favour of the separation hypothesis (see Džapo, 2015; Fodor, 1983 and Garfield, 1987 among others), evidence, however inconclusive, alludes to the close intertwine between all acquired languages. Cook's *multicompetence framework* (2003) is predicated upon the belief that the interaction between languages in a multingual's mind is a natural process, thus, accounting for performance differences between monolinguals and multilinguals. When bilinguals and multilinguals engage in tasks of reading, listening, speaking and writing in one language, other languages, even though not apparently in use, are activated (Dijkstra, 2005; Kroll, Bobb, & Wodniecka, 2006; Marian & Spivey, 2003).

It was previously assumed that instances of interference between languages when only one is being used are characteristic of early stages of learning only. At these early stages of learning, learners are bound to make use of their mother tongue's structural patterns to manage their L2 production and reception (Kroll, 2008; MacWhinney, 1997). More recent research indicates that cross-linguistic intrusions are a feature of the linguistic system which is inter-pervious across linguistic boundaries. Such developments in perspectives imply that language

learning is not a mere process of acquiring linguistic skills, but rather it is a process that involves development of cognitive skills of system coordination.

Cognitive developments related to memory, attention, executive function and problem solving skills observed among multilinguals still does not offer clear-cut accounts for the relationship between languages in the mind. Conferring more cognitive skills is indicative of neither complete separation nor absolute crosslinguistic integration. Cook (2002) argues that linguistic localisation in the mind makes it rather unsound to assume that two language exist disjointly in one mind. On equal footing, performance-related evidence, particularly with reference to speakers' ability to use two language separately, suggests that complete integration is far-fetched.

A more favourable areas of investigation is that research should be apportioned to the analysis of multilinguals performance in different languages and the possibilities of crosslinguistic influence among these languages. Identifying patterns of crosslinguistic influence can vehicle better understanding of thought patterns and brain activities. The analysis of crosslinguistic influence is, thus, a cognitive science that fundamentally elucidates human abilities to use generatively combinatory and intertwined linguistic forms.

3. Contrastive Analysis Hypothesis

The myriad of perceptual and social facets of language learning and acquisition renders it rather intricate and convoluted. Learners of a second language bring about a complete set of linguistic and cultural norms that can either conform to the patterns of the new language or diverge from it. More often than not, learners attempt to work out how analogous certain aspects of the second language are to those of theirs. Be that as it may, apprehension is inexorable, and it is the concern of the linguistic theory to account for the process of learning a new language and the behavioural trepidations going abreast of it. In effect, the linguistic theory assumed the burden of explaining the niceties of the learning process; amongst which the Contrastive Analysis Hypothesis is one of the most debatable.

The interrelationship between the mother tongue and other subsequently learnt languages goes all the way back to research in the 1950's. The publication of Robert Lado's book "*Linguistic across Cultures*" in 1957 promulgated the basis of Contrastive Analysis. Lado's main contention was that it is possible to predict prospective areas of apprehension in language learning by systematically analysing similarities and differences between the mother tongue and the target

language. Areas where the mother tongue's patterns are similar to those of the target language are believed to facilitate learning whereas areas that demonstrate differences are expected to cause learning difficulties. This implies that prediction of areas of difficulties and the seriousness of these difficulties are predetermined by the identification of structural differences and the extent thereof respectively. Lado's ideas translated directly to modified pedagogical practices predicated upon the belief that teaching plans should be tailored in such a way as to meet the requirements of the learners of a given language. Linguistic patterns of a given language became the centre of pedagogical policies and syllabus designs.

The title of Lado's book is adumbrative of a pseudo-linguistic elements taken into consideration in the planning of pedagogies, a piece of trivia which, however characteristically futuristic, is procedurally confounding. Lado was himself a native speaking bilingual of Spanish and English, and he strongly endorsed the integration of cultural elements in the language learning process. However, his passion for cultural aspects of language learning (Lennon, 2008) never translated to his theoretical framework of contrastive analysis, for the primary focus of contrastive measures is the surface patterns, a covariate analysis that is indomitably influenced by formal linguistics. Lado's inclination to the structural aspects of linguistic description is justifiable given the scholarly trends of that time. The purely structuralist school of thoughts dominated the pre-Chomskyan era. Language, according to American structuralists, is a rule-govern system that subsumes a hierarchy of constituting sub-system, all of which are rule-governed and substantially systemic. Any language teaching practices were to echo this belief, which is, notwithstanding the empirical validity, incomprehensively fragmentary.

The division of language into an overall system of rules that involves subsystems represented in syntax, morphology and phonology culminates in the categorisation of learning objectives accordingly. One major pronouncement made upon the structuralist school of linguistics is that it has a tendency to oversimplify the formal aspects of language. To all intents and purposes, structuralism virtually ignored vocabulary descriptions from its analysis and completely boycotted semantics and pragmatics. One reason for this is that formal linguistics, scilicet structuralism, is more congruous with finite micro-linguistic structures. Syntax, morphology and phonology are limited in terms of contrastive criteria and are, thus, more feasible for contrastive analysis. Vocabulary, semantics and pragmatics, on the other hand, are less finite, and this sets expediency barriers. This major limitation is best illustrated by the quotation of the very father of structuralism, Leonard Bloomfield, who concludes that "the

statement of meanings is therefore the weak point in language study, and will remain so until human knowledge advances very far beyond its present state" (1933, p.140).

American universities, particularly that of Michigan, gave credence to the purely structuralist precepts and based their language schooling policies thereupon. Joined with the American structuralist, Charles Fries, Lado propagated language teaching practices that are based on the systematic decomposition of linguistic items ensued by a synthesis of these items on the basis of order of learning and expected level of difficulty. The analytic and atomistic approach to the planning of learning objectives gave contrastive linguistics-based language teaching methods more scientific credibility (Lennon, 2008).

The contrastive analysis hypothesis is fundamentally inspired by behaviourist ideas that view language learning, whether the first or the second, as a process of habit formation where stimulus triggers responses that can be reinforced by reward and dehorted by punishment. The process of second language learning is, from a purely behaviourist stance, a process of building new habits on the basis of already existing ones. Areas of similarities are expected to be habits that are to be transferred to second language and, hence, aid learning while areas of differences form mechanical conflicts and are to apprehend learning. Contrastive analysis served as the diagnostic measure with a strong predictive force upon which difficulty levels are principally determined, and language teaching increments are, thus, laid out.

The principles of contrastive analysis can be summarised in its quest to promote better language teaching practices. Any teaching practices should be predicated upon the belief that second language learning is substantially based upon the first. In addition, classical contrastive analysts avouch that similarities between the structural patterns of the first language and those of the target prompt positive transfer while instances of negative transfer/interference are inherently consequential to pre-existing typological discrepancies between the two languages. These principles are best described by Fries (1945, p. 09) as he argues that "the most effective materials are those that are based upon a scientific description of the language to be learned, carefully compared with a parallel description of the native language of the learner", a belief that is further prefaced by Lado (1957, p. vii) who maintains that "the plan of the [this] book rests on the assumption that we can predict and describe the patterns which will cause difficulty in learning and those that will not cause difficulty". The tenets of

contrastive analysis soon drew criticism which resulted in major revisits and reconsiderations.

One of the most appealing traits of the contrastive analysis hypothesis is its predictive force. The idea of being able to offer a priori description of learners' prospective errors was very tempting. Empirical evidence, however, suggests otherwise. The predictive force of the contrastive analysis was challenged by its tendency to be over-predictive at some instances and under-predictive at others. In other words, some of the errors that are expected to surface on the basis of typological differences between the mother tongue and the target language did not come to being, and other errors surfaced without being attributable to any of the previously set predictions. Many scholars argue that empirical evidence provides evidence of linguistic items in the target language which, notwithstanding their similarity to those of the mother tongue, still, pose difficulty to learners, and, on the other hand, other linguistic items are not challenging regardless of their distinct formal features from the mother tongue.

Empirical studies offer examples of CAH's over-prediction and under-prediction deficiencies. Dusková (1984) reported very interesting evidence against CAH. She observed the errors made by a group of Czech learners of Russian and English. Her findings show that the Czech learners of English did not transfer bound morpheme rules to English words, but they did to English. The two target language systems were affected differently although the observed group speaks the same L1. Research like Dusková's is suggestive of the lack of deterministic patterns in the interplay between the first language and the second language.

Further evidence from the literature against the basic tenets of CAH can be drawn from the study of Zobl (1980) who observed the linguistic behaviour of French learners of English and English learners of French. His focus was on the syntactic transferability of some sentences in the two languages. French is characterised by a particular word order where accusative case pronominals precede the predicating verb as in:

Je les vois
I them see
I see them

The tenets of CAH would suggest that English learners of French would produce sentences as "*Je vois les*" and French learners of English would produce sentences as "*I them see*". However, Zobl's data (1980) indicate that the

contrastive analysis failed to predict French learners' prospective errors as they did not prepose the accusative pronominals and produced the English structures correctly. English learners of French, however, postposed the pronouns in the way CAH predicted. The two studies highlight the fact that there is evidence in favour of the projection of a language's rules to another, yet it transpires that the path of projection is not always clear and bidirectional. Transfer of structural features between two languages can occur in one path but not necessarily the other way back. Part of the CAH failure to offer clear-cut prediction of the routes of crosslinguistic influence can stem from the inability of linguistic theory to offer comprehensive descriptions of the systems of language, or it can be due to a lack of clear measures about what is similar in a linguistic system and what is different.

Another major criticism that can be levelled against the contrastive analysis hypothesis is that it equated error prediction with difficulty prediction. More recent research (e.g., Lennon, 2008) indicates that difficulty is, more or less, an extralinguistic features that can have psychological implications that are not necessarily uniform across learners with similar linguistic backgrounds. This is further supported by data showing different error patterns among learners with similar L1. While difficulty can be consequential to psychological factors, such as psychological distance, it is not workable to predict them on the basis of mere structural criteria. In addition to the fact that an error is a language learning product while a difficulty can be due to a pure psychological barrier, it can be argued that areas perceived to be more difficult can cause less errors due to the learners' conscious attempts to avoid them or study them harder. On equal footing, areas that are perceived to be of little difficulty can cause errors when learners do not take them as seriously; Lennon (2008, p. 03) refer to these mistakes as "careless mistakes".

Finally, the teaching philosophies that are inspired by contrastive analysis make their decisions on the basis of language typologies with disregard to the learners. This suggests that learners' differences are taken out of the pedagogical equation, for the assumption is that learners of the same linguistic background are bound to demonstrate the same learning outcomes. This is nullified by empirical data as it is proven that learners are active parties in the learning process who can take part in actively monitoring their learning tasks, thus, resulting in differing outcomes.

Empirical data identified uniform errors made among learners regardless of their L1. This suggests that there is an element of inherent difficulty in certain structures which cannot be accounted for by simplistic contrastive analysis of

structural rules. This led researchers to revisit the tenets of contrastive analysis. The claim that contrastive analysis can predict errors and areas of difficulty became known as the ***Strong Version*** of contrastive analysis hypothesis. The Strong Version of the CAH proposes that the learners' native language interweaves with the target language, and that such interference is the major cause of learning difficulties.

The rejection of L1 as being a major contributor in the gauging of L2 learning is not uncommon in the scholarly community. Some of the researchers who argue against the central place of L1 in SLA draw evidence from the universal order with which learners of English build up their linguistic competence notwithstanding the different linguistic backgrounds (Dulay, Burt & Krashen, 1982). The fact that orders of learning observed among learners of different backgrounds which are very comparable to orders of acquisition observed among acquirers of first language warrants the "reinterpretation of apparent cases of transfer as cases of regularization" (Kellerman & Sharwood, 1986, p. 02). What is even more interesting is that some researchers, namely Dulay and Burt (1972), argue that seeming similarities between what learners produce in L2, however deviated, and what they would, otherwise, produce in L1 does not pose enough evidence to suggest that those learners relied on psycholinguistic processes involving analogies from their mother tongue.

The decline of the behaviourist theory singled the CAH out for criticism. Wardhaugh (1970, p. 125) repudiates the Strong Version of CAH for being unrealistic and implausibly demanding. The strong version demands of the linguistic theory to provide a fully-fledged description of language universals within "a comprehensive linguistic theory which deals with syntax, semantics and phonology". Another requirement is for the linguist to have at their disposal a theory of contrastive linguistics that is used to mould the two languages into. Linguists clearly does not yet have the sort of thorough linguistic descriptions needed for the systems of languages, and even if so is the case, there is no clear-cut framework regarding what is to be compared with what. Besides, it is not clear how to measure the level of similarity or difference, and if so is the case, there is no clearly identified scale for predicting what measure of similarity/difference causes what level of difficulty/facilitation. Moreover, the linguistic theory has shifted towards the transformational view in which the assumption is that the structures of language are infinite, and, therefore, categorisation and comparison of infinite structures is unworkable.

Instances of contrastive analysis failing to foresee errors can be consequential to an inherent deficiency in the hypothesis, or it can be a theoretical limitation of the linguistic theory to offer clear principles for the structural description of language. Another possibility is that the theoretical ground that is available thus far is not satisfactory to account for what is similar in two languages and what is not. After all, minimalist accounts for syntax identify principles of language forms that are, notwithstanding the surface structures' differences, similar in terms of the underlying structures and are part of language universals that are to pose no difficulty to learners.

In order to make up for the shortcomings, a shift from the strong version to the less demanding ***Weak Version*** took place. The Weak Version holds that the contrastive analysis can help explain errors after being made. With that in mind, the Weak Version is an observation-based assessment tool that provides explanation a posteriori while the Strong Version is a theory based predictive tool that describes the course of learning a priori. The explanatory, rather than predictive, force that the Weak Version of the contrastive analysis hypothesis drew more reliability to the theory of contrastive linguistic and sketched more context for it in the applied research of language pedagogy.

The a posteriori account of errors suggests that leaners errors are the main subject of enquiry. The focus on actual errors made by learners gave rise to a more realistic and applied approach which is error analysis. The following sections offer an account for the main principles of error analysis and show the theoretical and procedural benefits of this approach which is believed to have remedied the major shortcomings of the CAH. It is argued that, given the instances where contrastive analysis proved reliable, a complete boycott of contrastive analysis is a step away from the integration of linguistics theory into language pedagogy. A better approach would be a conjunction of the two approaches, contrastive and error analysis, to enunciate a research approach that is both descriptively and explanatorily adequate.

4. Error Analysis

Though not explicitly expressed, errors have always had a place within the scholarly domain related to language investigation. Early medieval Arabic linguistic traditions show examples of "*qul… wa la taqul…*" (*say… and do not say…*) rules which are often the outcome of conscious observations of frequently occurring errors. Moreover, the French glossary of common errors published in 1949 is exemplary of errors being integral in the retrospective study of language (Lennon, 2008). Such practices, although deficient in methodology and

theoretical foundations, are the basis of subsequent practices commonly referred to as *Error Analysis*. Empirical research also called for an alternative approach to contrastive analysis, given the fact that scholars took notice of errors that are believed to be attributable to factors not necessarily pertinent to language typologies between the mother tongue and the target language.

Stephen Pit Corder (1975) is believed to have laid the foundations for Error Analysis. His publication "*The Importance of Learners' Errors*" acknowledged the role of the scientific description of learners' errors in the planning of teaching practices. The discussion in many theoretical models sheds light on the notion of errors as opposed to other forms of deviated linguistic performance and sketched a context for it in the present study. In view of that, errors that are inherent in the second language are part of the developmental sequence of second language, and more recent scholarly discussions are entertain the prospect of errors as being positive indicatives of progress rather than being bad habits that require immediate intervention.

Further theoretical accounts stress the importance of error analysis even more. The influential research of Dulay, Burt and Krashen (1982) makes clear that systematic errors are insegmental features of the process of second language acquisition. It is the systematic errors that often elicit corrective/supportive feedback that helps learners evaluate their knowledge about the target structures and regulate their hypotheses about them. It is only through the structured description of the systematic errors that we can develop a fully-fledged picture about the stage of learning that a given learner is at, and it is only through the quantitative analysis of errors that we can identify the elements in second language which are more difficult for learners to obtain. This, consequentially, helps decision makers to plan learned pedagogical policies that are fuelled by empirical data.

In many ways, Error Analysis overcomes the deficiencies in contrastive analysis, making it a rather useful tool for pedagogy. The description of errors in such a way brings to the discussion the sources of apprehension that are beyond the immediate interface of the mother tongue. Errors that are caused by the second language structures, developmental errors that are inherent in the process of the second language and errors that show lack of systematicity are all taken into consideration in the analysis. Moreover, Error Analysis method is more suited for the applied nature of language pedagogy inasmuch as it is a practice-oriented method and requires actual observation of learners and language in use rather than the theory-oriented description of language far from its context of use. Results

that are obtained from actual observation of actual circumstantial language use are more likely to be psychometrically more valid and reliable.

Error Analysis is chiefly interested in the systematic description of learners' errors. That is, it offers account of the frequency of errors and categorises them on the basis of certain criteria. One of the categorisation criteria is the cause of these errors. Rustipa (2011, p. 18) argues that errors are attributable to: overgeneralisation, incomplete rule application and/or hypothesising of false concepts. Other causes of error can be the ignorance of the governing rules (Richard, 1973). The following sections discuss the sources of errors with reference to the categorisation offered by Richard (1973) and Rustipa (2011). It is noteworthy at this juncture that errors can be categorised on other bases which are going to be alluded to within the discussion.

4.1. Causes of Errors

As mentioned earlier, errors can be consequential to some cognitive processes pertaining to the developmental patterns of second language learning. These errors, uniform or otherwise, are indicative of learners' active involvement in the building up of second language grammar. The overgenelisation of rules can lead to a sort of errors that requires some pedagogical planning to treat. Moreover, the incomplete application of rules can cause some linguistic production to deviate from the norms. In many instances, learners hypothesise about structure of the target language, and the false hypothesisation can result in learners producing non-norm-conforming patterns. Ignorance of the governing rules are part of the incremental process of mental grammar building. The latter can be more common among beginners, yet it is equally as systematic.

4.1.1. Overgeneralisation

Overgeneralisation of rules occurs when learners avail themselves of previously acquired language learning experience to be applied to new situations. In many cases, transfer of experience can turn up useful in resolving language learning challenges. Here, learners economise on their cognitive requirements for the lateralisation of the target language rules. However, in other cases, the projection of previously learnt patterns of language form and use on context evaluated analogous by the learner may result in false application of rules and, hence, cause errors. One frequently cited example of overgeneralisation is the omission of third person agreement morpheme *–s*. Richard (1973) argues that a considerable linguistic burden is eased with the omission of third person singular –s. Learners take noticed of all other person cases not taking any overt

morphological agreement. They project such a morphological pattern on third person cases resulting on erroneous application of rules. Likewise, the use of *was* with all person and number cases is the result of the learners' active involvement in the process of making their learning process more economic.

One possible line of argumentation is that overgeneralisation of rules encapsulates the epitome of the inherent feature of language economy and minimalism. Learners try to approximate second language rules in a minimalist fashion. They work out structures with as fewer rules as communicatively possible. Elements that are believed to cause little, if any, communicative breakdown are often subject to structural extensions of other rules. Moreover, it is believed that learners attempt to reduce, what they assess to be, redundancy in second language grammar by pruning back rules that can be dispensed with. The examination of literature indicates that the reduction of speech into simpler forms and the economisation of rules is part of what is referred to as a *telegraphic stage* (Jain, 1973, p. 191). Observable data from the performance of learners of second language and children learning their mother tongue indicate comparable patterns of rule reduction and speech simplification.

The claim that overgeneralisation is inherent in second and even first language acquisition does not dismiss the prospect of some second language teaching practices to instil and perpetuate incorrect application of rules. Richard (1973) argues that drill-based teaching approaches significantly contribute to increasing learners' tendency to overgeneralise rules, often inaccurately. Overlearning (Wolfe, 1967) is believed to be an example of such cases. Indeed, the principle of economising the process of learning is the core of most language teaching methods. Limited word lists and concise grammar booklets are representative of the economy-oriented perspective on language learning. What is noteworthy at this juncture is that errors stemming from overgeneralisation can be viewed as good indicators of progress; they show how learners are building a new target language grammar in a way that is cognitively stimulating, and such errors are, therefore, to be appreciated.

4.1.2. Incomplete Rule Application

It has been argued in the previous section that learners evaluate the communicative capacity of certain structures in a minimalist fashion. That is, the minimal structural complexity that achieve a given communicative function without any (serious) communicative breakdown is preferred. In many an instance, certain target language rules are complex and incremental (e.g., the syntax of negative interrogatives), and learners are expected to increase the complexity of their structures as they progress in learning. The mastery of negative interrogatives, for instance, requires an a priori mastery of assertive declarative structures, negative declarative structures, assertive interrogative structures and, finally, negative interrogative clauses.

Learners, however, avoid such formal complexity when there is a communicatively analogous and relatively less complex counterpart. A structure such as: *Isn't this the book that I have given you?* Is replaced with the structure: *This is the book that I have given you. Right?* The second structure is assessed by learners to bear the same communicative content as the first, and it is less linguistically and cognitively burdening. Errors that stem from incomplete rule application are not necessarily formally wrong, i.e., grammatically incorrect, but they represent cases of language use that are not likely used by native speakers in similar contexts. It has been argued in the previous chapter that conforming to the normative structural pattern of the target language is not necessarily equal to producing sentences that a native speaker, in similar contextual requirements, would. Given the highly cognitive nature of the process of making errors, an even more cognitive process is represented in hypothesis testing in second language learning.

4.1.3. Hypothesising of False Concepts

The process of second language acquisition involves learners making inferences about the structures of the target language. Trial and error, feedback or implicit teaching, along with other factors, can cause the inferences to be judged correct or otherwise. Inferences can be built upon direct instruction, but, in many cases, it is the learner who builds inferences about the structural rules. Making hypotheses about language is an important element in the cognitive development associated with second language learning. Richard (1973) reports instances of learners who make the wrong inferences about the auxiliary *be* as being a purely tense particle. The form *was* is, thus, hypothesised to be indicative of the past tense and *is* is understood to mark present tense. This false hypothesisation of

concepts results in errors such as: *one day it was happened* and *he is speaks French* (Richard, 1973, pp. 182-183).

One major issue with the study of this type of causes of errors is the scalar development. It is noted that the measurement, let alone the quantification, of what the learners hypothesised wrongly is by no means attainable, for it may overlap with one or more of the previously mentioned causes. Researchers are, thus left with their learned intuition and pedagogical experience coupled with their knowledge of the learner's mother tongue and target language in order to decide upon whether a deviated production is consequential to false hypothesisation.

4.1.4. Ignorance of the Governing Rules

While overlearning can result in overgeneralisation of rules on contexts that do not allow for the pattern restrictions acquired, underlearning can cause errors, particularly when learners are not familiar with the rules that restrict the configurations of a given structure. Richard (1973, p. 175) refers to this case as "*Ignorance of Rule Restrictions*". In these cases, learners fail to observe restriction of existing rules and apply rules in contexts where they are not applicable. Examples of this include the anaphora of nominal phrases where the antecedent is out of the relative clause. For example, ***the book*** *that I bought* ***it*** *is a good read*. Here, learners are not aware of the rule restricting the use of antecedence and reflexive anaphora, which results in an erroneous language use.

It is noticed very frequently that learners sometimes misinterpret semantic relationships between lexical items. One possible situation is that learners know the synonymous relation between the adjectives *quick* and *fast* or *tall* and *high*, yet they fail to recognise the collocational restrictions of lexical use, resulting in phrases such as *quick food* or *a high man*. Such structures, although structurally well-formed, are not naturally occurring combinations. This further points to the fact that mere criteria of grammaticality and well-formedness are insufficient in the demarcation of errors. Richard (1973) argues that faulty collocational use of prepositions is a good example of errors stemming from ignorance of rule restrictions. He further argues that most of errors in this category are the outcome of teaching practices that are based on drills and rote learning.

4.2. The Method of Error Analysis

One major preliminary consideration in the analysis of errors is the distinction between *covert* errors and *overt* errors. Overt errors refer to instances where there is an obvious "breach in the code" (Corder, 1971) whereas covert errors refer to forms of structures that does not breach any of the code's structural

patterns, yet they mismatch the intended meaning of the speaker. An example of this would be structures such as: *I can learn it* when the student actually intends *I can teach it*. Another example would be French speakers use of *can I assist?* to mean *can I be present?*.

The first step is obtaining data from the target sample. The data forms a linguistic corpus of analysis. The phase of data collection needs to take into account factors that can interfere with the outcome of the measurement. Learner-related factors such as the proficiency level, the linguistic background and the nature of instruction can have a direct influence on the performance of the sample learners. Moreover, the researcher should take into account the form of the linguistic output they are collecting. Oral and written forms of language have different typological features and, hence, different norms of acceptability. The processing conditions in speaking and writing are different, and, thus, different production patterns are to be recognised. Likewise, the genre of the collected linguistic instances should also factor in as the discursive features of casual conversations are not similar with those of narration. Finally, the instantaneous linguistic output is referred to as unplanned performance which is not to be equated with planned performance where more conscious effort are exerted into the avoidance of errors or challenging linguistic items. Error Analysis advocate sound methodologies in both the collection, interpretation and implication of their research designs. It is only through the accurate description of the sample and the statistically representative sampling procedures that the approach can gain consistency and validity.

The second step in Error Analysis is the identification of errors in the collected corpus. This step may be challenging due to the rather equivocal nature of errors. The comparison of learners' production to what the native speaker would say in a similar context may be inaccurate. Ellis and Barkhuizen's work (2005) points to the need of researchers to decide upon the inclusion of absolute errors only or the addition of dispreferred forms as another category within the description. The researcher, having identified all the errors in the selected corpus, are required to provide a description of the errors. Corder (1974) originally preached that researchers start by explaining how the linguistic constructions collected from the corpus differ from those produced by native speakers. He calls for the need to develop a descriptive category to code the errors. This involves the process of labelling the errors which are subsequently analysed for frequency ranges. Deviations, according to Dulary, Burt and Krashen (1982), that are to described can be in the form of ***omission*** (such as when the learners omit tense markers or progressive *be*), ***addition*** (such as when learners use double negation

form), ***misinformation***, i.e., the use of wrong form, (such as when learners use non-finite verb forms in finite tense structures) or ***misordering***, i.e., syntactic order of constituents (such as when learners ill-position adverbs of frequency). James (1998) argues that ***blends*** can be another category of errors where learners use two forms interchangeably with one or either being erroneous.

After having described the errors in the selected corpus, researchers are expected to account for the sources of errors as a preliminary stage for any remedial implications. The general linguistic, psychological, social, psycholinguistic and sociolinguistic factors relevant to the processing of L2 structures are taken into consideration while trying to explain the causes of learners' errors. Sociolinguistic factors are not very common in the description of errors, yet it is of a paramount importance to recognize learners' conscious use of register variation, which sometimes breaches the standardised code of language use in order to perform certain locution. Theories of pragmatics and extra-textual linguistic analyses, such as the theory of politeness by Brown and Levinson (1987), can come in handy in providing a more thorough account for errors. What is noteworthy at this juncture is that accounting for sources of errors does not imply that the source-error relation is a one-to-one mapping process where one error is attributable to one source. In fact, Ellis and Barkhuizen (2005, p. 66) argue that it is more often than not the case that errors are explained "in terms of multiple rather than single sources".

The enunciation of error analysis measures is primarily of an applied nature. This suggests that the implicational capacity of findings in error analysis are the quintessence of the post-analytic measures. The subsequent phase in error analysis is an evaluation of the learners' errors. The evaluation involves determining the gravity of the errors to both the structural and communicative propositional content. The degree of deviation from the native speakers' normative linguistic production can be archetypical for the evaluation. Planning intervention measures and feedback plans can be made more accurate and yielding if based upon scientific description and evaluation of errors. Researchers advocate the use of assistance to determine the gravity of the errors. Ellis and Barkhuizen (2005) and Hughes and Lascartou (1982) recommend a minimum of two additional evaluators of the gravity of errors. This is believed to enhance the quality of testing which translates to more learned decisions about research implications.

5. Implications for Teaching

The analysis of linguistic production served as the primary approach to the development of linguistic theory. It is only through the observation of factual

linguistic performance that linguists can have direct insight into the systemic nature of language. In the process of first language acquisition, scholars examine the speech patterns of children with particular attention paid to the regularities governing both the correct and incorrect speech behaviour with reference to the sociolinguistic norms set by adult speakers. Likewise, the examination of second language learners' linguistic behaviour can develop our epistemological acumen with regard to the cognitive niceties of second language acquisition. The belief that there is an in-built syllabus and fine-tuned developmental sequence for both the acquisition of the mother tongue and the learning of all other subsequent languages can be tested through the analysis and description of various learner groups at different learning stages. Error analysis can, thus, inform the theory of linguistics and cognitive sciences to the extent that it offers a window to the mental processes involved in the computation of language input and the development of mental grammars.

The analysis of errors can have further implicational capacities not only at the theoretical level but also at the practical level. Both applied research and language pedagogy can be improved by the scientific description of errors. The practice of language teaching is attested to involve high level of intuitive decisions made about the learners, the teaching materials and the instruction and assessment methods. It is only through the empirically verifiable description and demarcation of errors that teachers can make learned decisions. Granger (2002, p. 23) points to the fact that "teachers and researchers often have useful ***intuitions*** [emphasis added] about what does or does not constitute an area of difficulty for learners, but this intuition needs to be borne out by empirical data from learner corpora". Error analysis, indeed, is a corpus-based and empirical process where systems are assigned not only to normal native-like speech but also to abnormal and deviated speech. The thought of having patterns that govern the way humans make mistakes is very tempting and is within the heart of behavioural and social sciences.

It should be noted that the practice of using errors in the planning of pedagogies has its roots in early intellectual traditions; an example of which is "*The King's English*" written by Fowler in 1906 (Ellis & Barkhuizen, 2005, p. 51). Books of this sort are inspired by intuitive and less scientific, although real life, observations of linguistic behaviour in comparison to established norms. More contemporary language learning materials and teaching guides are integrating EA-inspired data into the making up of their content. Examples of this include *Longman Dictionary of Common Errors* (Turton & Heaton, 1996),

Common Mistakes in English (Fitikides, 2002) and *Common Errors in English Usage* (Brians, 2003).

EA-influenced publications are heavily prescriptive, which is against the more contemporary descriptive trends in linguistics theorisation. However, it goes without saying that language pedagogy is essentially a prescriptive area of enquiry where the focus is less on what actual performances are like and more on what performances should be like. EA comes into being as a methodologically and theoretically multiplex approach that is descriptive in essence yet entertains the implicational merits of prescriptive research endeavours. EA makes use of developments in contemporary theories of descriptive linguistics and, still, makes fuel for applied research in language pedagogy.

A very important area of discussion related to the analysis of errors is the treatment of errors. It is the main objective of error analysis to provide principled strategies to guide effective error correction (James, 2013). While errors are the primary incentive of corrective feedback, scholars seem to have differing views with regard to how errors should be approached. An extreme stance is not to treat errors as corrective feedback can be harmful and ineffective (Truscott, 1996). In this regard, errors made by learners should not be corrected as it can have linguistic, cognitive and psychological consequences which can negatively impact the process of learning. This view, however, is intuitive and offers no empirically verifiable data to support it. A more moderate stance is that error correction, while not necessarily of a detrimental effect, has no impact whatsoever on the development of linguistic competence. Such a view is motivated by theoretical grounds related to the Natural Order Hypothesis by Krashen (1982) which argues that second language learners are equipped with an in-built syllabus that functions independently of the order and manner with which linguistics tokens from the target language are presented.

The literature offers some studies in favour of the "*no correction*" stance. Walker (1973) reported students' negative attitudes towards corrective feedback as it deterred them from language use. Walker (1973) argues that correction of errors can have negative impact on students' performance as it breaks the flow of speech and writing which is highly encouraged in second language learning. This view, however, can be discredited as it is solely based on the students' reports about what constitutes a good teaching method. While students' attitudes are insegmental parts in language pedagogy, decision regarding teaching approaches are made on the basis of reliable research that involves experimental designs and testing. It is not always the case that students' attitudes towards a teaching method

correlate with what is inherently an effective teaching method. In addition, part of Walker's finding can be attributable to the manner with which corrective feedback is presented rather than corrective feedback itself having a negative impact. Walker's idea of language use being of a paramount importance represents an extreme stance which emphasises elements of fluency at the expense of accuracy. More recent approaches to language teaching uphold teaching practices that take heed of both communicative efficiency and structural accuracy. Even scholars who are recognised as pro-correction-free classrooms (e.g., Edge, 1989; Norrish, 1983), as described in Martinez (2006), are partially against the way feedback is presented and are not in complete denial of the actual merits thereof. Edge (1989), for instance, offers excoriating view of "over-corrected teachers", and Norrish (1983) recommends against the focus on accuracy at the expense of fluency. This shows that it is the manner with which feedback is presented that is deprecated and not feedback itself.

Naturalistic environments of first language acquisition involve instances of corrective feedback for children. Likewise, corrective feedback is indispensable in second language learning environments as it enables learners to modify their mental representations of the target language grammar. Correction, along with other conscious and unconscious processes, helps learners compare the system they built for the second language with other systems presented to them with analogous tokens of language.

On the other end of the spectrum, other procedural questions relate to the temporal staging of corrective feedback. The planning of feedback measures should pay attention not only to whether to provide feedback or not but also to when to offer it. Immediate and delayed feedback decisions can have direct repercussions on the learners' idiosyncratic mental outlook towards the learning process. Self-correction opportunities are recommended to be given to learners whenever possible, for it is believed to be the most cognitively stimulating and, hence, pedagogically efficient method. *When to correct errors?* is a question that prompted scientific inquiry over the past few decade, and there seems to be no conclusive answer. Part of the mystical nature regarding the timeframe set for error correction stems from the fact that corrective feedback is substantially practiced on the teachers' whim. Learned guesses about how and when to intervene seem to be the dominant approach to error correction in actuality. While experience-driven prowess and verbal dexterity can offer consistent improvements in learners' performance, it is only through metacognitive knowledge about the exact measures taken to treat errors that *teaching* can be inculcated and taught as a principled discipline.

Another major inquisition that is raised by Henrickson (1978) relates to which errors are to be addressed and which are to be overlooked. Burt's distinction of local and global errors (1975) can come in handy with deciding upon errors that are intervention-demanding. Local errors affect single elements in the sentence and do not impact the general communicative content of the learner. Global errors, on the other hand, hinder the communicative flow and prevent the communicative content from being delivered and understood. Many scholars advocate that global errors precede local errors in correction (Harris & Silva, 1993). This, by no means, imply that local errors should be overlooked, yet, in contexts where language use and fluency are the focal objective of teaching, they receive less immediate corrective measures (Sorg, 2014). Henrickson (1978) argues that correction on the basis of locality can be counterproductive as some local errors can have stigmatising impact on the listener and are very frequent. He instead suggests that corrective measures be reserved to "errors that impair communication significantly; errors that have highly stigmatizing effects on the listener or reader; and errors that occur frequently in students' speech and writing" (p. 392).

One major issue that seems to be omnipresent with the discussion in this paper is the problem of scale development. Henrickson's claim (1978), which is further substantiated by subsequent researchers, that errors are corrected on the basis of the seriousness of the communicative breach is covariately problematic. There seems to be no clear-cut criteria or a measurement for scaling the breach of communication. It, after all, goes without saying, that what is assessed to be communicatively minimally acceptable is a matter of subjective judgement. What one teacher assumes to be understandable and content-delivering can be judged by another to be less content-bearing. Having different assessments about the gravity of the communicative error ensues different correction measures taken. This takes away from the validity and reliability of the field as it comes across as dependent on less absolute criteria, which is, essentially, the opposite of what scientific investigation quintessentially preach for.

Having selected the time for error correction and the errors most demanding of correction, the ensuing question that arises is "*how should errors be corrected?*". In view of that, Hendrickson (1978) offers a very interesting review of the scholarly literature where he surveys models for error correction that are based on structural modelling and anti-systemic approaches to error correction. He concludes that most correction models "are based more on intuition than experimental research" (p. 396). Error correction methods can be classified on the basis of agency. Here, the learner, the peers and/or the teacher can be the main

agent responsible for offering feedback. While the literature does not offer empirically tested data on how the agency-based methods should be distributed given the linguistic, para-linguistic and extra-linguistic factors in the classroom situation. Self-correction is believed to be the most cognitively stimulating and psycho-pedagogically efficient methods, and the teacher's job is to "give[s] sufficient clues to enable self-correction to be made" (Wingfield, 1975, p. 311). Moreover, peer-correction is believed to be very advantageous as it encourages cooperation, involves all learners in the tasks and enables the teacher to evaluate a group of learners at once (Edge, 1990). The teacher's correction is, thus, kept as a last resort when the situation is assessed to be exigent of correction with the quondam measures failing to regulate learners' speech.

The context of the present study does not allow for an exhaustive review of the literature dealing with error correction and speech regulation in second language learning. What is of a notable importance, though, is that a systematic analysis of learners' errors and the categorisation of deviated production are key in the planning of focused and systematic measures to intervene. The analysis of errors can improve the teaching practices and eliminate the less scientific intuition-based decisions. Given the highly cognitive nature of errors and error processing, the theoretical background of the present study probes the depth of the ways cognition and language use materialise. Crosslinguistic influence between the acquired languages is believed to offer insight into how multiple competence is developed.

5. Conclusion

The enunciation of efficient language teaching guidelines requires a preliminary understanding of the psycholinguistic, social and cognitive aspect of first and second language acquisition. The Contrastive Analysis Hypothesis is built upon the premises of behaviourism where learners draw on the habits of their first language to work out the structures of the target language. The main contention in the hypothesis is that similarities between the mother tongue and the target language facilitate learning whereas differences apprehend it. Structural, and even cultural, discrepancies between the two languages result in errors as learners transfer the rules of the mother tongue to produce erroneous structures in the target language. It was, thus, proposed that second language teaching decisions should be predominantly built upon the formal contrastive analysis between the two respective languages where the development sequences are laid out relative to the identified structural discrepancies at a given microlinguistic level.

The decline of behaviourism along with the raft of empirical evidence showing that not all errors are consequential to L1 interference called for more post hoc measures where errors are analysed after materialisation instead of predicting what errors would surface in antecedence. Error Analysis, then, started to gain scholarly approbation as it helped categorise learners' errors as observed in actual classroom performance.

The present study explored the limitations of Contrastive Analysis-based pedagogies but, still, deprecates the utter boycott thereof. Instead, the milder stance is advocated where learners errors are analysed post hoc and contrastive analyses are used as an explanatory tool that can explain the materialisation of some errors and eventually help sketch more learned decisions about pedagogy.

Bibliography List

Bloomfield, L. (1933). *Language.* New York: Holt.

Brians, P. (2003). *Common errors in English usage*. Franklin, Beedle & Associates, Inc.

Brown, P., Levinson, S. C., & Levinson, S. C. (1987). *Politeness: Some universals in language usage* (Vol. 4). Cambridge university press.

Burt, M. K. (1975). Error analysis in the adult EFL classroom. *TESOL quarterly*, 53-63.

Campbell, R. (1977). *The Enigma of the mind*. New York: Time-Life Books.

Cook, V. (2002). Background to the L2 user. In V.J. Cook (Ed.), *Portraits of the L2 user* (pp. 1-28). Clevedon: Multilingual Matters.

Cook, V. (2003). *Effects of the second language on the first* (Vol. 3). Clevedon: Multilingual Matters.

Corder, S. P. (1967). The significance of learner's errors. *IRAL-International Review of Applied Linguistics in Language Teaching*, *5*(1-4), 161-170. https://doi.org/10.1515/iral.1967.5.1-4.161

Corder, S. P. (1974). Error analysis. In J.L.P. Allen & S.P. Corder (Eds.), *Techniques in applied linguistics* (Vol. 3, pp.122-131). London: Oxford University Press.

Corder, S. P. (1993). A role for the mother tongue. In Gass, S and Selinker, L. (eds), *Language Transfer in Language Learning, 5*. Philadelphia: John Benjamins Publishing Company.

Dijkstra, T., & Kroll, J. F. (2005). Bilingual visual word recognition and lexical access. In J. F. Kroll & A. M. B. De Groot (Eds.), *Handbook of bilingualism: Psycholinguistic approaches* (pp. 179–201). Oxford: Oxford University Press.

Dulay, H. C., Burt, M. K., & Krashen, S. D. (1982). *Language Two*. New York: Oxford University Press.

Dušková, L. (1984). Similarity-an aid or hindrance in foreign language learning? *Folia Linguistica , 18*(1-2), 103-116. https://doi.org/10.1515/flin.1984 .18.1-2.103

Džapo, A. (2015). *Cross-Linguistic influence in Croatian-English-Spanish multilinguals: Evidence from spoken and written production* (Doctoral Dissertation, University of Zagreb). http://darhiv.ffzg.unizg.hr/id/eprint.pdf

Edge, J. (1989). Mistakes and correction. London: Longman.

Ellis, R., & Barkhuizen, G. P. (2005). *Analysing learner language*. Oxford: Oxford University Press.

Fitikides, T. (2002). Common mistakes in English. England.

Fodor, J. A. (1983). *The modularity of mind*. MIT press.

Fries, C. C. (1945). *Teaching and Learning English as a Foreign Language*. Ann Arbor: University of Michigan Press.

Garfield, J. L. (Ed.). (1987). *Modularity in knowledge representation and natural- language understanding*. The MIT Press.

Granger, S. (2002). A bird's-eye view of learner corpus research. *Computer learner corpora, second language acquisition and foreign language teaching*, *6*, 3-33.

Harris, M., & Silva, T. (1993). Tutoring ESL students: Issues and options. *College Composition and Communication*, *44*(4), 525-537.

Henrickson, J.M. (1978). Error correction in foreign language teaching: Recent theory, research and practice *The Modern Language Journal*, 62, 387-398.

Hughes, A., & Lascaratou, C. (1982). Competing criteria for error gravity. *ELT journal*, *36*(3), 175-182.

Jain, M. P. (1974). Error analysis: source, cause and significance. *Error analysis: perspectives on second language acquisition*, 189-215.

James, C. (1998). *Errors in language learning and use: Exploring error analysis*. Routledge.

Kellerman, E., & Sharwood, M. S. (Eds.). (1986). *Crosslinguistic influence in second language acquisition*. New York: Pergamon Press.

Kroll, J. F. (2008). Juggling two languages in one mind. *Psychological Science Agenda, American Psychological Association*, *22*(1).

Kroll, J. F., Bobb, S. C., & Wodniecka, Z. (2006). Language selectivity is the exception, not the rule: Arguments against a fixed locus of language selection in bilingual speech. *Bilingualism: Language and Cognition*, *9*(2), 119-135. https://doi.org/10.1017/S1366728906002483

Lado, R. (1957). *Linguistics across Cultures*. Ann Arbor: University of Michigan Press.

Lennon, P. (2008). Contrastive analysis, error analysis, interlanguage. In S. Gramley & V. Gramley (Eds.), *Bielefeld introduction to applied linguistics: A coursebook* (pp. 51-60). Bielefeld: Aisthesis Verlag.

MacWhinney, B. (1997). Second language acquisition and the competition model. *Tutorials in bilingualism: Psycholinguistic perspectives*, 113-142.

Marian, V., & Spivey, M. (2003). Bilingual and monolingual processing of competing lexical items. *Applied Psycholinguistics*, *24*(2), 173-193.

Martínez, S. G. (2006). Should we correct our students' errors in L2 learning. *Journal of Research and Innovation in the Language Classroom*, *16*, 1-7.

Moravia, S. (1995). *The enigma of the mind: the mind-body problem in contemporary thought*. Cambridge University Press.

Norrish, J. 1983. Language Learners and their Errors. London: Macmillan.

Richards, J. C. (1973). A non-contrastive approach to error analysis. *ELT Journal*, *25*(3), 204–219. https://doi.org/10.1093/elt/XXV.3.204

Rustipa, K. (2011). Contrastive analysis, error analysis, interlanguage and the implication to language teaching. *Ragam Jurnal Pengembangan Humaniora*, *11*(1), 16-22.

Sorg, R. K. (2014). *Identifying errors in ESL writing*. The University of Toledo.

Truscott, J. (1996). The case against grammar correction in L2 writing classes. *Language learning*, *46*(2), 327-369.

Turton, N. D., & Heaton, J. B. (1996). *Longman dictionary of common errors*. Longman.

Walker, J. L. (1973). Opinions of University Students about Language Teaching. Foreign Language Annals, 7: pp. 102-05.

Wardhaugh, R. (1970). The contrastive analysis hypothesis. *TESOL quarterly*, 123-130.

Wingfield, R. J. (1975). Five ways of dealing with errors in written composition. *ELT Journal*, *29*(4), 311-313.

Wolfe, D. L. (1967). Some theoretical aspects of language learning and language teaching.

Zobl, H. (1980). Developmental and transfer errors: Their common bases and (possibly) differential effects on subsequent learning. *TESOL Quarterly*, *14*(4), 469-479. https://doi.org/10.2307/3586235