Role of the Transformational Generative Grammar and other Language Learning Theories in English Language Teaching

by

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Abstract

In linguistics, Transformational –Generative Grammar (TGG) is the part of the theory of generative grammar, especially of natural native languages. Transformational Generative Grammar is also known as Transformational Grammar, which is a system of language analysis. It shows the relationship among the various elements of a sentence and among the possible sentences of the English language and process or rules which are called transformations of sentences to express semantics with the help of 'surface structures' and 'deep structure'.

While teaching English as second (L2), third (L3) or foreign language (FL), to the university students is an arduous task as they are socio-psychologically and linguistically preoccupied with his or her own native language (L1) competence which has its certain implications in the learning and teaching of any other language. This paper intends to explore some key concepts of Transformational Generative Grammar (TGG) The base Components, Transformational Component, Phonological Component, Semantic Component and their roles in contrastive analysis, one of the major instruments of language teaching in Applied Linguistics, of two languages of the same or different language families.

In this article, our attempt is that TGG is an essential aspect of learning English but only for the students of advanced study of English what I find is that a fine fusion of all the there- traditional grammar, structural grammar and TGG is equally important. To be familiar with and learn the basics of grammar such as the knowledge of single and double parts of speech and such other items, traditional grammar (Newfield, and P. C. Wren & H. Martin) is a must; and for syntactic structures and sentence patterns (A. S. Hornby) structural grammar is needed and then a learner will easily learn the target language with the help of his native language (L1). He would enjoy learning English at the advanced stage through TGG (Chomsky)

Key Words: Base Component, Transformational Component, Phonological Component, Semantic Component and Contrastive Analysis

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Introduction:

Syntax plays a major role in language teaching. Since it deals with linguistic competence of a native speaker at all the three closely interrelated and interdependent levels of language comprising (1) phonological, (2) syntactical or grammatical (fusing morphology and syntax together), and (3) semantic components. It is equated to the 'LAD' (Language Acquisition Device) of the learner that is like software of an abstract 'syntagmatic' ruling of sequencing different grammatical categories at 'Deep Structure' which is the 'base component' of 'universal grammar'. If a learner of second (L2), or third (L3) or foreign language (FL) is made acquainted with the deep structure and its transformation into paradigmatic patterns of the surface structure analysable into sequences of syntactic categories or syntactic classes, it will give great impetus to perceive the differences of phrase structures and transformational processes of the native (L1) and target language and ultimately speed up language acquisition with accuracy and efficiency. So it is in the fitness things here to discuss some fundamental concepts of Transformational Generative Grammar (TGG).

Transformational Generative Grammar is a theory of grammar which was proposed by the American linguist N. Chomsky in his book titled, Syntactic Structures in 1957. Chomsky provided a model for description of all languages. A TG grammar tries to show, with a system of rules, the knowledge which a native speaker of a language uses in forming grammatical sentences with the help of his or her competence, through which the human mind constructs and understands sentences. One of the most important of Chomsky's ideas is that most of this knowledge is innate, with the result that a learner can have a large body of prior knowledge about the structure of language in general, and need only actually *learn* the idiosyncratic features of the language(s) it is exposed to.

Transformational Grammar (TG):

Transformational grammar is a theory of grammar that accounts for the constructions of a language by linguistic transformations and phrase structures that is also known as transformational-generative grammar or T-G or TGG. Following the publication of Noam Chomsky's book Syntactic Structures in 1957, transformational grammar dominated the field of linguistics for the next few decades. "The era of Transformational-Generative Grammar, as it is called, signifies a sharp break with the linguistic tradition of the first half of the 20th century both in Europe and America because, having as its principal objective the formulation of a finite set of basic and transformational rules that explain how the native speaker of a language can generate and comprehend all its possible grammatical sentences, it focuses mostly on syntax and not on phonology or morphology, as structuralism does" (Encyclopaedia of Linguistics, 2005).

The new linguistics, which began in 1957 with the publication of Noam Chomsky's *Syntactic Structures*, deserves the label 'revolutionary.' After 1957, the study of grammar would no longer be limited to what is said and how it is interpreted. In fact, the word grammar itself took on a new meaning. The new linguistics defined grammar as our innate, subconscious ability to generate language, an internal system of rules that constitutes our human language capacity. The goal of the new linguistics was to describe this internal grammar. Unlike the structuralists, whose goal was to examine the sentences we actually speak and to describe their systemic nature, the transformationalists wanted to unlock the secrets of language: to build a model of our internal rules, a model that would produce all of the grammatical—and no ungrammatical—sentences (M. Kolln and R. Funk, Understanding English Grammar. Allyn and Bacon, 1998). From the word 'go', it has often been clear that Transformational Grammar was the best

available theory of language structure, while lacking any clear grasp of what distinctive claims the theory made about human language (Geoffrey Sampson, Empirical Linguistics. Continuum, 2001).

Surface and Deep Structures:

When it comes to syntax, Chomsky is famous for proposing that beneath every sentence in the mind of a speaker is an invisible, inaudible deep structure, the interface to the mental lexicon. The deep structure is converted by transformational rules into a surface structure that corresponds more closely to what is pronounced and heard. The rationale is that certain constructions, if they were listed in the mind as surface structures, would have to be multiplied out in thousands of redundant variations that would have to have been learned one by one, whereas if the constructions were listed as deep structures, they would be simple, few in number, and economically learned (Steven Pinker, Words and Rules. Basic Books, 1999).

Transformational Grammar versus Teaching Composition:

Though it is certainly true, as many writers have pointed out, that sentence-combining exercises existed before the advent of transformational grammar, it should be evident that the transformational concept of embedding gave sentence combining a theoretical foundation upon which to build. By the time Chomsky and his followers moved away from this concept, sentence combining had enough momentum to sustain itself." (Ronald F. Lunsford, "Modern Grammar and Basic Writers." Research in Basic Writing: A Bibliographic Sourcebook, ed. by Michael G. Moran and Martin J. Jacobi. Greenwood Press, 1990)

Transformation of the Transformational Grammar:

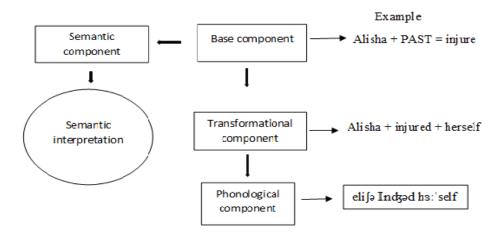
Chomsky initially justified replacing phrase-structure grammar by arguing that it was awkward, complex, and incapable of providing adequate accounts of language. Transformational grammar offered a simple and elegant way to understand language, and it offered new insights into the underlying psychological mechanisms. As the grammar matured, however, it lost its simplicity and much of its elegance. In addition, transformational grammar has been plagued by Chomsky's ambivalence and ambiguity regarding meaning etc. Chomsky continued to tinker with transformational grammar, changing the theories and making it more abstract and in many respects more complex, until all but those with specialized training in linguistics were befuddled. "[T]he tinkering failed to solve most of the problems because Chomsky refused to abandon the idea of deep structure, which is at the heart of T-G grammar but which also underlies nearly all of its problems. Such complaints have fuelled the paradigm shift to cognitive grammar." (James D. Williams, The Teacher's Grammar Book. Lawrence Erlbaum, 1999) In the years since transformational grammar was formulated, it has gone through a number of changes. In the most recent version, Chomsky (1995) has eliminated many of the transformational rules in previous versions of the grammar and replaced them with broader rules, such as a rule that moves one constituent from one location to another. It was just this kind of rule on which the trace studies were based. Although newer versions of the theory differ in several respects from the original, at a deeper level they share the idea that syntactic structure is at the heart of our linguistic knowledge. However, this view has been controversial within linguistics." (David W. Carroll, Psychology of Language, 5th ed. Thomson Wadsworth, 2008)

Therefore, Chomsky has changed this theory over the years. The well-known version was published in his book, Aspects of the Theory of Syntax in 1965(Longman Dictionary of Applied

Linguistics, 1987). It is often referred to as the Aspects Model or Standard Theory. This model consists of four main Components:

- a. **The Base Component**, which produces or generates basic syntactic structures called Deep Structures.
- b. **The Transformational Component**, which changes or transforms the basic structures into sentences called Surface Structures.
- c. **The Phonological Component**, which gives sentences a phonetic representation so that they may be pronounced properly and perfectly.
- d. **The Semantic Component**, which deals with the meaning of sentences.

The relationship of the four components to one another can be seen in the simplified diagram given below:



Base Component	What / Who	+ Finite Verb	± What / Whom	± What / who/ how	± Where	± When	± Why	± How
Semantic Component	Animate/ -Animate	Existence Possession Action	Theme	Attribute	Spatial Aspect	Temporal Aspect		
Grammatical Function	Subject (S)	Verb (V)	Object (O)	Compleme nt (C)	Adverb of place (A)	Adverb of time	Reason	Meaning
T Comp. S. Structure Grammatical Component	N/PRN/ NP/NC	Verb Forms	N/PRN/ NP/NC	N/PRN/NP/ NC/ ADJP	Adv/PP/ ADVP	Adv/PP/ ADVP		
Phonological Component	Utterance pronunciation	Utterance	Utterance	Utterance	Utterance	Utterance		

Abbreviations and symbols: T. Comp. =*Transformational Component*, N=Noun, PRN=Pronoun, NP=Noun Phrase, NC=Noun Clause, ADJP=Adjectival Phrase, Adv. =*Adverb*, PP=Prepositional Phrase, ADVP=Adverbial Phrase, +=Added, ±=May or may not be

Theoretical Approach to TG Grammar:

1. The Base Component is the Deep Structure of the linguistic competence of the learner which is universal in nature. It exhibits syntagmatic relationship among the elements of

the universe at the mental horizon of the native speaker. It produces or generates basic syntactic structures to express rule governed spatio-temporal interrelated environmental network of the speaker or the listener.

- 2. Semantic Component is closely related to the Deep Structure of the base component. It is the lexical part of syntax which expresses the linguistic environment of the learner paradigmatically. At this level a speech community expresses living or nonliving things or objects in three ways: (1) Existence-by using the verb 'to be' (is, am, are, was and were) (2) Possession-by using the Verb 'to have' (has, have, had) and (3) Action with the help of the verb 'to do' i.e. mental action or physical action which determine the thematic roles of the person or thing in a given spatio-temporal situation of the utterance.
- 3. Grammatical Function shows the place value of the semantic component in an utterance in the forms of subject, experiencer, theme, agent, source, complement (Frompkin, 2007) etc. At this level, universal spatio-temporal relations between the objects, that are nominal or pronominal, get syntactic functionality with the help of the finite verb, mood of the verb and case.
- 4. The Transformational Component changes or transforms these basic structures into sentences called Surface Structures. This component is language specific. It transforms the universal concept of 'Langage' into 'Langue' (Baskin 1959) by 'Phrase Structures' and different syntactic processes i.e. negation, interrogation, substitution, passivisation, narration, inversion in certain sociolinguistic domains. At this level a given abstract spatio-temporal environmental situation of the speaker is concretised into the language specific grammatical categories and contextual morphemes. In other words, it is audiovisual perception of the base component into a particular language.
- 5. The Phonological Component is the phonemic representation of a sentence so that it may be pronounced and transmitted between the speaker and the listener. It is the output of all the four that is Base Component, Semantic Component, Transformational Component and phonologized component.

Application of TG Grammar in the English Language Teaching:

It is a very challenging task to teach English as a second language to the university students especially those who have a linguistic background of different language families having different syntactic structural patterns at surface structure. As one can observe the 'post-positional' structure of 'noun phrase' and 'adverbial phrase' and 'compound verbs' in languages belonging to 'Indo-Aryan' (Abbi, 1994) family in India, Pakistan, Bangladesh etc. If the students of these regions are taught English with the help of TG Grammar, it will give a great impetus to their four major linguistic skills i.e. Listening, Reading, Speaking and Writing (LSRW). These students are generally found weak in, translating, comprehending and retaining the meaning of a longer text, TG Grammar as a tool could make them efficient in all such linguistic activities scientifically and make them confident in English Language communicative skill.

If such learners are first trained in segmenting a sentence or utterance at 'Deep Structure' of the universal concept of 'base component' including the questions; what, who, how, where, when? They could know about the functional aspects of 'Grammatical Categories', major phrases i.e. noun phrase, verb phrase, prepositional phrase, adjective phrase, adverb phrase and various other syntactic processes such as inversion, negation, 'movements', deletion etc. on the perceivable ground of 'Surface Structure'.

Illustrations:

A. Base Component: 'What, who and whom' generally express the grammatical categories with the help of a noun/pronoun or a noun phrase including, the determiner adjectives and descriptive adjectives. The noun (a pronoun) is the nucleus of our thought. As a human being is interrelated to and interdependent on a noun in a concrete or abstract form so what he/she thinks, possesses, expresses, is all about nouns. So a noun (a pronoun) as a grammatical category is the nucleus of a sentence performing the grammatical functions of subject (S), verb (V), object (O), complement (C), adjunct (A), others (O) of other grammatical categories such as transitive verbs, adjectives and prepositions. In this way, a noun and its relationship i.e. spatio-temporal relationship, status-role relationship, give and take relationship and many others in the universe is expressed by all other grammatical categories.

DS: [who/what] + [Existence/Possession/Action] ± [what/whom] ± [how/who/what] ± [where]

Nuclear /Essential Component Extra-nuclear/Optional Component ± [when]

SC: $[N/PRN/NP/NC] + [FV] \pm [N/PRN/NP/NC] \pm [ADJ/ADJPN/PRN/NP/NC] \pm [ADVP/PP] \pm [ADVP/PP]$

GF: $[Sub/Agent/Experiencer/Causative/Possessor] + [TRV/INTV] \pm [Theme] \pm [Comp] \pm [Adv P] \pm [Adv T]$

Abbreviations: N (Noun), PRN (Pronoun), NP (Noun Phrase), NC (Noun Clause), ADVP (Adverbial Phrase), PP (Prepositional Phrase), Adv P (Adverb of Place), Adv T (Adverb of Time), Adv M (Adverb of Manner), Adv R (Adverb of Reason)

A noun, with its attributes, is the core of our thought expressed in concrete or abstract form of written or oral discourse. Hence, Syntagmatic and Paradigmatic (Baskin, 1959) relationships between nouns and determiners as their syntactic constituents should be introduced through Phrase Structure Grammar at the initial stage of learning.

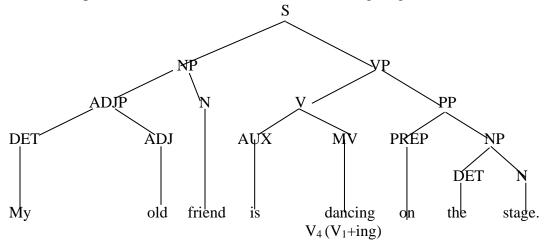
The networking of nouns with other nouns is expressed by a verb. In the absence of a verb, a noun and its attributes (Determiners, Adjectives etc.) cannot give a complete meaning in the communication system.

Other Parts of Speech function as peripheral aspects of a Noun:

- i. Adjectives, both Determiner and Descriptive, add a new meaning to the noun which is abstract as an element of cognitive conscience of the speaker and the responder engaged in a particular communication system.
- ii. Preposition shows spatio-temporal relations of noun/nouns with the other one/ones generally giving the answer of the questions of 'Where', When' and 'How' nature. Thus, the function of a noun along with its attributes, a verb and other peripheral parts of speech or discourse at deep structure of thought may be presented through the following diagram of syntactic surface structure:

Example: My old friend is dancing on the stage.

A simple sentence has been shown in the following diagram:



- **B.** Communicative Drill: On the above mentioned syntagmatic rule a learner should be given the following semantic situations and he or she is asked to make sentences at the surface structure:
- 1. Semantic situation with Base Component at Deep Structure: Spatial Existence, present, book, location-shelf

Answer: There is a book on the shelf, DS SS [(Where=Adv. of place)] \rightarrow There [(Existence pressingular verb inversion)] \rightarrow is [(what= NP-D+N)] \rightarrow a book [Location= PP (P + NP-D + N)] \rightarrow on the shelf

2. Semantic situation with Base Component at Deep Structure: Human Being, -adult, +male; Action-cut, Past; Theme-possessive, finger; instrument-knife

Answer: A boy cut his finger with a knife DS SS [(Who=Doer-NP)] \rightarrow a boy [(Action-Past] \rightarrow cut [(Theme-NP)] \rightarrow his finger [(Instrument-PP] \rightarrow with a knife

A trainer should also keep in his mind that to term an N/PRN/NP as 'a subject' or 'an object' is a very general but basic concept. At deep structure, the NP as a subject of a sentence and the constituents of the verb phrase are semantically related in various ways to the verb. The relations depend on the meaning of the particular verb. For example, the NP, *the boy* in 'The boy found a dove' is called the agent or the doer of the action of finding. The NP, *a dove* is the theme and undergoes the action. Part of the meaning of *find* is that its subject is an agent and its direct object is a theme. So the NPs of a sentence may be termed as agent, theme, goal, location, source, instrument, experiencer, causative and possessor on the basis of the thematic roles of a verb. These thematic roles of a verb with NPs can be illustrated in the following table:

Thematic Roles	Description	Example
Agent / doer	The one who performs an action	Amit ran
Theme	The one or the thing that undergoes an action	Amit called Sumit
Location	The place where an action takes place	She is reading in the study room.
Goal	The place to which an action is directed	Put the book on the shelf
Source	The place from where an action originates	The PM flew from London to India
Instrument	The means by which an action is performed	Amita cut her finger with a knife
Experiencer	One who perceives something	Sumit heard Sujeet singing a song
Causative	A natural force that causes a change	The wind damaged the roof
Possessor	One who has something	This is the opinion of a politician

Our knowledge of verbs includes their semantic category, how they are subcategorised, and the thematic roles that their NP subject (S) and object (O) have, and this knowledge is explicitly represented in the lexicon.

Thematic roles are the same in the sentences that are paraphrases as in both these sentences:

Navneet wrote a story.

A story was written by Navneet.

Navneet is the agent and *a story* is the theme.

Thematic roles may remain the same in sentences that are not paraphrases, as in the following sentences:

The boy opened the door with the key.

The key opened the door.

The door opened.

In all the three sentences, *the door* is the theme, the thing that gets opened. In the first two sentences, *the key*, despite its structural positions, retains the thematic role of instrument. The three examples illustrate the fact that English allows many different thematic roles to be the subject of the sentence i.e. the first NP under S. These sentences had as subjects an agent, *the boy*, an instrument *the key*, and a theme *the door*. The sentences below illustrate other kinds of subjects:

This room accommodates at least fifty guests at a time.

It seems that this leader has lost his strength.

In the first sentence, *this room* has the thematic role of location. In the second, the subject *it* is semantically empty and lacks a thematic role entirely.

As we have seen a verb has specific thematic role with the other NPs used in the sentence which is generally expressed by 'cases' or different types of 'prepositions.' In other words, several thematic roles of a verb are played by the 'PP' (prepositional phrase) containing at least a preposition and a noun. Here, a list of some important prepositions together with their roles is presented.

Prepositional Phrase:

Preposition	Example of 'PP'
by	A story was told by my mother.
with	He wrote this letter with an ink-pen.
to, in, into	Ice turns into water. Come in the room.
from	Turn to the left.
to	The train has departed from Mascow.
in, at, on, up, near,	She is going to London next week.
behind, under,	There is someone at the door.
over, above, around,	He suddenly dropped in my room.
beyond, before	The questions are based <u>on the syllabus</u> .
	John went <u>up the stairs</u> .
against	
to, towards, for	He complained against his father.
	His father was going towards the farm.
	She went to school. I look for my book.
for	
of	She cooked food <u>for her younger brother</u> .
	I have not taken the pen of my sister.
	by with to, in, into from to in, at, on, up, near, behind, under, over, above, around, beyond, before against to, towards, for

In this theory it can be said that transformations are of two types: Optional and Obligatory transformations. Obligatory transformations occur whenever their structural requirements are met (Affix hopping) while optional transformations occur only sometimes, without any guiding mechanism (Passive transformations). Those transformations that apply to single p-markers are called singularly transformations (as opposed to the concept of generalised transformations). Transformation rules consist of two parts: SA/D (syntactic Analysis or Description) which, specify the sort of phrase marker to which the T-rule can apply and SC (syntactic categories) which specify how the phrase markers are affected by T-Rule. The following are some transformational rules.

a. **Affix Hopping**: It says that if there are unattached affixes immediately followed by verbs or auxiliaries are there in a p-marker, then attach the affix to the immediately following element as a suffix of the latter.

SD: X- {TNS.} ({Modal-Ø, have -en, being})-y

SC: X- {TNS.} ({Modal-Ø, have -en, being})-y

i.g. SD: She PST can-Ø have-en tell this

SC: She could have told this

SD: I PRS have-en being write

SC I have been writing

b. **Subject-Helping Verb Inversion (to form questions)**: It is transformation involved in the question formation in English, whereby the position of the subject and the helping verb is inverted or switched.

SD: NP- AUX-X SC: AUX-NP-X

i.g. She PST be-ing write

She was writing (after affix hopping)
Was she writing? (Subject verb inversion)

c. **Not-Helping Verb Inversion**:

SD: NP-not-AUX-X SC: NP TNS AUX + not-X i.g. John not PRS be-ing write John not is writing (After affix hopping) John is not writing (Not-Helping verb inversion)

d. **Do Support Rule**:

Do support rule states that an occurrence of tense that has not been able to undergo affix hopping must have "do" inserted to the left of it. This rule refers to the use of dummy auxiliary 'do' to form questions or negatives in sentences, which would otherwise contain no auxiliary.

e. **Passive Transformations**:

SD: NP1-AUX-VP-NP2-X

SC: NP2 AUX be +en VP X by NP1

i.g. SD: Tom is writing a poem

SC: A poem is being written by Tom.

TG Grammar Makes a Better Composition:

The paper has approved already the greatness and value of TG grammar in language and learning. Though it has a legitimate and wide field of study in its own, however it is a moot question as to whether it has any direct value and importance in the teaching of composition as well as in the teaching of other skills. As we know that the teaching of composition is to enable the students to write a text with less grammatical mistakes or an error free writing. Hence, if we see the kernel structure of the TGG, a student may frame a lot of sentences with the help of this underlying sentence structure. At the university level, TGG fulfils the aims that writing a composition should be grammatically correct and it could be more decorated stylistically.

To do this, the transformational grammar predicates the existence of a small number of elements- like units such as noun phrases, verb phrases, prepositional phrases and the transitive verb which can be combined in a large number of ways to form molecule units, or sentences. Thus, for university student's transformational grammar clearly separate innate language competence from actual language performances. In teaching composition, students can discuss it with similar performance with innate invisible competence. Thus on the basis of language learning theories, one based on behavioural psychology and the other rationalist approach, students can emphasize on many pattern - practice and memorization along with the reasons for grammatical phenomena, relating facts about the second language to facts about the students native language.

Of these, the first theory has been much used recently both in structuralist text and those that are supposedly 'transformational' while memorization and pattern practice drills are sometimes useful, often they are not because the choice between forms is based on the learners' awareness of factors outside of the immediate syntactic environment: the definite or indefinite article, some or any, past or perfect tense are a few example in English.

To incorporate and add such insights in a writing composition, the teacher and the learner also can use his knowledge of transformational grammar. The knowledge of TG makes a learner enables to formulate and verify the written text, but he will not use any 'transformational rules in the text itself. The text will be rationalistically oriented. The student would be able to judge that the sentence structure is good and bad.

Conclusion:

The concept of transformations has a vital role to play in making and modelling the native speaker's knowledge of language. It has been a crucial and debatable topic from the time linguists had tried to give a definite meaning to the syntactic theory. 'Syntactic Structures' treated syntax and semantics as autonomous systems. It had nothing to say about syntax-semantics interface but it promised a responsible and revealing semantic program. Aspects of the Theory of Syntax (1965) showed the signs of fulfilling this promise in the near future. The notion of 'kernel sentences' in Syntactic Structure' was reincarnated as 'deep structure' in the Aspects (1965) with a good deal of semantic obligation. If it were introduced in the teaching methodology of English as a Second language to the University students it would make a sense of contrastive analysis of the surface structures of their native languages (L1) and English language (L2); it would enhance logical reasoning of the learners; it would improve the comprehending competence of the native learners who are generally observed as slow at all the four linguistic competences; Listening, Speaking, Reading and Writing and it would provide a new approach to the research in English language teaching instead of the old-fashioned 'Grammar-Translation Method' of language teaching.

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