COMPLEMENTARY LAW IN
GRAMMAR-TRANSLATION METHOD

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Abstract:
This paper intends to analyze the Grammar-Translation Method (GTM) on the basis of the perspectives of Complementary Law from Hexagram in Chinese I-Ching, and to answer the 3 questions regarding GTM: 1) Is the combination of Teacher and Student in GTM settings optimal? 2) Is the combination of Material and Methodology in GTM settings optimal? 3) Is the combination of Objective and Assessment in GTM settings optimal? This paper starts with the analysis of the six variables (in three pairs) involved in GTM settings; namely, teacher-student, objective-assessment, and material-methodology. Each of these variables was specified as yin or yang, depending on its individual feature, and then was examined through the Complementary Law of Chinese I-Ching. The results indicate that the overall effect of GTM is less desirable than expected, as there are two imbalances that exist between Methodology-Material, and between Assessment and Objective. Suggested solutions include replacing behavioral mode of instruction with a constructivist one in Methodology, or to changing product-oriented assessment into process-oriented one in GTM settings. As I-Ching was originally developed as a qualitative interpretation, more empirical validation of its accuracy and application is needed.

Keywords: grammar translation method, EFL instruction, trigram, hexagram, complementary law

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1. Introduction

There are various instructional approaches in EFL literature, but few relevant studies have focused on the relationships among the six factors involved in the settings of a given approach. Most of the previous studies focused on part of the variables such as teacher-student relationship (Oxford, Ehrman & Lavine 1991), while others investigated the effects of Combination of different EFL approaches (Mondal, 2012). Most of the EFL instructional literature cover mainly introduction to various approaches (Richards & Rodgers, 2001), or simply the effects of application of certain language teaching approaches (Al Refaai, 2013). Thus, the existing literature is crammed with either hodge-podge or sporadic information, leaving the development of EFL approaches in stagnation. What is needed at the moment is to offer an in-depth perspective regarding each of the EFL instructional approach they choose to apply. This paper tries to adopt a Complementary Law among the six variables involved in GTM [1] settings, to examine whether the relationship among the factors is optimal, and if not, then what suggestions can be made based on the Complementary Law. As mentioned in the previous paper (Guey, 2014), GTM, which was originally developed for CALP (Cognitive Academic Language Proficiency) [2] to help EFL learners master English grammar through induction, deduction, logical inference, imitation and drills. In this paper, we first classified 6 components (factors); namely, student, teacher, material, methodology, objective, and assessment. Next, we further subdivided each of the components into 2 categories: specifically yet arbitrarily, student (active vs. passive), teacher (student-centered vs. teacher centered), material (rote learning format vs. discovery oriented format), methodology (behavioral .vs. constructivist), objective (knowledge vs. aesthetic), and assessment (process vs. product).

To fit each of the subdivisions into the framework of hexagram, we designated yin and yang (two contrastive entities) and hexagram (the combination of yin and yang from the 6 components, with each one yao [3]), in Chinese I-Ching, hoping to analyze the dynamic of the 6 yaos (as a hexagram in a total of 64 hexagrams) in GTM. Eventually this paper will answer the following questions on the basis of the underlying complementary relationships among six variables. The questions are:

Question 1: Is the combination of Teacher and Student in GTM settings optimal?

Question 2: Is the combination of Material and Methodology in GTM settings optimal?

Question 3: Is the combination of Objective and Assessment in GTM settings optimal?
2. GTM features

By convention, Teacher in GTM is regarded as directive, and authoritative in the course of instruction, taking charge of learners’ activities, whereas Student is supposed to follow Teacher’s instruction and do what is told to do; namely, doing the given translation exercises or sentence combinations as well as drills. On the other hand, GTM features its use of teacher’s lectures, introduction, explanation, analysis, and step by step rote learning of drills and exercises as main Methodologies, whereas Materials in GTM include sentence patterns, translation drills, blank filling exercises, translation of articles, comprehensions of reading, synonyms or antonyms matching, and the like. As GTM was originally developed to stress on formal discipline, it thus places great emphases on fostering learners’ mental capacity through instruction of grammar. Therefore, the Objective of GTM is to enable students to read English literature, to develop their mental capacity, whereas Assessment in GTM predominantly encompasses translation tests, and grammar tests. Through the translation skills, grammatical rules and matching the words, the grammar-translation method would be established.

2.1 Trigram and hexagram in I-Ching

The I-Ching, also coined as Book of Changes, is one of the oldest Chinese classic texts, and most valued, accordingly. I-Ching is especially powerful to interpret the development of an event with qualitative changes, as found in most human interactions, on the basis of the law of equilibrium (Huang, 2000). Each of the material (event) and the counter-material (event) worlds consists of three sub-structures, reflected by the structure of the compound of two trigrams (Guas). The Upper (External) trigram (three yaos) represents for the structure of the counter-event, whereas the Lower (Internal) trigram (also three yaos) for the structure of ‘Event’. This can be illustrated through a hexagram (six yaos) below: (Note that the designation of the factors to any of the six yaos can be arbitrary, yet logical). Note that Yaos 1, 3, 5 are conventionally designated as Positive (solid line: Yang), whereas yaos 2, 4, 6 as Negative (broken line: yin)

- Upper yao (▂▂) to denote counter-dominant element (e.g., teacher);
- The 5th yao (▂▂▂) to denote counter-complementary element (e.g., methodology);
- The 4th yao (▂▂) to denote counter-interactive element (e.g., assessment);
- The 3rd yao (▂▂) to denote interactive element (e.g., objective);
- The 2nd yao (▂▂) to denote complementary element (e.g., material);
- The 1st yao (▂▂) to denote dominant element (e.g., student).
2.2 Yang and yin, upper trigram and lower trigram

Note that the trigram consists of upper trigram and lower trigram, with each of the three yaos being either yin (broken line: ▃ ▃) or yang (solid line: ▃▂). To settle operational definitions in designating Yin, and Yang, upper trigram and lower trigram among the variables fining must be considered. Firstly, what makes yin or Yang? From I-Ching, whatever is active, expanding, outward, upward can be regarded as Yang (▂▂), whereas those that passive, condensing, withdrawal, downward, inward are regarded as yin (▂ ▃). Next, the six variables can be made corresponding to the 6 yaos in the hexagram. But what determines the order of the yaos (i.e., the first, the second … and the sixth, etc.)? That is, what makes the upper trigram or the lower trigram in order to formulate the individual hexagram (where 6 yaos are logically allocated).

Conventionally, according to I-Ching, what is external, dominant, super ordinate, more distant, more abstract transcendent is supposed to be assigned to the upper trigram. By contrast, what is internal, subordinate, concrete, substantial is supposed to be assigned to the lower trigram. On the basis of such logic, Teacher, Methodology, and Assessment are supposed to lie in upper trigram, whereas Student, Material, and Objective are placed in the lower trigram. Lastly, the exact order of different yaos in either upper trigram or lower trigram must also be decided. From the perspectives of the Complementary Law, the three pairs of components (yaos) must be made complementary, with one in the upper trigram and the other in the lower trigram. In this regard, we start from the Student-Teacher pair, and the first yao (in the lower trigram) is Student, while the top yao (in the upper trigram) should be Teacher. Similarly, for the Material-Methodology pair, the second yao (in the lower trigram) will be Material, and the fifth yao (in the upper trigram) should be Methodology. Finally, for the Objective-Assessment pair, the third yao (in the lower trigram) is Objective, while the fourth yao (in the upper trigram) should be Assessment. Specifically, this can be demonstrated Chart 1 below:

**Chart 1:** Components of upper and lower trigram in the hexagram

<table>
<thead>
<tr>
<th>Upper trigram</th>
<th>Lower trigram</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top  Teacher</td>
<td>1st Student</td>
</tr>
<tr>
<td>5th Methodology</td>
<td>2nd Material</td>
</tr>
<tr>
<td>4th Assessment</td>
<td>3rd Objective</td>
</tr>
</tbody>
</table>
2.3 Analysis of Yin and Yang in GTM

As GTM is a teacher-centered instruction, it is reasonable to assign Teacher component as “Yang ▃▃” (Teacher is dominant, active). Second, on Methodology component, GTM features behavioral-orientated instruction (teacher gives student lots of step-by-step exercise and repetitive activities, with each grammar rules introduced or inferred by the teacher), there are less of skills or techniques involved, so it is legitimate to assign such a component as “yin ▃︎.” Thirdly on Assessment, as GTM features product-oriented assessment (translation tests, grammar tests, and writing tests are given to assess learners’ product performance), it is justifiably to assign such component as “yin ▃︎.”

Next, on Objective component, GTM places emphasis on knowledge or information acquisition (i.e., capable of reading English literature; develop learners’ mental capacity, which are of knowledge or of understanding by nature), so it is acceptable to denote such a component as “yin ▃︎.” Then on Material component, GTM is noted for rote learning (with sentence patterns, translation drills, blank filling exercises, which require students to do as much practice as possible) so it is legitimate to denote such a component as “yin ▃■.” Lastly on Student component, GTM features learners’ passive role as listeners, imitate what teacher does, follow orders, what to learn and how to learn it is up to teacher’s command, so it is natural to assign such component as “yin ▃■.” The outlook of such a hexagram with individual Yang or yin can be illustrated (bald-faced) through Chart 2 below:

**Chart 2:** Features of instructional conditions through 6 yaos in GTM

<table>
<thead>
<tr>
<th>Nature components</th>
<th>Yang (▃▃)</th>
<th>Yin (▃■)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>teacher-centered</td>
<td>(student-centered)</td>
</tr>
<tr>
<td>Methodology</td>
<td>(constructivist)</td>
<td>behavioral -oriented</td>
</tr>
<tr>
<td>Assessment</td>
<td>(process-oriented)</td>
<td>product-oriented</td>
</tr>
<tr>
<td>Objectives</td>
<td>(wisdom-based)</td>
<td>knowledge-based</td>
</tr>
<tr>
<td>Material</td>
<td>(discovery-design)</td>
<td>rote learning-design</td>
</tr>
<tr>
<td>Student</td>
<td>(active)</td>
<td>passive</td>
</tr>
</tbody>
</table>

Since a hexagram consists of 6 yaos, with each either Yang or yin, we may therefore map out the specific hexagram of GTM as ▃▃▃▃ [4] (Doing away with the old, Upper trigram: Mountain, lower trigram: Earth)

2.4 Complementary law in hexagram for GTM

As the term implies, complementary law mainly refers to the corresponding relationship between Teacher (top yao) and Student (1st yao), between Methodology(5th yao) and Material(2nd yao), and between Assessment(4th yao) and Objective (3rd yao) in
any given hexagram (Giang, 2005, P.61). For every upper trigram and lower trigram interaction, there is a structure balance or imbalance relationship. Specifically, if the top yao and the 1st yao are both of Yang nature, then imbalance will occur, and the 1st yao is more powerful. On the other hand, if the top yao is of Yang nature, while the 1st yao is yin, then a dynamic balance will occur, and the 1st yao will follow the top yao. By the same token, if both the top yao and the 1st yao are of yin nature, then imbalance will occur, and the top yao is more powerful. By contrast, if the top yao is of yin nature, while the 1st yao is Yang, then a static balance will occur, and the 1st yao will follow the top yao. The same logic also applies to the complementary relationship between the 5th yao and the 2nd yao, and between the 4th yao and the 3rd yao. (Giang, 2005, P.62) The complementary effects between yaos in upper and lower Guas can be categorized below:

A. On the upper yao vs. the 1st yao:
   1) (▂▂) vs. (▂▂): imbalance, the 1st yao is more powerful e.g., the active (Student) is more powerful than the teacher-centered (Teacher)
   2) (▂▂) vs. (▂▂): dynamic balance, the 1st yao yields to the upper yao e.g., the passive (Student) yields to the teacher-centered (Teacher)
   3) (▂▂) vs. (▂▂): static balance, the 1st yao yields to the upper yao e.g., the active (Student) yields to the student-centered (Teacher)
   4) (▂▂) vs. (▂▂): imbalance, the first yao is more powerful e.g., the active (Student) is more powerful than the teacher-centered (Teacher)

B. On the 5th yao vs. the 2nd yao:
   1) (▂▂) vs. (▂▂): imbalance, the 5th yao is more powerful e.g., the constructivist-oriented Methodology is more powerful than discovery mode (Material).
   2) (▂▂) vs. (▂▂): dynamic balance, the 2nd yao yields to the 5th yao e.g., the rote-memory mode (Material) yields to the constructivist (Methodology)
   3) (▂▂) vs. (▂▂): static balance, the 2nd yao yields to the 5th yao e.g., the discovery mode (Material) yields to the behavioral (Methodology)
   4) (▂▂) vs. (▂▂): imbalance, the 2nd yao is more powerful e.g., the rote-memory mode (Material) is more powerful than the behavioral mode (Methodology)

C. On the 4th yao vs. the 3rd yao:
   1) (▂▂) vs. (▂▂): imbalance, the 3rd yao is more powerful e.g., the aesthetic or wisdom oriented goal (Objective) is more powerful than process (Assessment)
   2) (▂▂) vs. (▂▂): dynamic balance, the 3rd yao yields to the 4th yao e.g., the knowledge-based (Objective) yields to the process-oriented (Assessment)
   3) (▂▂) vs. (▂▂): static equilibrium, the 3rd yao yields to the 4th yao e.g., the aesthetic (Objective) yields to the product-based (Assessment)
4) \( \Box \) vs. \( \Box \) @imbalance, the 4th yao is more powerful e.g., the product-based (Assessment) is more powerful than knowledge-based (Objective)

2.5 Complementary law in GTM settings

From the analyses above, we can therefore give a specific account of the instructional settings of GTM as below:

A. On the upper yao vs. the 1st yao:

\( \Box \) vs. \( \Box \) @dynamic balance, the 1st yao yields to the upper yao e.g., the passive (Student) yields to the teacher-centered (Teacher)

B. On the 5th yao vs. the 2nd yao:

\( \Box \) vs. \( \Box \): imbalance, the 5th yao is more powerful e.g., the constructivist-oriented Methodology is more powerful than discovery mode (Material).

C. On the 4th yao vs. the 3rd yao:

\( \Box \) vs. \( \Box \) @imbalance, the 4th yao is more powerful e.g., the product-based (Assessment) is more powerful than knowledge-based (Objective)

Chart 3: Complementary law in GTM settings

<table>
<thead>
<tr>
<th>Nature components</th>
<th>GTM (Yang/yin)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>teacher-centered</td>
</tr>
<tr>
<td>Methodology</td>
<td>behavioral -oriented</td>
</tr>
<tr>
<td>Assessment</td>
<td>product-oriented</td>
</tr>
<tr>
<td>Objectives</td>
<td>Knowledge-based</td>
</tr>
<tr>
<td>Material</td>
<td>rote learning-design</td>
</tr>
<tr>
<td>Student</td>
<td>passive</td>
</tr>
</tbody>
</table>

We may therefore make conclusive statements regarding the GTM settings in terms of the six variables on the bases of the Complementary law as below:

1. Dynamic balance on Student-Teacher pair: the passive (Student) yields to the teacher-centered (Teacher).

2. Imbalance between Material-Methodology pair: the constructivist-oriented Methodology is more powerful than discovery mode (Material).

3. Imbalance between Objective-Assessment pair: the product-based (Assessment) is more powerful than knowledge-based (Objective)

As there are two imbalances among the variables in the setting, problems will ensue if GTM is dogmatically applied in EFL settings without revision. The problems basically lie in the imbalances between Material and Methodology, and between Objective and Assessment. It can be predicted that problems can be greatly solved or reduced simply change the Yang or Yin nature in one of the four variables (two pairs).
First, for the GMT teacher if the Methodology in GTM can be more constructivist-oriented, then a dynamic balance occurs, which will facilitate learning. Alternatively, for the GMT Assessment, if the teacher in GTM place emphasis on process assessment, rather than product assessment, then we expect another dynamic balance. Therefore, to improve instructional effect means to change one of the variables from Yang to yin or vice versa, to create more dynamic balance and reduce imbalance between variable pairs.

2.6 Answers to the 3 questions

Through the introduction of the complementary law on GTM settings, we are thus able to answer the 3 questions initiated in the very beginning of this paper.

**Question 1:** Is the combination of Teacher and Student in GTM settings optimal?

➔ From the complementary law, GTM features Teacher (▂▂) vs. Student (▂▂), thus dynamic balance, which helps learning in that the interaction between active teacher corresponds to the passive student. Generally, the passive student will yield to the active teacher. In this regard, to sustain the positive result of GTM instruction, there is no need to do any change of the status quo (where Teacher is active, Student is passive).

**Question 2:** Is the combination of Material and Methodology in GTM settings optimal?

➔ GTM features its 5th yao (Methodology-behavioral) vs. the 2nd yao (Material-rote memory oriented): (▂▂) vs. (▂▂), thus causing imbalance, the 2nd yao is more powerful. Apparently, if we change behavioral-mode (▂▂) into constructivist mode (▂▂) in Methodology, then a new dynamic balance results. It is generally agreed that when both Material and Method are behavioral oriented, both Teacher and Student may experience boredom, thus inhibiting learning. One solution to this problem is to change the behavioral mode of instruction into constructivist mode, as mentioned earlier.

**Question 3:** Is the combination of Objective and Assessment in GTM settings optimal?

➔ By complementary law, GTM features its 4th yao (product Assessment: (▂▂) vs. 3rd yao (knowledge based Objective: (▂▂), thus leading to imbalance between Objective and Assessment. As product assessment is more powerful (seeing that the 4th yao is yin, it is in proper position, thus more powerful), and we always start from changing the less powerful one. So it is advised to change the Objective from knowledge based one into a more aesthetic or wisdom one to improve the instructional effect of GTM. Practically how to implement this can be answered by future studies.
3. Conclusion

As no EFL instructional approaches are problems free, it is logical and constructive to find the problems and solve them. This paper adopted the Complementary law from I-Ching, the purpose of which is to give a theoretical analysis and account of the dynamic relationships among the variables involved in GTM. Such an endeavor is, though innovative, not without problems.

Firstly, to specify the Yang and yin nature of each variable needs validation. Is there a more objective and concrete rule to help identify the Yang or yin nature?

Secondly, the rationale behind the placement of certain variables into upper or lower trigram is unclear or even confusing. In this paper, more clarification is needed to explain why Teacher, Methodology, and Assessment are placed in the upper trigram, while the other three (Objective, Material, and Student) in the lower trigram.

Thirdly, in the upper or lower trigram, the ordering of each of the three variables can also be the issue. Why Teacher is placed at the top of the hexagram, Methodology the 5th, and Assessment the 4th?

These problems can partially solved by empirical validation of the predictions or inferences from studies based on the hexagram. In this regard, the paper is a preliminary study that invites future interested researchers to test the predictions based on the complementary law, or other laws on the platforms of hexagram. Though validity of such mode is questionable and dubious, it is still a promising tool that can be utilized to probe deep into what seems otherwise impossible to study.

Notes

1. The grammar-translation method is a method of teaching foreign languages derived from the classical (sometimes called traditional) method of teaching Greek and Latin. In grammar-translation classes, students learn grammatical rules and then apply those rules by translating sentences between the target language and their native language. Advanced students may be required to translate whole texts word-for-word. The method has two main goals: to enable students to read and translate literature written in the target language, and to further students’ general intellectual development.

2. Cognitive academic language proficiency (CALP) is a language-related term which refers to formal academic learning, as opposed to BICS. In schools today, the terms BICS and CALP are most frequently used to discuss the language proficiency levels of students who are in the process of acquiring a new language.
3. **Trigram**, a symbol that consists of three lines, with each either solid or broken, such as ☢ (Mountain), two broken lines beneath one solid lines. There are eight trigrams; namely, ☢ (Heaven), ☢ (Earth), ☢ (Thunder), ☢ (Water), ☢ (Mountain), ☢ (Wind), ☢ (Fire), and ☢ (Lake).

4. ☢ ☢ ☢ Bo. Indicating falling away, one of the 64 hexagrams; the combination of Mountain ☢ (upper trigram) and Earth ☢ (lower trigram)

References


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