

# The Application of SOLO Taxonomy Evaluation Theory in High School English Reading Teaching Evaluation Activities: Take the Living Legends Reading and Thinking Class as an Example

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**Abstract:** Under the background of the new curriculum reform, the concept of teaching evaluation integration came into being, requiring teachers to perfectly link up curriculum, teaching, learning and evaluation, and provide concept guidance for the whole unit teaching. Ways to reasonably set the evaluation criteria of students' activities, continuously exert the function of teaching evaluation and promote teaching and learning by evaluation has become an important issue for teachers to improve the effectiveness of senior high school English reading. Based on the reality of senior high school English reading, aiming at the problems of vague and nonhierarchical evaluation standards, combined with the SOLO classification evaluation theory, this paper sets evaluation standards for senior high school English reading teaching. Taking Living Legends reading and thinking class as an example, this paper discusses evaluation methods for senior high school English reading teaching to provide a reference template for teachers to accurately evaluate students' performance and for students to better complete the evaluation task.

**Keywords:** SOLO classification evaluation method; Teaching evaluation; English reading teaching in senior high school

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## 1. SOLO evaluation theory

The SOLO Classification (The Structure of the Observed Learning Outcomes Taxonomy) was developed by Australian scholars Professor John B. Biggs and Kevin F. Collis. This method is a "qualitative" evaluation method to assess students' understanding of knowledge<sup>[1]</sup>. It starts from the specific quality of students' learning results rather than the development stage of students and focuses on the development process of students' thinking from low level to high level. When individuals answer a specific question, the ability shown, thinking operation, consistency and convergence, response structure from simple to complex is divided into five different progressive levels, that is, the pre-structure level, the single-point structure level, the multi-point structure level, the association structure level and the extended abstract structure level<sup>[2,3]</sup>.

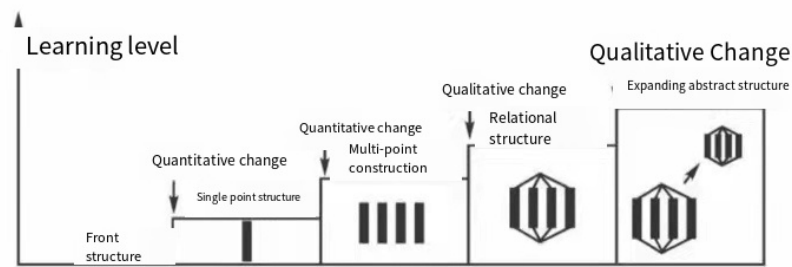


Figure 1. SOLO classification.

### 1.1. Prestructural

Students are largely unable to understand and solve problems or are misled by irrelevant content in the material, answer questions logically confused, or tautology<sup>[4]</sup>.

### 1.2. Unistructural

Students can only address a single point when answering a question and jump to a conclusion as soon as they find a clue to solve the problem.

### 1.3. Multistructural

When students answer questions, they can relate to multiple isolated points, but these points are isolated from each other and have no relationship with each other, and do not form a knowledge network of related questions.

### 1.4. Relational

When answering questions, students can associate multiple points of the question and can connect these points to integrate them into a coherent whole, which shows that students understand the question<sup>[5-7]</sup>.

### 1.5. Extended abstract

When answering questions, students can make an abstract generalization, analyze the question from a theoretical level, and deepen the question so that the meaning of the question is expanded. As a result, each of the above levels covers the content of the previous level, reflecting the spiral of students' abilities and thinking levels. According to Prof. Choi Yunrong of East China Normal University, there are three levels of learning: the teacher teaches (false learning), the student learns (shallow learning), and the student learns (deep learning). In the process of teaching, the common pursuit of teachers and students should be deep learning<sup>[8,9]</sup>. Deep learning, also known as deep learning, in the reading task, deep learners mainly process the reading text, understand the content of the material and the ideas conveyed by the author, and benchmark the last three levels in the SOLO classification.

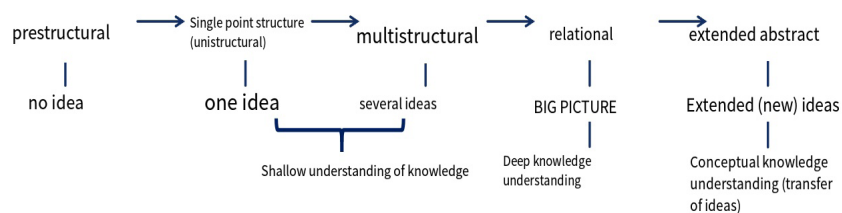


Figure 2. SOLO taxonomy and deep learning.

## **2. Objective description and task creation of senior high school English reading and thinking class**

### **2.1. Objective narration**

In order to design reasonable teaching objectives and build an efficient English classroom, teachers should consider many factors comprehensively, such as course standards, teaching materials, learning situations and resources. Among them, “Curriculum Standards” contain specific “learning objectives,” teachers should take this as the reference line and set targeted teaching objectives.

The learning goal of an ordinary senior high school English curriculum is to cultivate and develop students’ core qualities such as language ability, cultural awareness, thinking quality and learning ability. The development of core qualities of English subjects is mainly divided into three levels (English Curriculum Standards for General High School (2017 edition, 2020 Revision)). In Objective-Learning-Assessment-based classroom teaching, whether the teaching objectives are achieved, how far they are achieved, whether the core literacy of students’ subjects has been developed, and to what level, teachers need to conduct further analysis and judgment through assessment<sup>[10]</sup>. While evaluation standards provide reference scales for teachers to carry out evaluation activities, and SOLO theory is the concrete expression of these scales. Only by analyzing students’ answers against these scales can we scientifically evaluate students’ mastery of learning content and achievement of teaching goals<sup>[11]</sup>.

### **2.2. Task creation**

When designing learning tasks and activities, teachers should adhere to the teaching goal orientation, establish innovative teaching concepts, and explore diversified ways of learning task design<sup>[12]</sup>. Jeremy Harmer said in his book “How to Teach English” that when designing learning tasks, teachers should ensure the authenticity of the text and grasp the difficulty of the text as the premise, create learning activities related to the topic of the text, and give students free time and space to explore the text so that they can make adequate responses. Based on this point of view, in English reading teaching to help students master the language, clarify the structure and explore the meaning of the text, teachers can choose the following teaching tasks to create ideas:

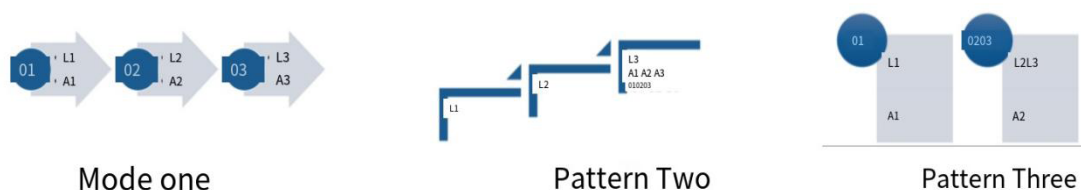
- (1) Put them in the right order
- (2) Amplify or summarize
- (3) Match the topic sentence with the paragraphs or match the picture with the description
- (4) Predict with hints, including words and pictures
- (5) Guess the writer after reading
- (6) Supply the ending with the real one missing
- (7) Convert the information into charts or graphs

According to Hammer’s recommended teaching task, the SOLO taxonomy can be used to evaluate student feedback in all five categories, except sorting and matching. In the follow-up case of the Living Legends Reading and Thinking course, the study refers to idea 2, designs teaching evaluation activities, selects summary questions, tests students’ mastery and classroom teaching effect, and designs evaluation standards according to the five levels of SOLO classification<sup>[13]</sup>.

## **3. Design of evaluation activities for Living Legends Reading and Thinking course**

Taking Sports and Fitness, Unit 3, Volume 1 of the new English teaching material, as an example, the theme context of this unit revolves around sports and health. The reading and thinking section is an exposit on the title of “Living Legends,” introducing two sports legends in the world: Lang Ping and Jordan, their achievements,

characteristics, excellent qualities and legends are illustrated with examples. This lesson is a new one for students in Grade One of the school, with a relatively poor foundation. According to the students' learning situation, the study adopts the teaching evaluation integrated teaching mode I proposed by Professor Cui (**Figure 3**). The mode I need to achieve three teaching objectives, each of which corresponds to one by one, including teaching activities and testing activities, forming three teaching evaluation cycles.



**Figure 3.** Three feasible models of integrated teaching and evaluation.

**Table 1.** Take the instructional evaluation Cycle I (OLA1) in the design as an example

Aspects	Description						
Teaching objective 1 (Objective 1)	Through close reading, students can summarize Lang Ping's main achievements, refine the character characteristics, and deeply understand his legend.						
Learning activities 1 (Learning 1)	<p>Activity 1: Read and finish the chart</p> <p>Identity + Achievements</p> <table border="1"> <tr> <td>player</td><td>brought honor and glory to her country</td></tr> <tr> <td>coach</td><td>led China women's team to medals</td></tr> <tr> <td>person</td><td>be loved by fans home and abroad</td></tr> </table> <p>Think: What rhetorical device is used here?</p> <p>Activity 2: How does Lang Ping set good examples for others?</p> <p>How does Lang Ping set good examples for others?</p> <p>home and abroad. When the Chinese team was preparing for the 2015 World Cup, her determination was tested. The team that Lang Ping had built was falling apart. One of the best players had been injured, and the team captain had to leave because of heart problems. Losing two important players was a big challenge, but Lang Ping did not lose heart. She had faced difficulties before, and she knew that her young players could win if they worked together as a team. Two weeks later, they were world champions! Then in 2016, Lang Ping led her volleyball team to Olympic gold in Brazil.</p> <p>Difficulties or challenge</p> <p>a story example</p> <p>Activity 2: What kind of a person do you think Lang is? Why?</p> <p>Lang Ping is a <u>person, because</u></p> <p>devoted</p> <p>determined</p>	player	brought honor and glory to her country	coach	led China women's team to medals	person	be loved by fans home and abroad
player	brought honor and glory to her country						
coach	led China women's team to medals						
person	be loved by fans home and abroad						
Evaluate activities 1 (Assessment 1)	<p>Read, discuss, and answer the question:</p> <p>Are you convinced that Lang Ping is a living legend? Give your reasons based on part one of the passage. Write down your answer.</p>						



Based on the content of the SOLO classification evaluation method and the teaching objectives of this lesson, the author refined the scoring criteria for the answers to evaluation activity 1. The scores of students' answers are as follows (**Table 2**).

**Table 2.** Scores of students' answers

Corresponding assessment criteria	SOLO layering	Scores	Number of people
Students are unable to read the questions and corresponding passages, respond with irrelevant content, have confused logic, repeatedly repeat simple, wrong sentences, or are unable to respond in English.	For structure level	0–1	4
Students can only answer yes or no, or can only find and restate proof that she is or is not a legend in the passage, unable to pay attention to the whole passage, and lack of multi-angle analysis and connection.	The single-point structure level	2–5	7
When students truly understand the question, they can find more than two pieces of evidence from the passage. Each piece of evidence has a clear point of view, a clear idea, and a smooth language expression. However, they cannot connect these pieces of evidence to form a whole, and the whole answer is still lacking in logic.	Multi-point structure level	6–9	15
Based on the multi-point structure, students can find the internal connections between the various pieces of evidence that prove Lang Ping is a legend and can connect multiple points into a coherent whole, such as her excellence in playing different roles, perseverance in the face of difficulties, determination in the face of challenges, etc., and have a clear thinking logic.	The level of relevance structure	10–13	4
On the basis of the relational structure, students can have their own unique and profound insights into the character of Lang Ping, and abstractly summarize the universal spirit of legendary figures, and have an understanding of the description of characters in the article.	Expand the level of abstract structure	14–15	0

Evaluation criteria are attached to the evaluation activities. Students can check and improve their answers according to the criteria. In addition, according to the evaluation results in teaching practice, there are still some students who are unable to express their opinions in appropriate language <sup>[14,15]</sup>. In this regard, teachers should provide language support to students when raising questions, such as sentence patterns and thesaurus. For intermediate level students, adequate language guidance should be given to make them think deeply about the question, so that students can answer the question in a more organized and coherent way.

## Disclosure statement

The author declares no conflict of interest.

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