

Game-Based College English Translation Instructional Design Based on Representational Redescription Model: Implicit Knowledge Transformed into Explicit Knowledge

Xinyu JIANG^a, Mengya CHEN^a & Lu HUANG^{b*}

^a*Jing Hengyi College of Education, Hangzhou Normal University, China*

^b*Chinese Education Modernization Research Institute, Hangzhou Normal University, China*

**huanglu@hznu.edu.cn*

Abstract: Translation is a process of semantic and semiotic transformation between original language and target language. It is an implicit learning process that can be made explicit through game-based study, facilitating the advancement of students' translation abilities. This paper reveals four phases in game-based translation instruction: context construction, game experience, verbal report and written representation, based on the "four levels" and "three-phase cycle" of representational redescription model. It elaborates on the impact of games on Chinese non-English major students' implicit learning of translation in terms of materials, time, context and attention. Finally, an instructional design for game-based college English translation instruction, integrating the games *Gone Home* and *Lost CC* to create contexts for students to gain knowledge of cultural, situational and linguistic context of target text, is proposed. This design aims to improve Chinese non-English major students' translation ability by combining various representations, including images, verbal language and written text.

Keywords: Representational redescription, Translation, Game based learning, Implicit knowledge, Implicit learning

1. Introduction

The translation process requires the creation of functional texts in the target language that align with the translation's purpose, influenced by factors such as learning environments and motivation (Wu et al., 2014). Traditional translation teaching often overlooks context analysis, leading to issues in Chinese-to-English translation regarding genre structure, comprehensive understanding of translation elements, and diversity of predicates. Research has revealed principles of second language translation and addressed these issues within the framework of implicit learning in cognitive science (Thomas, 1994; Ivády, 2007). Games, as interactive media rich in information, facilitate subconscious acquisition of contextual knowledge and make implicit learning in translation explicit. Educational games have been shown to enhance vocabulary learning and motivation in second language acquisition (Calvo, 2017). This paper aims to explore how games can be integrated into the context construction for students during translation practice, based on representational description model, to enhance Chinese non-English major students' translation abilities by transformation implicit learning into explicit learning.

2. Game Based College English Translation Instruction Framework Based on Representational Redescription

2.1 Representational Redescription Theory Model

The representational redescription model (RR model), proposed by Karmiloff-Smith, describes the representation of individual knowledge and dynamic development of multiple levels. The RR model emphasizes the process of transforming tacit information into explicit knowledge (Karmiloff-Smith, 1996) and has been empirically supported in various domains of cognitive development, such as language acquisition, mathematics, and physics.

Karmiloff-Smith categorizes knowledge representation into four levels: implicit level, E1 (explicit level I), E2 (explicit level II) and E3 (explicit level III). At the E1 level, representations become explicit, enabling individuals to deal with these representations and connect them to other restated representations. However, representations at this level are not consciously accessible and cannot be verbally reported. At the E2 level, representations can be understood, but individuals are not able to express them through verbal language. At the E3 level, representations have reached conscious awareness, allowing verbal communication and connection to related fields. The model also emphasizes that representations can be understood consciously and reported verbally at the E2 level (Karmiloff-Smith, 1992).

Consequently, how to provide a simulated authentic learning environment and external stimuli for learners to spur learners' implicit learning and gradually transform their implicit knowledge into explicit knowledge? From the perspective of human cognitive development history, games have played a significant role in the evolution of human culture and cognition. Thus, we advocate that it is natural to use games to promote linguistic cognitive development.

2.2 The Learning Process of the Game-Based College English Translation Instruction

Based on the “four levels” and “three-phase cycle” of the RR model presented, a game-based college English translation instruction framework is developed and illustrated in Figure 1.

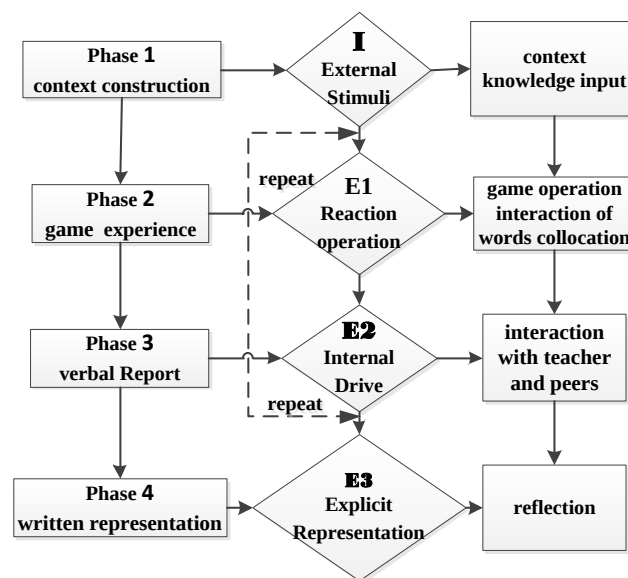


Figure 1. The L2 Translation Game Processes Based on the RR Model.

2.3 A Case Study of Instructional Design

The focus of our instructional design is Chinese non-English major sophomores, tasked with translating an introduction to a summer program for Chinese learning. They need to know the target text's structure, content, readers and style, as well as the purpose of the translation, which aligns with the cultural, situational and linguistic contexts of the target text. Therefore, an instructional design is created based on “four phases” proposed in game-based college English translation instruction, utilizing the concept of representational redescription, mentioned in the previous section.

- Phase one—context construction. The guidance of the game *Gone Home* and similar texts written in target language presented in the game are used to offer external stimuli.
- Phase two—game experience. Students play the game *Lost CC* to get familiar with predicate collocations of target language through quick response operation.
- Phase three—verbal report. In class, students communicate with the teacher and the peers to better understand text structure and linguistic expressions of target language.
- Phase four—written representation. Collocations of high frequency in the corpus are used as reference to improve the accuracy and authenticity of target language, which is helpful for students to realize the purpose of translation.

The instructional design incorporates specific games to enhance learning. Table 1 details the games used and their curricular ties.

Table 1. *Games Introduction*

Description	Curricular Ties
<i>Gone Home</i> is a first-person adventure exploration video game. The player takes the role of Katie in the first-person view. Katie arrived home after a year abroad and discovered the house is empty. Players can interrogate every detail of a seemingly normal house to discover the story of the people who live there, their background and character.	The text of similar function and structure written in target language, presented in the game, is analyzed, which is helpful to create cultural context, situational context and linguistic context of target text for students.
<i>Lost CC</i> is a game of English collocations which features in predicates. The major task of the game is to explore in the maze under the sea. It is controlled by an accelerometer and player shall answer the questions and avoid barriers to find the exit to save them.	The game offers responsive operations to help students grasp various collocations.

3. Conclusion

However, our study is constrained by a small sample size and limited scope, excluding college-level English translation teaching. Additionally, the latter stages of the instructional design did not fully leverage the gaming environment.

Game-based learning is increasingly accepted due to its positive impact on education, though its application in second language translation instruction remains exploratory. Future research should focus on developing cognitive models for game-based translation learning, investigating the cognitive processes involved, and conducting empirical studies to validate its effectiveness in transforming implicit learning into explicit knowledge.

References

- Calvo - Ferrer, J. R. (2017). Educational games as stand - alone learning tools and their motivational effect on L 2 vocabulary acquisition and perceived learning gains. *British Journal of Educational Technology*, 48(2), 264-278.
- Karmiloff-Smith, A. (1990). Constraints on representational change: Evidence from children's drawing. *Cognition*, 34(1), 57-83.
- Karmiloff-Smith, B. A. (1994). Beyond modularity: A developmental perspective on cognitive science. *European journal of disorders of communication*, 29(1), 95-105.
- Thomas, M. (1997). Implicit and explicit learning of languages.
- Wu, C. J., Chen, G. D., & Huang, C. W. (2014). Using digital board games for genuine communication in EFL classrooms. *Educational Technology Research and Development*, 62(2), 209–226. doi:10.1007/s11423-013-9329-y