

Integrating E-learning into Self-regulated Learning Instruction: A Holistic Flipped Classroom Design of a Classical Chinese Reading Intervention Program

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Abstract: The paper introduces the design of an intervention program which integrates in-class self-regulated learning (SRL) instruction and out-of-class e-learning activities based on the theoretical model of flipped classroom to enhance Hong Kong junior secondary school students' learning of Classical Chinese (CC) reading. Four instructional principles of SRL instruction, namely task nature, teacher support, student autonomy, and mastery-oriented evaluation, are used to guide the design of learning activities. To compensate for the common problem of lacking teacher support in e-learning, in-class instruction will help students establish a good foundation for CC reading and extend their knowledge and skills learned in out-of-class e-learning activities. To change students' reliance on their teachers when learning CC reading, out-of-class e-learning activities will provide opportunities for students to practice their self-regulatory skills independently. While previous studies have demonstrated the benefits of SRL instruction and using technology to enhance language learning, this intervention program makes a first attempt to integrate SRL instruction and e-learning into CC reading instruction.

Keywords: flipped classroom, self-regulated learning, technology enhanced language learning

1. Introduction

Both self-regulated learning (SRL) and e-learning are effective forms of learning (Beetham, & Sharpe, 2019; Schunk & Greene, 2018). Previous experiences of implementing SRL instruction in Hong Kong indicate that teachers and students are less favorable to instructional principles that place more emphasis on student autonomy (Lau, 2011; 2013). Classical Chinese (CC) is a written form of old Chinese. Due to the difficulties students experience in CC reading, it is more demanding for them to develop SRL in CC reading. Against this background, an intervention program which integrates in-class SRL instruction and out-of-class e-learning activities based on the theoretical model of flipped classroom is proposed to enhance Hong Kong students' learning of CC reading in a holistic approach.

2. Background and the Theoretical Foundation of the Intervention Program

2.1 *Using SRL Instruction to Enhance Classical Chinese Learning*

SRL represents an effective form of learning that involves metacognition, motivation, and strategic actions (Zimmerman, 2000). Zimmerman (Schunk & Zimmerman, 1997; Zimmerman, 2000) has suggested that learners develop self-regulatory skills as they move through four levels: observational, emulation, self-controlled, and self-regulation level. Social cognitive theorists emphasize the importance of environmental factors in shaping students' approaches to learning. Based on the findings of previous studies (e.g., Housand & Reis, 2008; Lombaerts, Engels, & van Braak, 2009; Perry, 1998; Stoeger, Sontag, & Ziegler, 2014; van Grinsven & Tillema, 2006), the author developed a "TSAE" framework to

group different effective instructional practices into four principles. “T” refers to the nature of the instructional “Task,” which includes using direct strategy instruction and open tasks to enhance students’ reading ability, facilitate strategy use, and motivation. “S” represents the teacher’s “Support,” which scaffolds students’ development through various levels of self-regulatory skills. “A” characterizes the degree of “Autonomy” that students have in controlling their learning. Finally, “E” refers to the adoption of mastery-oriented “Evaluation” practices and student-involved assessment. In reference to the four developmental stages of SRL, the principles of “T” and “S” play a more prominent role in supporting students toward establishing a solid foundation of learning in the first two levels of SRL. When they attain the two higher levels of SRL, the principles of “A” and “E” are emphasized to offer a high degree of autonomy for students to learn independently.

The TSAE framework was applied in supporting teachers in implementing SRL instruction in Chinese language classes (Lau, 2011; 2013). While these studies supported the positive impacts of SRL instruction on student learning, teachers found it easier to apply the principles with more emphasis on the role of the teacher (“T” and “S”) than giving a high degree of control to students (“A” and “E”). Students were also found to be easily failed to read efficiently without teachers’ constant support. Recently, the author designed a CC reading intervention program based on the TSAE framework (Lau, 2020). Although learning to read CC texts is a core component of the Chinese language curriculum in Chinese societies, Chinese students’ CC reading performance and motivation is unsatisfactory due to the linguistic differences between CC and modern Chinese and their insufficient background knowledge of ancient Chinese culture (Chi & Chiou, 2015; Lau, 2017; 2018). The effectiveness of the SRL-based CC reading intervention program was evaluated in a quasi-experimental study. The study’s findings indicated that the intervention program was more effective than the traditional teacher-centered instruction in enhancing students’ prior CC knowledge and comprehension. However, no significant changes in their strategy use and motivation were found in the quantitative data. While these findings support the feasibility of using SRL instruction to enhance students’ CC reading, the intervention effects might be limited by students’ weak foundation and its short duration.

2.2 Using E-learning to Facilitate SRL and Classical Chinese Learning

With the rapid development of technology, e-learning has been proposed to be an effective way to promote SRL (Anderton, 2006; Johnson & Davies, 2014; Narciss et al., 2007). Since e-learning provides autonomy for students to control their learning (Lee & Tsai, 2011; Sletten, 2017), adding e-learning activities in SRL instruction should be a good direction to increase the degree of “A” and “E” principles and change Chinese students’ reliance on their teachers. Previous studies on TELL have also supported the effectiveness of using e-learning in helping students cultivate positive attitudes toward language learning and improving their performance in learning English (Hsieh et al., 2017; Turan & Akdag-Cimen, 2019) and Chinese as a second language (Tseng et al., 2018; Wang et al., 2018). Although previous e-learning studies were seldom conducted on CC learning, the promising results of TELL studies suggest that e-learning have considerable potential to facilitate CC learning. For example, teaching videos can be used to support students’ learning of CC linguistic knowledge and vocabulary (Chen et al., 2017). Digital games can be designed for students to practice various CC reading skills (Hwang et al., 2012; Lin et al., 2020). The interactive and playful features of e-learning materials and activities can improve students’ motivation in learning CC reading (De Grove et al., 2012).

Despite its many advantages, e-learning can be a double-edged sword for learning success (Lee & Tsai, 2011). While e-learning provides a high degree of autonomy for students to practice SRL, it is more demanding than the traditional learning environment. Students must possess adequate self-regulatory skills to learn effectively in an online environment (Anderton, 2006; Lee & Tsai, 2011; Sletten, 2017). To maximize the benefits and compensate for the limitations of SRL and e-learning, flipped classroom (FC) is adopted as the theoretical framework of the CC reading intervention program to combine these two types of effective learning to achieve a holistic instructional design. FC is a form of blended learning which reverses the traditional teacher-centered classroom into student-centered learning by having students study content material prior to class through online learning to free up in-class time for more interactive and higher-level learning activities (Berrett, 2012; Fulton, 2012). Compared with solely online learning, FC places more emphasis on the teacher’s role as a facilitator to enable students to perform SRL (Johnson & Davies, 2014; Sletten, 2017). While out-of-class e-learning activities of FC have always been criticized as focusing on low-level learning tasks (Blau &

Shamir-Inbal, 2017; Lo & Hew, 2017), this problem can be avoided by applying the SRL instructional principles in designing the out-of-class e-learning activities.

3. Instructional Design of the Intervention Program

3.1 Theoretical Framework of the Program Design

By adding a new component of out-of-class e-learning activities, this paper proposes a new CC reading intervention program aiming to extend the author’s previous intervention study (Lau, 2020) on using SRL instruction to enhance Hong Kong students’ CC learning. The design of this new intervention program refers to the four-level model of SRL development, the TSAE framework of SRL instruction, studies on TELL and CC reading reviewed above. A “Re-designed model of flipped learning (RDFC model)” proposed by Blau & Shamir-Inbal (2017) is used as a holistic framework to integrate different types of in-class instruction and out-of-class e-learning activities in the program. Differing from the traditional FC model in which the learning of new content mostly occurs through pre-class video watching, this model promotes students’ active learning in both in-class and out-of-class settings, with knowledge construction taking place before, during, and after the lessons (Figure 1).

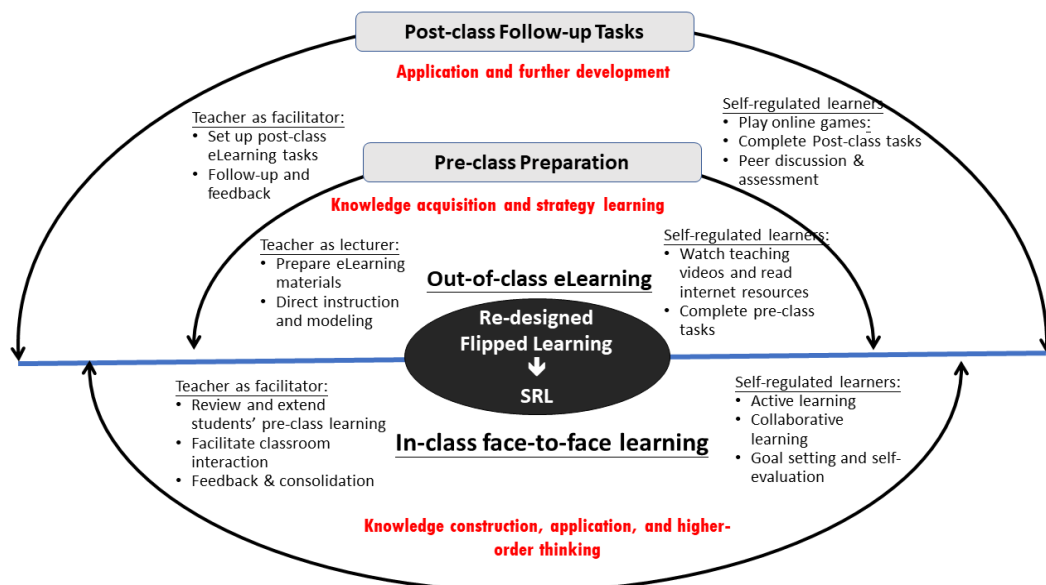


Figure 1. The Theoretical Framework of the Intervention Program (adapted from the RDFC model).

3.2 Description of the Instructional Design

The intervention program will be integrated into the experimental schools’ regular Chinese language lessons for two years. With reference to the four developmental stages of SRL, the program is divided into four phases. In each phase, students learn new knowledge and strategies through pre-lesson e-learning activities to free up in-class instruction time for more interactive and higher-level learning activities. Post-class e-learning activities are designed to facilitate students’ application and further development of their learned knowledge and strategies through more advanced learning tasks. The importance of different SRL instructional principles is adjusted according to students’ developmental stages of SRL skills.

3.2.1 Phase 1: Observation Level

SRL Instructional Principles: Focus on building up students’ foundation on CC reading and emphasis the supportive role of the teacher.

- **T:** All learning materials are selected based on a humanistic theme of filial piety to enhance students' background knowledge of CC reading. Different types of CC word interpretation (WI) strategies are taught to students to enhance their word- and sentence-level reading ability. Interesting materials and diversified learning activities are used to facilitate students' learning and application of the knowledge and strategies and to enhance their motivation.
- **S:** Teachers teach and model the use of different strategies in the teaching videos. They also check their students' understanding of the strategies, provide constructive feedbacks to improve their strategy use, and facilitate their active participation in the in-class activities.

Flipped Classroom Design:

- **Pre-class e-learning:** Students watch online teaching videos to learn WI strategies and browse the web materials to learn the concept of filial piety to prepare for in-class discussions.
- **In-class learning activities:** Teachers follow up and extend students' pre-class learning. Simple interactive activities are used to facilitate students' application of the learned knowledge and strategies in translating the CC words and achieving basic understanding of the CC texts.
- **Post-class e-learning:** Students practice the WI strategies in an online game platform.

3.2.2 Phase 2: Emulation Level

SRL Instructional Principles: Focus on building up students' foundation on CC reading and emphasis the supportive role of the teacher.

- **T:** All learning materials are selected based on a humanistic theme of learning attitudes. Different types of text comprehension (TC) strategies are taught to students to enhance their text-level reading ability. Interesting materials and diversified learning activities are used to facilitate students' learning and application of the knowledge and strategies and to enhance their motivation.
- **S:** Teachers teach and model how to use different TC strategies in the teaching videos. They also check their students' understanding of the strategies, provide constructive feedbacks to improve their strategy use, and facilitate their active participation in the in-class activities.

Flipped Classroom Design:

- **Pre-class e-learning:** Students watch teaching videos to learn the TC strategies and browse the web materials to understand the attitudes of learning posited by the Confucian scholars.
- **In-class learning activities:** Teacher follow up and extend students' pre-class learning of TC strategies. Interactive and high-level activities are used to facilitate their application of the learned knowledge and strategies in achieving in-depth and higher-level comprehension of the texts.
- **Post-class e-learning:** Students search real-life examples in web and apply the TC strategies and the cultural knowledge in analyzing and discussing the examples.

3.2.3 Phase 3: Self-control Level

SRL Instructional Principles: Focus on students' high-level CC comprehension ability and gradually shift the responsibility from the teacher to students.

- **T:** All learning materials are selected based on a humanistic theme of morality of teachers. Students integrate all knowledge and strategies learned in the previous phases to independently read the texts. Interesting materials and diversified learning activities are used to facilitate their application of the cultural knowledge and strategies, and to enhance their motivation.
- **S:** Teachers facilitate students' active participation in the in-class activities and give constructive feedbacks to them after the activities. Teacher assistance is only provided to students when needed.
- **A:** Most learning activities are student-led. Students can choose different knowledge, strategies, and ways freely to complete the learning tasks.
- **E:** Open and authentic tasks are used to assess students' high-level comprehension. Self- and peer evaluations are added in this module.

Flipped Classroom Design:

- **Pre-class e-learning:** Students browse the web materials to understand the morality of teachers in traditional Confucian culture and apply all learned knowledge and strategies to complete a pre-class assignment.
- **In-class learning activities:** Interactive and high-level activities are used to facilitate students'

application of the learned knowledge and strategies in achieving in-depth and higher-level comprehension of the texts. Teachers guide students to set goals for this module, monitor and evaluate their learning progress and performance.

- **Post-class e-learning:** Students search real-life examples in web, analyze the examples using the learned strategies and cultural knowledge, upload their assignments to an online discussion forum for peer evaluation, and participate in various online discussions.

3.2.4 Phase 4: Self-regulation Level

SRL Instructional Principles: Focus on students' high-level CC comprehension ability and emphasis the active role of the students.

- **T:** Two CC texts with different perspectives on the Confucian views on the human nature are taught to students. Each student group are required to choose a CC text to discuss further the argument of human nature, make a pre-class video introducing the self-selected CC text, and design interactive in-class activities for other classmates to learn and discuss the text.
- **A:** Besides the first two CC texts, all learning materials are chosen by students and all learning tasks are led by students.
- **E:** Authentic and performance-based assessments are used to evaluate students' performance in the pre-class videos and in-class learning activities. Self- and peer evaluations are integrated into the learning activities.

Flipped Classroom Design:

- **Pre-class e-learning:** Students complete an online planning form to set goals and make concrete plans for the module. Each group is responsible to make a pre-class video and watch other groups' videos to prepare for in-class discussions.
- **In-class learning activities:** Each group leads interactive in-class activities for other classmates to learn and discuss their self-selected text. Teachers provide feedbacks to students and facilitate their consolidation of learning.
- **Post-class e-learning:** Students search real-life examples in web, analyze the examples using the learned strategies and cultural knowledge, upload their assignments to an online discussion forum for peer evaluation, participate in various online discussions, and complete an online self-evaluation form to reflect whether they have achieved all the goals and areas for improvement.

4. Conclusion

This paper proposes to integrate SRL and e-learning based on the RDFC model to form a holistic design of an CC reading intervention program to gradually guide students' development of SRL through the observational, emulation, self-controlled, and self-regulation levels. Unlike previous studies that adopted either in-class instruction or e-learning to enhance students' SRL, the intervention program combines both forms of effective learning to overcome the problem of a lack of student autonomy in traditional CC reading instruction and to provide sufficient teacher support for students when they have not fully developed into self-regulated learners. The intervention program will be implemented among Hong Kong junior secondary students in the academic year of 2021-22 and 2022-23. The effectiveness of the program in enhancing students CC reading will be examined using a quasi-experimental design. Quantitative and qualitative methods, including reading tests, questionnaires, interviews, and classroom observations, will be used to collect data for evaluating the program effectiveness and exploring teachers and students' perceptions on the program. The results should shed light on the possibility of combining SRL and e-learning to achieve greater positive effects in an unexplored area of language learning.

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