

Exploration of Technology-Mediated Signature Pedagogy for English Grammar Learning in Elementary School Education

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Abstract: This study aims to explore a signature pedagogy using two selected types of free digital resources for supporting English as Second Language (ESL) learners at the elementary school level to learn grammatical knowledge of English grammar. Through a combination of qualitative and quantitative methods, this study will progressively design, evaluate and then establish a signature pedagogy that fully exploits the use of free digital resources for learning elementary English grammar. A twofold documentary analysis will be conducted for the design of the target signature pedagogy. To evaluate the effectiveness of the designed signature pedagogy in the real classroom environment, two classes of Grade 4 ESL students will be subsequently invited to a one-month trial teaching. Students in the experimental group will learn the target topic under the designed signature pedagogy; while students in the control group will learn under traditional classroom teaching approach during the trial teaching period. This study will conduct attainment tests, classroom observations, questionnaire survey and semi-structured interviews to investigate the impact of the designed signature pedagogy on the achievements, processes and perceptions of students in the learning of elementary English grammar. This study will finally advise a signature pedagogy potential to maximize the effectiveness of free digital resources on the learning of elementary English grammar among ESL learners.

Keywords: Elementary school education, English, grammar, signature pedagogy, technology-mediated

1. Research Motivation

The trend toward the integration of information and communication technology (ICT) into the delivery of English Language curriculum has spread over the world for decades ([1]; [2]). The development of grammatical knowledge of English Language is important for English as Second Language (ESL) learners at the elementary school level to advance their learning of the language. Therefore, topics about grammatical knowledge such as tense and agreement are essential components in the English Language curriculum for ESL learners at the elementary school level around the world.

Nowadays English teachers over the world prefer using free digital resources, ranging from static PowerPoint slides to interactive subject-related websites, available on the Internet to promote ESL learners at the elementary school level to learn grammatical knowledge of English Language on both the individual and group bases. This drives

researchers in the field of ESL to call for more attention to the investigation of meaningful pedagogies with the use of free digital resources on the Internet in ESL classrooms ([3]; [4]).

2. Research Plan

This study aims to explore a signature pedagogy that maximizes the potential of free digital resources for supporting ESL learners at the elementary school level to learn English grammar. In line with the trends in the use of free digital resources in ESL education, the significant pedagogy designed in this study focuses on the use of two types of free digital resources, namely online learning websites and online communication tools. Three research questions are made for this study:

- (i) What are the achievements of ESL learners at the elementary school level toward English grammar learning under the designed signature pedagogy?
- (ii) What are the processes of ESL learners at the elementary school level toward English grammar learning under the designed signature pedagogy?
- (iii) What are the perceptions of ESL learners at the elementary school level toward English grammar learning under the designed signature pedagogy?

This study will adopt a combination of quantitative and qualitative methods to explore the target signature pedagogy. At the first stage of this study, the potential signature pedagogy will be designed for supporting ESL learners at the elementary school level to learn grammatical knowledge of English Language. A twofold documentary analysis will be conducted to inform the formulation of the target signature pedagogy. The first documentary analysis will focus on academic work related to English grammar learning in elementary school education. It aims to gain insights into a list of the target two types of free digital resources that is considered constructive for learning elementary English grammar. The second documentary analysis will focus on academic work related to pedagogical use of digital resources for English grammar teaching in elementary school education. It aims to gain insights into a range of technology-mediated pedagogical strategies that is considered suitable for teaching elementary English grammar. Based on the results of the documentary analysis, a signature pedagogy using potential free digital resources for enhancing English grammar learning and teaching in elementary school education will be designed for further evaluation.

At the second stage of this study, the designed signature pedagogy will be evaluated in the real classroom environment. An elementary school that has rich experience in IT in education will be purposefully sampled in the author's home city as the partner school for this study. A trial teaching in the form of one-month summer supplementary course, which amounts around 20 one-and-a-half-hour lessons, will be arranged in the partner school. Two classes of Grade 4 students, of each consists of around 30 students with similar learning ability, will be randomly selected and then assigned to the experimental and control groups. During the trial teaching period, students in the experimental group will be grouped into pairs to learn English grammar under the designed signature pedagogy, which emphasizes the use of the selected two types of free digital resources with tailor-made learning worksheets. Students in the control group will also be grouped into pairs to learn under traditional classroom teaching approach, which emphasizes the use of traditional learning materials such as textbooks and worksheets. In each lesson students in both the experimental and control groups will first learn the target knowledge from class teaching

and then explore the target knowledge with the assigned learning materials in pairs. The author will take charge of the classroom instruction for the one-month trial teaching.

3. Research Method

Four methods will be adopted in the evaluation work to investigate the effect of the designed signature pedagogy. First, students of both the experimental and control groups will sit for identical pre-test and post-test ([5]) before and after the trial teaching, respectively. The test papers will include a series of questions that assesses knowledge of the students about key grammatical knowledge of English Language, such as tense and agreement. Second, an uptake analysis ([6]) will be conducted to investigate the effect of the designed signature pedagogy on the learning process of students in the experimental group. A number of student groups which amounts about one-fifth of the students will be randomly selected in the experimental group. The selected student groups will be observed and videotaped in all lessons throughout the teaching period for collecting data on the learner-learner and learner-technology-learner interactions in collaborative learning activities. A systematic analysis of the modes of uptakes will follow to trace the learning process among students under the designed signature pedagogy.

Third, a questionnaire survey ([5]) will be conducted at the end of the trial teaching. All students in the experimental group will be asked to complete a self-administered questionnaire to indicate their perceptions of the implementation of the designed signature pedagogy for English grammar lessons. Fourth, one-fifth of the students in the experimental group will be randomly selected for the semi-structured, individual interviews ([5]) to further investigate their perceptions of the implementation of the designed signature pedagogy. The selected students will be asked to describe the changes in their process, motivation and achievement in the learning of English grammar through the lessons that implement the designed signature pedagogy. The evaluation results obtained at this stage will contribute to the establishment of a signature pedagogy that uses free digital resources for maximizing the learning effectiveness among ESL learners in English grammar learning in elementary school education.

4. Research Contribution

This study will make two contributions to the research on technology-mediated pedagogy in ESL education in future.

Firstly, this study can provide English teachers with insights into the innovative design of pedagogical interventions for the teaching of the target topic. The research outcome of this study will be a signature pedagogy potential to maximize the effectiveness of free digital resources on the learning of elementary English grammar among ESL learners. The notion of signature pedagogy refers to a collection of discipline-specific teaching methods that focus on preparing learners to perform and think like the experts in the target discipline ([7]). Through the routinized approach to classroom teaching, a signature pedagogy could promote learners to habitually bridge abstract knowledge and regular practice for the deep learning of core knowledge in the target discipline. The implementation of significant pedagogy is regarded as important in the learning of rule-based topics. It is therefore good to implement significant pedagogy in the teaching of English grammar, which is a topic comprised of language rules. Currently, however, there is a lack of research on identifying signature pedagogy in the field of ESL education. The research outcome of this study can help address such limitation, because it will advise practical ideas for supporting English

teachers to design topic-specific methods that effectively use free and relevant digital resources for teaching the fundamental knowledge and the acts of process for developing grammatical knowledge of English Language.

Secondly, this study can provide ESL researchers with insights into the comprehensive analysis of pedagogical interventions for the teaching of the target topic. The research design of this study will include an uptake analysis of data collected from classroom observations. Uptake analysis qualitatively investigates different categories of verbal and non-verbal interactions in collaborative learning processes of which learners learn with technology ([6]). It focuses on the deep interpretation of the dynamic relationships between all learner-learner and learner-technology-learner interactions in a computer-supported collaborative learning process, which is commonly found in ESL classrooms. Currently there is a lack of ESL research studies which include uptake analysis for a comprehensive analysis of qualitative data on the classroom learning process. The research design of this study can help address such limitation, because it will conduct an uptake analysis of all categories of interactions among the ESL learners at the elementary school level in English grammar learning.

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