

ENHANCING STUDENTS' ENGLISH READING COMPREHENSION USING GRAMMAR INTERVENTION PBL AT MIDDLE SCHOOL

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ABSTRACT – This research explores the implementation of grammar intervention problem-based learning(PBL). This research was conducted in Sichuan Province, China, taking 60 tenth-grade students as the sample from Jiangwai Middle School and an English teacher as a participant. Observation, questionnaires, and interviews were used for data collection. The data were analysed using Miles and Huberman's(1984) four types of analytical activity and presented descriptively. The Informal Reading Inventory (IRI) shows that there was a significant improvement in student's English reading comprehension after using grammar intervention in PBL pedagogy. The implementation strategy was discussed, and it can be used to enhance middle school students' English reading comprehension.

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INTRODUCTION

English is one of the main subjects in China from elementary school until college level. According to the requirements of the Education Ministry of China, students should master four primary skills in English learning, namely listening, speaking, reading, and writing. The postulation of standard and basic competencies in education levels, such as junior and senior high school levels, states that learning English enables students to understand English texts. Stone (2009) states that reading is a fundamental goal that students must master to be successful in school and life. Reading comprehension is vital because failure occurs when one learns to listen or to read but still has a problem understanding what is read and heard.[2]

To enhance middle school students' English reading comprehension, some empirical research already suggests that using Problem-Based Learning (PBL) can (be) an effective solution [3]. Mislana et al. did research in 2020 on the application of PBL through storyboards to improve the reading achievement of 10th-grade students, and the result shows that applying the PBL model could improve reading achievement (Mislana et al., 2020). Reading comprehension failure still occurs when one learns to listen or to read but still has a problem understanding what is read and heard.[2] The author searched "PBL English reading" on www.sciencedirect.com, and there were 492 results. However, most of them are about the rationality and application strategies of PBL in English reading classes. For example, Burhan Fathurrohman has done an explorative study on the implementation of Problem-Based Learning in teaching reading. He explores the implementation of problem-based learning (PBL), aspects of PBL, and teacher's and students' perceptions of PBL. The role of grammar in reading has not received much attention from researchers (Alderson, 1984, 2000; Urguhart & Weir,1998; Nassaji,2007; Shiotsu & Weir, 2007). There are three reasons for this problem. The first reason is that reading is regarded as a receptive language skill for comprehending the messages of the text. Therefore, knowledge of structure was often ignored (Urguhart & Weir, 1998). The second one is that Communicative Language Teaching is the dominant teaching theory in the past 30 years, and it emphasises communicative function while downgrading the need to address the role of grammar (Han & L'Angelo,2009). The third one is the PBL approach itself, which features a learner-centred, problem-based, and small-group pedagogy.

But the adoption of PBL in middle school English reading courses is heavily influenced by the PBL adoption in tertiary education in which teachers over-emphasize students' involvement but neglect student's real understanding of English articles, compared with the knowledge of students in a conventional learning environment (Filip et al., 2003). Chinese researcher Fengjuan Wang holds that some teachers tend to neglect grammar teaching, which is regarded as inherently "dull" or "old fashioned" [6]. Nurul Iskandar points out that "middle school students are different from college students. When they are reading, the provision of scaffolding is necessary for students who experience problems in reading comprehension" [3]. The Structural Deficit Hypothesis (SDH) holds that troubles

in the acquisition of reading are caused by syntactic deficiencies (Stein et al., 1984; Bowey, 1986a, 1986; Deutsch & Liteman, 1990; Menyuk et al., 1991; Scarborough, 1991). According to SDH, the deficiencies of grammatical knowledge and processing ability affect text comprehension. It is also believed that syntactic knowledge helps reading comprehension. Koda (2005) attributes all difficulties readers have to the absence of linguistic knowledge.

The modern construction theory believes that learning is a process of active construction learning based on knowledge and experience [4]. According to Mousavian Guo, reading comprehension is an active process in which the reader uses the information in a given text to construct the meaning. Reading comprehension is a process that involves reasoning and recalling memory in an effort to find and understand the information that is communicated. The idea of reading comprehension is also about finding and grasping the information contained in the reading texts. Reading comprehension is vital because failure occurs when one learns to listen or to read but still has a problem understanding what is read and heard.[2]. The second problem is that, influenced by Communicative Language Teaching and the PBL teaching model, many teachers neglect grammar teaching in English reading courses. Thus, grammar becomes a barrier to reading comprehension. Actually, grammar teaching is not contradictory to PBL. It is a misunderstanding of PBL to exclude grammar teaching. Although this phenomenon exists in English reading teaching practice, there is little research about grammar intervention PBL in English reading teaching.

This study explores the impacts and implementation of grammar intervention problem-based learning (PBL) and teachers' and students' perceptions of grammar intervention PBL.

There are three overarching goals of a good introduction: 1) ensure that you summarise prior studies about the topic in a manner that lays a foundation for understanding the research problem; 2) explain how your study specifically addresses gaps in the literature, insufficient consideration of the topic, or other deficiency in the literature; and 3) note the broader theoretical, empirical, and/or policy contributions and implications of your research.

LITERATURE REVIEW

An Overview of Literature Review

The author has input "PBL English reading" on www. science direct.com, and 474 articles have been found. PBL has increasingly been a research hotspot. This research on PBL in English reading can be divided into two categories. The first one is about the implementation of PBL in English reading teaching. Burhan Fathurrohman et al. invested in how PBL is implemented in the teaching of English reading skills to tenth-grade students [1]; they add that reading comprehension is the next level of reading because it deals with the contexts of text, grammar, vocabulary and so on [1]. Nurul Iskandar et al. argued that because "the students can solve problems after getting the right help from an adult or a friend [3], the provision of scaffolding is needed for students who experience problems in reading comprehension, in order to define the meaning of words phrases and sentences " Robyn Lonergan et al. use quasi-experimental, field study to show that careful scaffolding within the unit, specific training, and graded practice in goal-relevant processes of problem-solving and self-regulation may be necessary prior to the commencement of the unit. [5]. Several research shows that grammar intervention is a necessary part of the English teaching PBL curriculum.

Research on grammar teaching has a long history. Generally speaking, there are two branches holding different ideas. Researchers of the first branches avoid talking about grammar under the supposition that grammar teaching does no good to students' communicative competence [6]. They are supported by the communicative approach, which was introduced to China in the 70s of the 20th century. Influenced by the communicative approach, most teachers tend to neglect grammar teaching, and they regard it inherently "dull" or "old-fashioned." Researchers of the second branch argue for the "reposition grammar teaching for a comprehensive understanding of the necessity of teaching grammar" [6].Hymes(1972) puts forward the concept of "communicative competence" and argues that" communicative competence" should include "linguistic performance" while the language is used; both sides of communication need to know not only whether the structure of communication

words is correct or not, but also the feasibility, appropriateness and purpose of the communication words in the particular linguistic context[6]. Kobayashi (2002:210) argues that a certain proficiency level is needed on which to base an overall understanding of the text, which, in turn, may confirm a concept of linguistic threshold. As Shiotsu and Weir (2007) argue, “syntactic knowledge remains one of the deciding factors in the performance on texts reading comprehension (especially) for learners up to certain level” [7]

Analytical Features of a Literature Review

The research below shows that there is no fixed implementation model. In order to get the best effect of PBL, teachers should adjust the implementation of PBL according to the actual situation of students. Teachers could make their teaching pedagogy either pure PBL or hybrid PBL lecture intervention PBL or grammar intervention PBL.

Researchers have tried to define and characterise a variety of PBL models using diverse sets of variables. Cho stated that Full PBL has two distinct characteristics: 1) no lectures or similar forms of knowledge transmission, and 2) learners are required to solve ill-structured problems that are the start of PBL (Cha et al., 2015). For instance, Hmelo-Silver offers three PBL instructional approaches in terms of their format and tools used--PBL, anchored instruction and problem-based science. Harden and Davis (as cited in Cho et al., 2015) state that self-directedness and problem structuredness are two fundamental variables of PBL shaping the format of its implementation. Based on the two-dimensional spectrum of these variables, Hung (as cited in Cho et al., 2015) states that PBL is “a range of different approaches from Pure (Full) PBL to lectures with problem-solving activities”, which gives a very broad definition of PBL. In Barrowstaxonomy, using these two variables, PBL is classified into six categories. 1) Pure (Full) PBL, 2) hybrid PBL, 3) anchored instruction, 4) project-based learning, 5) case-based learning and 6) lecture-based with problem-solving activities. The highest level of self-directedness is in the case of Full PBL, and the lowest one is during lecture-based PBL with problem-solving activities. The problem appears in the continuum from well-structured for lecture-based PBL with problem-solving activities to ill-structured for Full PBL.

Evelina Jaleniauskiene stated, “PBL can be used within a conventional curriculum by changing parts of an existing course and thus making it a hybrid (EVELina Jaleniauskiene, 2016, p.273). Thus, teachers should adopt a suitable model of PBL in accordance with the specific situation. The research above shows that there is no fixed implementation model.

There exist two major problems in current PBL in English reading teaching. First, English reading courses in junior high school are heavily influenced by the PBL adoption in tertiary education in which teachers over-emphasize students’ involvement but neglect student’s real understanding of English articles, compared with the knowledge of students in a conventional learning environment (Filip et al., 2003). Second, when implementing PBL in middle school English teaching, most teachers had designed problem-solving and authentic activities in the classroom, which take a large portion of the English reading class. They neglect grammar lecturing, which helps students construct the meaning of articles in a PBL setting. They consider it not a PBL model if they transmit grammar knowledge directly in English class. There is much research on the implementation of PBL in English reading, but few have focused on the Grammar intervention of PBL in English reading in middle school.

METHODOLOGY

Method

The research was explorative research. The methodology was qualitative. Instruments questionnaire, on, questionnaire and interview are used. The author proposes an implementation of grammar intervention PBL in middle school English reading. In conducting the research, the researcher used Classroom Observation Sheet. The observation was focused on PBL learning stages, teachers’ behaviour, and students’ behaviour. In addition to observation, the researcher used a questionnaire. The questionnaire was focused on students’ test scores, learning activities, teacher’s role, students’ role, and

perceptions about PBL. The last instrument used was an interview. The interview was held with the English teacher in the form of a semi-structured interview.

Data Collection

This study uses purposeful sampling. The participants were 60 10th-grade students in Jiangyou Foreign Language Middle School in Sichuan Province, which is located in the southwest part of China and has the largest population in China. There are three types of data obtained, including observation (to observe the experimental class and controlled class and note any important data from the teaching and learning process using the Classroom Observation Sheet), questionnaire (related to students' perceptions of PBL and Grammar Intervention PBL), and interview (interviewing the teacher about her using of PBL in her teaching of descriptive text). The data are analysed using Miles and Huberman's (1984) four types of analytical activity and presented descriptively. The Informal Reading Inventory (IRI) is used. The qualitative data collected from the pre- and post-tests are statistically analysed.

RESULTS

The pre-test scores for both groups are evaluated with an independent samples t-test. The result reveals that there are no statistically significant differences between the groups ($t=0.183$, $p=0.856 > 0.05$). The two groups' knowledge of the target reading was thus similar prior to the treatment.

Table 1 presents the descriptive statistics results of the post-test, including the mean scores and SDs and the results of the independent samples t-test. In Table 1, the Grammar Intervention PBL group's mean scores and total mean scores are consistently higher than those of the PBL. However, the results of the t-test revealed that no significant differences are present between the mean scores or the total mean scores of the two groups for the three units.

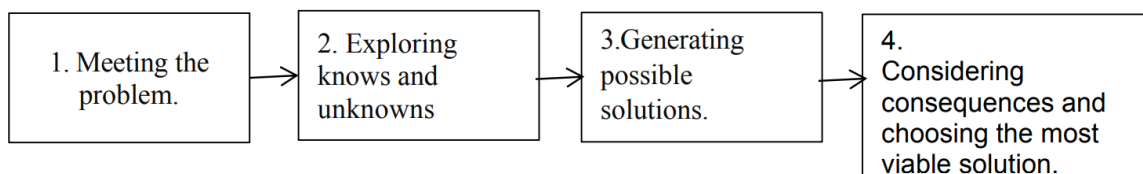
DISCUSSION

The Researchers (Boud, as cited in Coffin, 2014; Savin-Baden, 2000) admit that PBL is very flexible and can have various combinations of design variables depending on the discipline where it is implemented.

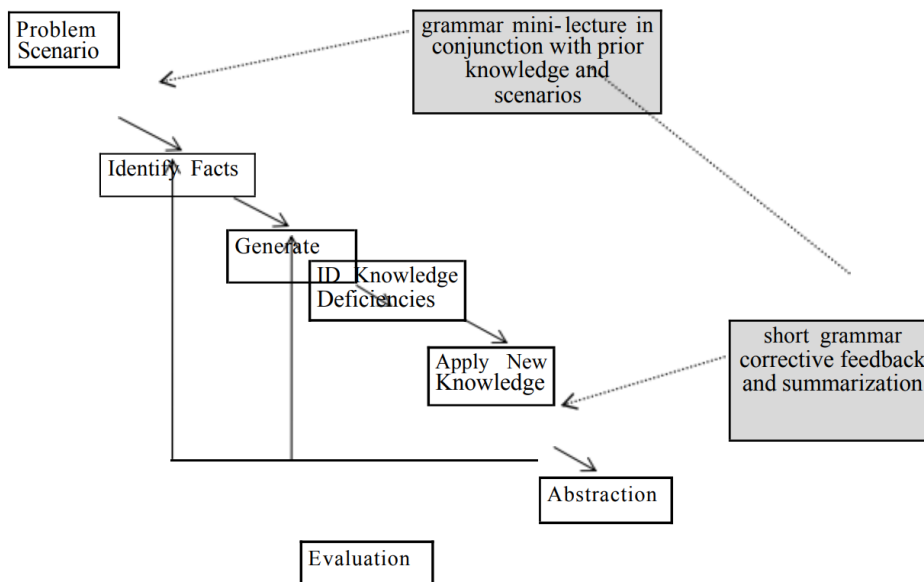
Anthony applied PBL to English for a specific purpose, and he proposed the process of PBL as follows: Students were assigned to small working groups.

- (a) The learning process started with the presentation of a problem.
- (b) The facilitator helps students to discuss to get additional information.
- (c) The students did research for additional information.
- (d) Several days later, students gathered to share what they had learned.
- (e) Students reconsider their assumptions and generate new ones in light of their newly gained knowledge.

Mathews-Aydinli claimed that the adoption of PBL contains four steps. They are as follows.



Based on Mohsen Salari's finding that " a mixed or combined approach of PBL might work better than FPBL (Full PBL)"(Mohsen Salary et al., 2018, page number), with reference to HmeloSiver's model for the application of Problem-based learning(Hmelo Silver, 2004, page number) and Hung's 3C3R model to employ PBL(Hung, 2006, page number), in consistency with elaborations on the flexibility of incorporating grammar teaching into PBL proposed by researchers including Ning Xiaojie, Song Haitao, Xu Ke and Ding Changhao, a grammar intervention PBL model is proposed as below.



In this grammar intervention PBL model, the teacher's grammatical lecturing is added to the PBL model. When students are exposed to some PBL trigger problems, teachers will present a grammar mini-lecture in conjunction with students' prior knowledge and scenarios. After students find solutions to the PBL problems through analysis, discussion and learning, teachers will give a short grammar corrective feedback and summarization. The rest of the procedures were completed as in the PBL strategy under the guidance of teachers as facilitators.

CONCLUSION AND IMPLICATIONS

Problem-based learning(PBL) contextualises students in an authentic world. It was first applied in American medical education and then widely utilised in other fields and regions. PBL is a new pedagogy which requires changes, including student-centred classes, students working in groups under the guidance of a tutor, teachers as facilitators or guides, and authentic problems as PBL triggers to achieve knowledge, problem-solving skills, and self-directedness.

Researchers have proposed many adoption strategies for PBL. However, no research has been carried out to compare the outcome of the application of Full Problem-Based Learning (FPBL) and Grammar Intervention Problem-Based Learning (GIPBL) strategies in English reading courses. In addition, no research has yet been done on the relevance of cognitive load theory and instructional efficiency in junior high school English reading courses in China.

In order to fill this gap and to improve teaching and learning in English reading courses at junior high school, based on Mohsen Salari's finding, the author proposed a grammar intervention PBL model which incorporates grammar teaching in PBL. The author proposed that The PBL model that includes grammar teaching is better than the PBL model that does not include grammar teaching. And it can improve middle school students' English competence.

This paper compares the effects of two kinds of middle school English reading teaching in PBL mode through experiments. This paper argues that grammar teaching is a necessary part of middle school English reading teaching under the PBL model. The PBL model with grammar teaching intervention is

better than the PBL model that does not include grammar teaching. And it can improve middle school students' English competence. a.

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