

Exploring the Gap Between Grammar Knowledge and Written Production in Chinese Senior High EFL Classrooms: A Proceduralisation Perspective

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Abstract. This paper investigates the continuous discrepancy between knowledge of declarative grammar and written production in Chinese senior high school English as a Foreign Language (EFL) classrooms. According to the theory of cognitive skill acquisition and the shift from declarative to procedural knowledge, this paper investigates why learners may have difficulty applying explicitly learned grammatical rules in spontaneous written production. Form-oriented teaching can help students learn the grammar explicitly, but many students are still unable to apply this knowledge correctly and flexibly in extended writing. Based on the above analysis, some traditional teaching methods focus on isolated grammar drills and offer fewer opportunities for extended, meaningful practice that supports proceduralisation. In addition, this paper will also examine how prompted output and suitable writing tasks can help learners notice deficiencies in their interlanguage and gradually reorganise their grammatical knowledge. Grammar learning can be viewed as a process of proceduralisation in this paper, and explicit rules gradually turn into more automatic language use; therefore, pedagogical suggestions for classroom teaching are proposed. Integrated task-based writing activities can help learners gradually internalise the explicit grammatical rules in their writing through practice.

Keywords: Grammar knowledge; Written production; EFL classrooms; Proceduralisation; Skill acquisition theory; Second language writing.

1. Introduction

The teaching and learning of English grammar in Chinese senior high school English as a Foreign Language (EFL) classrooms are still subjects of research by applied linguistics and classroom pedagogy. In many Chinese senior high school EFL classrooms, the grammar teaching has often been explicit and deductive. Students are often made to do structural drills, multiple-choice grammar exercises and memorisation-based learning. Therefore, Chinese EFL learners generally have a relatively large amount of explicit, declarative grammatical knowledge. They may be able to explain the rules of grammar and find mistakes in the controlled test items.

A problem that still exists is that many students are unable to apply the grammatical knowledge they have learned in their free-writing. When given the task of writing essays or free-writing, learners may still make syntactic errors that are not in line with the explicit knowledge they have demonstrated in grammar exercises and tests. It can be seen that although the students have learned the rules of grammar in class, they are unable to apply them independently in writing.

The reasons for this difference have not been fully explored in the context of Chinese senior high school EFL writing. Previous explanations have not always fully addressed why high-achieving students in grammar-oriented tests still have difficulty applying their grammatical knowledge in free-form writing. Based on this, it is beneficial to apply cognitive psychology to view language learning not only as the collection of explicit knowledge but also as the gradual proceduralisation of a complex cognitive ability.

Proceduralisation will be used as the primary analytical tool in this paper, and cognitive load, pushed output and task complexity will serve as support. RQ1: Why might the knowledge of declarative grammar not be easily applied in written production by Chinese senior high school EFL students? RQ2: How can proceduralisation explain the gap between explicit grammatical knowledge and

written performance? RQ3: What kinds of classroom practices can help promote the gradual transformation of declarative grammatical knowledge into more autonomous written use? Section 2 introduces the concept of declarative and procedural knowledge, as well as the function of proceduralisation in learning skills. Section 3 presents the defects of form-focused instruction in the context of writing practice. Section 4 introduces how pushed output and task-based writing can support proceduralisation. Section 5 briefly presents the teaching suggestions based on the above.

2. Declarative and Procedural Knowledge Divide

To understand why the students cannot apply the grammar rules in the extended writing task, we need to investigate the cognitive foundations of language learning. The first theoretical foundation of this paper is cognitive skill acquisition theory, and Anderson's ACT-R model is used to explore how explicit knowledge can gradually be transformed into procedural knowledge through practice [1]. Under this system, advanced abilities in writing a foreign language may require transitioning from conscious knowledge to automatic procedural control gradually [1, 8].

Initially, the learners have only acquired explicit declarative knowledge. Declarative knowledge is generally in the form of facts, and it refers to the conscious and explicit "knowing that" a particular grammatical rule exists [2]. When a teacher in a Chinese EFL class explicitly presents the structure of a past perfect conditional sentence and the student can simply memorize it, the learner mainly develops declarative knowledge of the structure. This knowledge is often obtained by conscious working memory, so the retrieval is slower and more susceptible to cognitive overload during difficult writing tasks [6, 10]. When a student is generating new ideas, organising the structure of their essay, and recalling vocabulary at the same time in a writing activity, the working-memory demand may exceed the learner's available attention resources, and it will be difficult for them to retrieve and apply declarative grammar rules consistently [9].

Finally, in terms of language learning, one hopes to achieve automaticity. Procedural knowledge refers to an organised type of "knowing how" to perform a particular skill [2]. As the learner's grammatical knowledge becomes more proceduralised, they no longer need to be aware of the rule consciously and can use syntactic structures with less conscious effort. Thus, it can be concluded that some of the deficiency in EFL writing may stem from the learners' lack of opportunities for application beyond declarative knowledge. Many learners have not been given enough repeated, context-rich and meaningful practice to convert conscious rule knowledge into automatic procedural control [2, 8].

Proceduralisation thus serves as the central explanatory system for this paper. Cognitive load, pushed output and task complexity are not considered separate theoretical directions but as supporting conditions that explain when and how proceduralisation may occur. Cognitive load explains why learners may be unable to use explicit rules when facing difficult writing; pushed output demonstrates that learners are aware of the limits of their current grammatical resources; and task complexity indicates that writing tasks should be introduced gradually. Together, these views show how to convert explicit grammatical knowledge into more automatic written expressions.

3. Limitations of Form-Focused Instruction

The difficulties Chinese senior high school students have in applying grammatical knowledge to writing may be due to some deficiencies in traditional classroom teaching. Many classrooms are still in the form-focused sequence of presentation-practice-production [7]. Although direct teaching of form-oriented content can be used to rapidly transmit the initial declarative knowledge, a noticeable defect may occur in the practice stage.

In many EFL classrooms in China, grammar practice is organised in a relatively controlled way, with highly structured and decontextualised drills, such as fill-in-the-blanks or sentence translation [6]. These mechanical exercises generally do not require attention to meaning or independent idea

generation. Therefore, students are mainly learning to remember the rule in a relatively isolated and low-pressure way [3]. Research on cognitive skills shows that transfer is more likely to occur when the practice conditions are similar to those of the target application [1, 10]. Mechanical drills are far removed from the process of meaning-oriented essay writing, and skills learned in this context may not be readily applicable to extended written works [8].

Therefore, the problem is not that controlled grammar practice is ineffective, but that it may be lacking in corresponding application in actual use. For instance, a student correctly selects the past perfect tense in a multiple-choice question because the sentence already contains an obvious grammatical feature. However, in free writing, the same learner needs to decide on the time relationship, choose suitable words, organise ideas, and ensure coherence all at once. Given the above circumstances, the explicit rule will no longer be an independent item but needs to be retrieved and applied during real-time construction. This difference can help explain why rule-based accuracy in exercises does not automatically result in writing accuracy.

In addition, the traditional error-correction method in L2 writing classes may not help students learn the grammar rules well. Teachers may only correct the surface errors in the students' writing and, in doing so, fail to help the learners learn these grammatical patterns. Corrective feedback can draw attention to linguistic errors, but if it is not followed by revision, output and other meaningful practice, these errors may not be corrected [4]. If correction is not separated from immediate revision and meaningful practice, students may be aware that a correction has taken place, but they will not have sufficient opportunities to modify their developing procedural habits through repeated use. Thus, the traditional classroom mode may lead to a cognitive bottleneck where learners have learned the grammar explicitly but lack opportunities for spontaneous application in writing. Declarative and procedural are concerned with the problem of knowledge representation. Through multiple times of study and application, the separate units of declarative grammar knowledge can become convenient production rules. For example, instead of being aware of the subject, tense, etc., and adding a morphological suffix consciously, a learner can gradually produce the correct third-person singular form more automatically. However, it is unlikely that this process will be achieved through theoretical explanation alone; rather, multiple applications in meaningful and timely writing situations are required [1, 2, 10].

4. Pushed Output And Task-Based Practice

Given the change in knowledge from declarative to proceduralized written application, English as a Foreign Language (EFL) teaching should move away from isolated mechanical drills and offer students more occasions to use grammar authentically in writing. Pushed output and task-based writing are considered here as pedagogical conditions that may support proceduralisation, rather than as independent core theories [5].

Based on the output hypothesis, receiving comprehensible input or completing reading-based exercises may not be sufficient for long-term syntactic development. If the students only read or listen without producing language, they will have fewer chances to notice the deficiencies in their own grammar systems as well [5]. However, when students are asked to produce their own written works, they may be motivated not only by the content but also by the demand for syntactic form. Pushed output can help learners recognise deficiencies in their interlanguage [5]. When a student cannot express an abstract idea in writing, they may learn that their declarative knowledge is insufficient for communicative writing. The above noticing process may help learners organise their own grammar better and gradually shift from using grammar consciously to using it automatically [2-5, 10].

To support proceduralisation, teachers can organise the writing tasks in increasing order of difficulty [9]. If a writing task is too cognitively demanding, for instance, if students need to present an abstract philosophical idea while also learning new vocabulary, their working memory will be largely occupied by content creation, and little attention will be paid to grammatical accuracy [9]. At the same time, organise well-organised task-based writing activities on very familiar thematic content to

reduce extraneous cognitive load and enable learners to focus more on the target grammar. Learners can use the newly learned grammar to focus on writing at that time. Teachers can give students some interesting writing tasks under suitable cognitive load control to help them move from being aware of the rules in their minds to using them automatically in writing. For example, after learning about attributive clauses, students can first complete a short sentence-combining exercise and then write a paragraph about a school event. The teacher can require the use of several attributive clauses, give specific feedback, and have the students revise their paragraphs. Compared with isolated grammar items, this sequence can better connect explicit rule knowledge to actual written production and is thus more in line with the process of proceduralisation.

Therefore, the proceduralisation-oriented writing cycle can have four stages. First, the teacher briefly introduces the target structure and gives some model sentences. Second, students complete a controlled but meaningful practice activity, such as joining sentences or improving a short paragraph. Third, the students use the same structure in a short communicative writing task on a familiar topic. Finally, they will correct the writing based on the specific comments for that structure. This cycle avoids presenting grammar as a single rule and creates several occasions for noticing, producing and revising. Thus, the learners can gradually move from conscious rule recall to automatic control in writing.

The strategic application of cooperative dialogue in pushed-output tasks may also support proceduralisation. When students are paired up and given the task of writing a long-form work together, they may also talk about how to use language during the writing process. Such cooperative talk can help students use their existing knowledge to deal with grammatical choices that exceed their individual working-memory capacity. Based on grammatical hypotheses, discuss syntactic choices and conduct joint-writing experiments to help learners gain better control of the target structures. Participating in these activities will provide some ideas for the students to learn from and help them use English more freely. In line with Swain's idea, cooperative talk offers a place for learners to create language knowledge together through production [5].

5. Conclusion

This paper has investigated the gap between knowledge of declarative grammar and written production in Chinese senior high school EFL classrooms from a proceduralisation perspective. Based on the above analysis, learners may be aware of the grammatical rules but are unable to apply them independently in extended writing because this declarative knowledge has not been transformed into procedural knowledge. Therefore, the problem is not that one lacks knowledge of grammar, but rather a failure to apply that rule knowledge automatically.

The paper has put forward a procedure-oriented approach to address the problem in this way. Cognitive load, pushed output and task complexity can support this view by explaining why isolated drills do not transfer well to writing, and why meaningful output tasks create better conditions for the proceduralised use of grammar. Form-focused instruction is still suitable for teaching explicit rules, but it should be combined with repeated, meaningful and appropriately challenging writing practice.

Therefore, grammar teaching in Chinese senior high school EFL classrooms should be reduced to a lesser extent, and new ways of teaching may be developed. Teachers can design task-based writing activities that have required the learners to use the target structures in actual communication, received targeted feedback, and revised their writing. The above activities can help students apply the new knowledge of grammar in writing more flexibly and correctly.

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