



The Robustness of Incidental Grammar Acquisition through Reading

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Introduction

It has been hypothesized that reading results in the acquisition of all measures of language competence including spelling, grammar, vocabulary, and syntax (Clair, Monaghan, & Christiansen, 2014; Krashen, 1989; Teng, 2018; Wasik, Hindman, & Snell, 2016; Wesseling, Christmann, & Lachmann, 2017). Every time readers read they acquire some aspects of language and the repeated exposure results in the acquisition of complex grammatical structures. This incremental learning, of course, is incidental acquisition in which readers do not know that they are acquiring language, as the acquisition happens involuntarily (Lehmann, 2007; Ponniah, 2011). In opposition to this proposition, the conservative view is that in order to acquire grammar of a second language, conscious learning of explicit rules is mandatory. However, in order to use explicitly-learned grammar knowledge while speaking and writing, three conditions need to be met (Krashen, 1982). First, learners must know the rules, which is problematic for the explicit instruction hypothesis because grammar books do not state all the rules, teachers do not teach all the rules, and the learners neither learn all the rules taught nor remember all the rules that they learned. Second, the learner must focus on form, which proposes a challenge for explicit grammar instruction, because learners generally focus on meaning and, moreover, focusing on form hampers fluency. Third, the learner must have time to apply the rules, but it has been shown that learners may not have time to apply rules in real contexts (Krashen, 2003; Ponniah, 2008a).

Studies on error correction have claimed that error correction using consciously-learned rules negatively affects language output (Ponniah & Krashen, 2008). Truscott (2007), in a meta-analysis, confirms that error correction has negative effects on learners writing ability, and that correction did not help learners improve writing. In fact, reading sentences with errors will negatively affect the language acquisition of learners. If they cannot identify the errors contained in a sentence, they might acquire ungrammatical structures involuntarily by reading, and further it may create confusion in the thought process. Charters (1920) explained that the study of grammar seems to have negligible effects on correcting errors and that it can contribute little to the development of language skills. Further, he claims that there is a noticeable steady increase of skills of lower-grade students before grammar is studied, but after the introduction of grammar instruction in the higher grades, increases in language skills seems decline. Therefore, he suggests eliminating grammar instruction in all grades, and to introduce a method that will have positive effects on language usage.

The skill-building theory claims that learners must first learn the rules of grammar, and then later they can apply them in contexts by tedious drills and exercises. According to this theory, grammatical

knowledge comes from conscious learning, and the comprehension of a text is the result of consciously learned knowledge. This is a delayed-gratification approach to language learning (Krashen, 2004). Despite the difficulties with the skill-building theory, grammar teaching has become an entrenched habit accepted by both teachers and learners, and language learning with little or without grammar is viewed negatively (Murphy & Hastings, 2006; Ponniah, 2008b).

The rules of grammar are very complex in nature and this impels textbook writers to simplify rules in order to make them teachable. As a result of simplifying rules, they can be misstated. For instance, prescriptive grammar textbooks define the singular and plural distinction of pronouns thusly: “A singular pronoun is used to refer to a singular noun... A plural pronoun refers to a plural noun” (Azar as cited in Murphy & Hasting, 2006, p. 10). As Murphy and Hasting (2006) wrote, considering the sentence “John, Mary, Alice and Fred are playing tennis” (p. 10), rewriting the sentence using pronouns will end up with a non-grammatical sentence: “He, she, she and he are playing tennis” (p. 10), as the rule does not allow the use of a plural pronoun ‘they’. Learners learn misstated rules in different contexts and they often assume that they are using consciously-learned rules while speaking and writing, and even when answering grammar questions. In fact, learners have been shown to use subconsciously acquired grammar knowledge in real conversations, and even on standardized language tests. Ponniah (2008a), for instance, in an experimental study, asked his participants to change the sentence “Josephine is not as tall as Joshua” (p. 22) into the comparative form. They changed the adjective ‘tall’ to ‘taller’ even though they had not studied the rule for adding ‘-er’ with monosyllabic adjectives, and they had not used the expression ‘more tall’ in spite of learning the rule which states either ‘er’ or ‘more’ must be added with an adjective when changing into the comparative form. When the researcher asked the subjects why they preferred ‘taller’ and not ‘more tall’, the students said that they had not come across such an expression while reading and listening, supporting the idea that grammar is learnt subconsciously while receiving input in a language.

The human mind/brain is predisposed with universal principles that govern the acquisition of grammar of any particular language through the available environmental input. This input helps individuals to learn a language by switching on/off certain parameters such as head-directionality and case (Chomsky, 2000). For example, a child whose mother tongue is English, primarily a head-initial language, sets its head-directionality parameter to an initial position using the cue from language input. Let us consider a prepositional phrase ‘in Britain’ for illustration. The head of the phrase is ‘in’, and it occurs in the initial position. In the case of Tamil, the prepositional marker comes in the final position and is therefore a head-final language. A child sets these parameters through the input that he/she receives. This is the natural way a child acquires its mother tongue, and it is devoid of any explicit instruction on grammar. Extending the same to second language learning, Krashen (1989) argues that language is best acquired by receiving input. Correspondingly, insights from neuroscience confirm that the brain network is the same for both first and second language use (Kim, Liu, & Cao, 2017). Reading helps in providing the exposure that is closer to the natural way of acquiring a language. Further, readers get exposure to complex syntax and vocabulary (Cunningham & Stanovich, 1998). Learners tend to depend on explicit grammar instruction and rote learning in input-impooverished learning environment, but students who depend on grammar for acquiring language have difficulty learning language (Ponniah, 2008a, 2009).

The human brain is genetically endowed to acquire language and its grammar naturally by exposure (Eagleman, 2011), and making any attempt to learn using explicit rules of grammar will distort learning, as the methods and approaches that endeavor to deduct the properties of language explicitly by segmentation are inadequate (Chomsky, 2000, 2006). It is because grammar books, even in the most-studied languages, scratch only the basic properties of a language. Meaning at a deeper level is not addressed by structuralism, which assumes knowledge of language is developed by drills, training, and repetition—in contrast, it has been found that the principles of deep structures of language are inaccessible for introspection (Chomsky, 2000). It is a fact that first languages are acquired by receiving input in the language. For example, Ponniah (2018) illustrates that a child living in London will acquire English without explicit instruction, and a child in Japan will acquire Japanese in the same way. Similarly, if an adult living in the Tamil speaking province of India migrates to a Hindi speaking state, he will

acquire Hindi as a second language without receiving any explicit instruction, and the acquisition of the second language in this example would be similar to the process of learning a first language. In the input impoverished environment, reading can be used as an effective tool for acquiring grammar and other properties of a second language.

Readers subconsciously acquire grammar while reading, and they are not involved in tedious and strenuous drills for learning grammar while reading (Charters, 1920; Ponniah, 2008a). A case study by Daskalovska (2015) confirmed that extensive reading provided greater gains for students' grammar knowledge than explicit instruction. The subjects of the study read 1415 pages from 15 graded readers. The results of the study confirmed that there was improvement in the use of tenses, place of adverbs in sentences, choice of correct sentences, and the order of adjectives, among other grammar properties. Rodrigo's (2006) experimental subjects, who devoted time for reading and listening alone, had gains in grammar. They were able to judge the grammaticality of different grammatical structures, which confirms that readers can acquire grammar incidentally when focusing on meaning of the text they read "rather than knowing the rule and being focused on the grammar rule" (Ray, 2005, p. 31). Ponniah (2008a) found that readers engaged less with grammar while writing, and non-readers engaged more with grammar while writing, and that the subjects who focused more on the rules of grammar consciously did not perform well in the test. Because the non-readers did not have the required grammar knowledge to answer the questions, they consciously thought about rules, but the learnt rules did not help them to write correct answers.

The affective filter hypothesis states that stress, anxiety, and fear hinder the acquisition of second language (Krashen, 1982). Conscious learning of grammar rules and the effort in recollecting them can cause anxiety among second language learners. Also, the fear of producing grammatically incorrect sentences is prevalent among learners when pedagogy is focused on grammar. With these impediments, learners get demotivated and exhausted, further causing the learning process to be stressful (Krashen, 2008). On the other hand, some readers seldom find reading stressful, since they read texts that interests them. They find the act of reading a pleasurable endeavor.

Since learners are tested on grammar knowledge in standardized tests as a dimension of assessing overall language competence, more explicit grammar is integrated into many curricula to facilitate learning. If reading results in the acquisition of grammar, more reading can be integrated into a curriculum instead of more grammar study. Many studies have demonstrated the effects of reading on language acquisition and vocabulary knowledge (Brusnighan, Morris, Folk, & Lowell, 2014; Li, Constance, & Cho, 2017; Omer, 2014), but only a few studies have discussed the benefits of reading on grammatical competence. Rodrigo (2006) showed that reading with a focus on meaning helped intermediate students acquire grammar incidentally. The subjects of both the experimental and the comparison groups did sustained-silent reading, but the experimental group did additional listening and reading, and in fact the additional reading helped the subjects score higher than the comparison group.

The goal of the present study is to demonstrate that learners can acquire grammar incidentally by reading, and that the acquired grammar can easily be used in context and on standardized tests. The study explains how reading helps in the incidental acquisition of grammar because students from input-impooverished environments in India depend more on explicit grammar instruction for acquiring language, and they fail to acquire language even after studying the language for more than ten years. Moreover, they do not have an awareness that they can acquire language by reading (Ponniah, 2009). They believed that they can acquire language by learning grammar.

Most of the studies on second language acquisition test the language skills of learners with a post-test immediately after an intervention. This helps only in finding their knowledge that is still fresh in mind and it does not help in understanding how much the learners can retain the learnt aspects of language over a period of time. However, the present study employs a test without any intervention, and reflected only the learners' general language ability. The participants are from similar language learning situations. The participants differ only in terms of the frequency of free voluntary reading.

Methods

Participants

The subjects were all the 45 first-year Civil Engineering students from a class at National Institute of Technology, Tiruchirappalli, India, a government institution which has a status of national importance. They were proficient in English as they have cleared the All India Engineering Entrance Examination (AIEEE) to gain entry into the institution, one of the toughest competitive exams for higher education in India. Engineering students were chosen for the study because in India more than 75% of engineering students are not employable because they lack English language skills needed in the professional environment (Aggarwal, 2016).

Procedure

The 45 students were asked to answer two interview questions. These questions allowed the students to be categorized into reader types. The two questions were:

1. *Do you have a habit of reading in English?*
2. *How much time do you spend reading in a week?*

Based on their answers, they were categorized into three groups: non-readers, infrequent, and frequent readers. 33 out of 45 students answered in the affirmative to the first question. Then, according to responses from the second question, readers who spent less than four hours reading a week were categorized as infrequent readers, and those who devoted more than four hours were categorized as frequent readers. Responses to the second question are summarized in Table 1 below.

TABLE 1
Responses to Interview Question 2

Infrequent readers	Frequent readers
1. Yes I read but not much 1-2 hours a week	1. 6-7 hours a week if I have a book to read
2. 1 hour	2. 3-4 hours/week. I read for pleasure
3. An average of 3 hours a week	3. Articles every day of approximately 1 hour and novels around 4-5-hours a week
4. Yes but not often	4. I have been reading from 8th grade. I am a book lover.
5. Mostly in nights only when I am bored	5. Everyday 5-7 hours a week
6. Once in 3-4 days 2hours a week	6. Approximately about 10-12 hours

Discussion with these participants indicated that they did not know that the kind of reading they were doing helped them acquire grammar incidentally, but they believed that reading helped them improve vocabulary. Further, all 45 subjects had learnt the rules of English grammar for more than seven years and they believed such learning would help them acquire language.

The 45 subjects were asked to take a grammar test that contained 60 items. The difficulty level of the questions matched the proficiency test that the Department of Humanities and Social Sciences administers to students for the newly admitted students in the first year of the B. Tech programme. Sample grammar questions included the following:

1. Man is said ___ be ___ social animal. Why should he be compared ___ ___ animal? ___ theory ___ evolution may help us ___ understanding this statement. (Fill in the blanks with suitable preposition/article).
2. If she _____ about his financial situation, she would have helped him out. (know)
3. That is the man _____ grandfather founded Chestnut bisque recipe. (Use appropriate pronoun).

Results

Table 2 below displays data from the test scores, whereas Table 3 presents the outcome of a one-way analysis of variance (ANOVA) which investigates the differences in test results between the three groups.

TABLE 2
Descriptive Statistics of Grammar for the Test scores

Subjects	N	Mean	SD	95% Confidence Interval for Mean		Minimum	Maximum
				Lower Bound	Upper Bound		
Non-Readers	12	23.66	5.03	20.46	26.86	16.00	32.00
Infrequent Readers	16	32.50	7.24	28.63	36.36	18.00	46.00
Frequent Readers	17	37.41	8.96	32.80	42.02	22.00	52.00

The scores of the subjects in the grammar test clearly show that reading contributed to the development of grammar knowledge and this is reflected in the scores of the participants of all the three groups.

TABLE 3
One-way ANOVA Test Scores for All the Three Groups

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	1335.216	2	667.608	11.918	.000
Within Groups	2352.784	42	56.019		
Total	3688.000	44			

The ANOVA shows that the differences in the scores between groups is statistically significant with greater gains for frequent readers.

Findings and Discussion

The results show that frequent readers scored higher on the grammar test on average than infrequent and non-readers, and that the infrequent readers also scored higher than the non-readers. This result was consistent with the comprehension hypothesis that claims language can be acquired by receiving comprehensible input, the volume of which is assumed to be the main difference between the three groups. Perhaps this demonstrates that the grammar of a language can be acquired incidentally while reading, but further investigation is required to solidify this finding.

The students of all three groups received explicit instruction of grammar for more than seven years, but the readers performed better than the non-readers, and there were statistical differences in the scores of frequent readers and non-readers as presented in Table 3. Had explicit grammar instruction alone contributed to the development of language and grammar properties, we could expect that the scores of the all three groups should have been similar. The frequency of reading could be the determining factor for different levels of English grammar acquisition between the participant groups.

In conclusion, the categorization of the students into three different groups as non-readers, infrequent readers, and frequent readers was based on their answers to the interview questions. The higher test scores of the readers reflect the grammar knowledge that they acquired, which was assumed to be acquired incrementally and retained over a period of time through their reading habits. This could be the reason why the scores of frequent readers were significantly higher than the other groups.

The pedagogical implications are if grammar can be acquired by reading for pleasure and information, more reading can be integrated into the curriculum instead of burdening students with more explicit grammar instruction (Krashen, 2004). Language educators and teachers should create a pleasurable in-

class reading environment to encourage learners to read more for pleasure to lower anxiety in the learning environment. This, in fact, not only promotes reading but also helps them develop a habit of reading, and thus they will become autonomous language learners, which should be the goal of all education.

In this study, grammar knowledge was tested without special intervention, and this design addresses one of the drawbacks of many ELT studies that test the knowledge that is fresh in learners' minds immediately after a treatment period. The study assumes to reflect grammar acquired through extensive reading. A possible flaw of the design is a fact that the study compared out-of-school reading of participants with non-readers. It did not have a control group. Future controlled studies that compare both grammar instruction and extensive reading are required to better prove the efficacy of reading compared to explicit instruction.

Another limitation of the study is a fact that the sample size for inferential analysis is too small to prove the superiority of reading over direct grammar instruction but controlled studies (Rodrigo, 2006; Lee & Hsu, 2009) on extensive reading have demonstrated that all aspects of language including complex grammar can easily be acquired by reading.

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