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Effects of Implicit and Explicit Instruction on Learning Adjective Order

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Abstract

This study tests the effect of implicit and explicit instruction in the learning of the order of adjectives for advanced second language learners of English. Ten participants were randomly divided into two groups of five each. The first group was shown grammatically correct and incorrect sentences, but were not given the details as to how the sentences were grammatically correct or incorrect. This was the group that received implicit instructions. The second group was given the same work sheet, but also received explicit instructions detailing the correct order of adjectives. Following two trails rounds, both groups were given tests with 15 tasks to assess correct placement of adjectives in a sentence. Results showed that those who received explicit instructions performed twice as well as those who received implicit instructions, making only five mistakes in total (33%), as opposed to ten mistakes made by those who had implicit instructions (66%). The most common mistakes were related to placement of the adjectives used for "opinion" and "physical quality". The study supported the hypothesis that explicit instruction was more effective than implicit instruction in learning adjective order.

Keywords: Implicit, Explicit, Learning, Instruction, Adjective Order

INTRODUCTION

For years, there has been debate over the best method to teach grammatical rules of a second language (L2). In 2005, the journal 'Studies in Second Language Acquisition' published an issue on implicit and explicit second language learning, in which several authors like J. Hulstijn, Robinson, and R.Ellis presented their views on the implicit- explicit interface. According to Rod Ellis, implicit learning is "subsymbolic" and, explicit learning is "symbolic" as it often requires memorizing certain facts and makes demands on working memory.

The aim of this study is to test the effect of implicit versus explicit instruction and to discover which enables better learning. The hypothesis, based on Robinson's study (1996), is that explicit instruction will provide better results. Robinson in his study in 1996, researched this concept in four groups – the implicit group, incidental group, less explicit and more explicit group, and it was his conclusion that explicit training gave the best results. In this study, in order to test the effects of implicit and explicit learning, we have chosen the less-known grammatical principle of "Adjective Order". This principle determines that adjectives should be placed in a certain order when they come before a noun. While there are many theories as to what the appropriate order should be, this study follows the Cambridge order with an amendment suggested by Rosato (2013) - Opinion>Size> Physical Quality > Age > Shape >Colour> Origin > Material > Type > Purpose. Though there have been several studies testing the effects of implicit and explicit instruction, as well as studies on errors that English speakers make in placing adjectives in the correct order, there are few studies that assess the

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effect of implicit and explicit instructions for the correct placement of adjectives -which is what this study also attempts to do.

In one such study by Hirakawa et al, 'Explicit instruction, input flood or study abroad: Which helps Japanese learners of English acquire adjective ordering?' Japanese learners were taught adjective ordering restrictions. The researchers found that only the group that had explicit instruction improved its scores post-test as compared to both the input flood group or the group that participated in intensive study-abroad programs.

Explicit versus Implicit learning

Ortega (2000) defines implicit learning as "learning without rules" and to Hulstijn (2005), explicit learning is "input processing with the conscious intention to find out whether the input information contains regularities and, if so, to work out the concepts and rules with which these regularities can be captured." He described implicit learning as "input processing without such an intention taking place consciously". Implicit learners are not aware that they are learning while explicit learners are (Ayeni & Ebong, 2016). Ellis (1994, 2005) further distinguishes between implicit/ explicit knowledge and implicit/ explicit learning where the former refers to "the product of learning" and the latter, "the process of learning". Taking into account Schmidt's research, Ellis concludes that there is no such thing as "complete" implicit learning as there is always some level of awareness. He posits that a better explanation is that implicit learning occurs without metalinguistic awareness (involving analysis). In other words, learning takes place without conscious control. Explicit language learning, on the other hand, is conscious and often intentional. Hultsjin (2002) defines it as "a conscious deliberate process of concept formation and concept thinking".

Implicit knowledge, according to Ellis (2005), may be the awareness of whether something is correct or wrong and maybe even the ability to identify how, but without the capacity to verbalise the rules. Implicit knowledge, he says, is procedural knowledge and is available through automatic processing while explicit knowledge is declarative and occurs through controlled processing.

Paradis (1994, 2004) believes that explicit memory is stored over large areas of the tertiary cortex while implicit memory is 'linked to the cortical processors through which it is acquired'. The former involves the limbic system while the latter does not. His evidence is that certain bilinguals who have been in an accident may forget their first language (L1) but can speak haltingly in the second language (L2) they learnt by explicit instruction. While explicit and implicit memory may or may not be located in separate areas of the brain, Bialystok (1982) concludes that L2 learning requires both forms of (implicit and explicit) knowledge.

According to Ellis (2005), implicit instruction is when one provides learners "with experience of specific exemplars of a rule or pattern while they are not attempting to learn it" (e.g. they are focused instead on meaning). As a result, they internalize the underlying rule/pattern without their attention being explicitly focused on it. In implicit instruction, the learning environment is replete with the target feature but the learners' explicit attention is not drawn to it. Explicit instruction encourages metalinguistic awareness of a rule and requires direct intervention. Learners may be provided with the rule or be assisted in discovering the rule for themselves.

Ellis (2005) says, "It does not follow that implicit instruction always results in implicit learning or that explicit instruction necessarily leads to explicit learning." For instance, in cases where there is implicit instruction but the learners figure out what the target is, they may attempt to find an explicit understanding of the principle.

Researcher	Implicit	Explicit

ISSN 2303 – 3037 (Print)
ISSN 2503 – 2291 (Online)

Rod Ellis(2005)	Sub-symbolic	symbolic
	Occurs without metalinguistic awareness	Occurs with metalinguistic awareness
	Unintentional	Conscious and intentional
	Procedural knowledge	Declarative knowledge
	through automatic processing	Through controlled processing
Ortega(2009)	Without rules	With rules
Paradis(2004)	linked to the cortical processors through which it is acquired	stored over large areas of the tertiary cortex
	Does not involve limbic system	Involves limbic system

Many experiments have been conducted to examine the effects of implicit and explicit learning and instruction.

In a study by Reber (1993), participants were presented a set of letter strings of an artificial language. In the first case, the participants were told to memorize the letter strings while in the second group the participants were told to figure out the rules of the letter strings. The groups were then tested on different strings of letters and had to decide whether these strings followed the same rules as the ones seen in training. Both groups did equally well in the case of simple rules while the group that memorized the letter strings, that is, the implicit group, did better for complex rules. There was greater individual variation in the test scores of the explicit group which could indicate that the participants of this group exercised their analytical skills. According to Ortega (2009), "Implicit processing leads to the abstraction of rules that are symbolically represented in the mind, only that they happen to be inaccessible to consciousness". However, Rebuschat (2008) believes that studies such as this are flawed as they did not include a measure of awareness.

In this study, the hypothesis examines whether learning with rules and explicit instruction are more effective than learning without rules or implicit instruction. It attempts to answer Ortega's (2009) question – "Can grammar generalizations result from experiencing L2 data without explicit knowledge being provided at the outset of the learning process?" This study will focus on whether implicit or explicit instruction of the adjective order results in better learning.It is important for teachers to understand whether it is better for L2 students to learn by implicit instruction or explicit instruction as this will aid in the teaching of grammatical principles.

Adjective Order

Adjective Order is an example of a grammatical principle that is not commonly known. In spite of this, many users of English seem to place adjectives in the correct order spontaneously. While some learn the rule explicitly, for others learning is implicit and hence, they are not able to verbalise the rule. There is some debate over what the appropriate order of adjectives is. I will review some of the proposals as to what the order should be.

Martin (1969) proposed that adjective order was based on definiteness, absoluteness or "intrinsicalness". Martin saw colour as having a more definite meaning than size. Also, it changes less from one object to another (absoluteness) and is also according to him, a more intrinsic property of the object.M. A. K. Halliday (1994) believed that adjectives became "increasingly permanent as attributes" the nearer they are to the noun while the British

ISSN 2303 – 3037 (Print)
ISSN 2503 – 2291 (Online)

Council proposes that the correct adjective order is general opinion > specific opinion > size > shape > age >colour> origin > material.

EnricaRosato (2013) argued that the distinction between general and specific opinion is not valid as the British Council has given an example of a general opinion adjective as "nice" while "beautiful" is a specific opinion adjective. Rosato also believed that the relative order of shape and age should be switched. Moreover, she believed that "size" has been incorrectly placed and suggested instead that it be placed second. The modified order, therefore is

Scope-taking > size> quality > age > shape >colour> origin > material

Danks and Glucksberg (1971), and Danks and Schwenk (1972, 1974) believe that "more discriminating adjectives precede less discriminating ones". Martin and Ferb (1973) disagree with this proposal as they believe that there are two kinds of Adjective Order – the normal Adjective Order and the contextually constrained Adjective Order. In the latter, sequencing is "constrained by the contextually determined order of the sub-classification of the denotation of the noun" (Martin &Ferb, 1973), while in the normal preferred order, other factors (for instance, semantic closeness) affect the order.

Dixon's preferred order isValue> Dimension >Physical> Speed >Human Propensity> Age >Color> Property Svatko, elaborating on Baily's work ordered the categorization as Opinion > Size > Shape > Condition > Age >Colour> Origin.

Quirk et al. (1985) proposed a subjective-objective gradience determining Adjective Order such that "modifiers relating to properties which are (relatively) inherent in the head of the noun phrase . . . will tend to be placed nearer to the head and be preceded by modifiers concerned with what is relatively a matter of opinion." Hetzron (1978) expanded on this idea and proposed the following order:Epistemic qualifier > Evaluation > Static Permanent Property > Sensory Contact Property > Speed > Age > Shape >Colour> Physical Defect > Origin > Composition > Purpose

When both adjectives are of equal importance it is generally found that adjectives that are shorter in length precede the longer. Goyvaerts (1968) gives the example that the long intelligent book is preferable to the intelligent long book.

Research has also been done in the adjective order in languages other than English. For instance, Sproat and Shih (1991) examined the adjective order in Chinese and found a general ordering hierarchy of Quality>Size>Shape>Colour>Provenance.

This study follows the online Cambridge Dictionary's order of English adjectives, though with one amendment. The Cambridge Dictionary specifies shape before age but this study follows Rosato's belief that age comes before shape because in the Corpus of Contemporary American English the order 'old square (noun)' is nine times more common than 'square old (noun)'. The final order, used for the purpose of this study was: Opinion>Size> Physical Quality > Age > Shape >Colour> Origin > Material > Type > Purpose.

METHOD

The aim of the study was to see whether learning with rules and "explicit" instruction is more effective than learning without rules or "implicit" instruction, with the focus on adjective order. Subjects included postgraduate student and professionals in India, who spoke and used English as the medium of communication. They all said they spoke and thought in English.

The subjects were randomly divided into two groups of five members each. Two trial rounds were conducted in which the subjects were provided with examples of grammatically correct and grammatically incorrect sentences, where the adjectives were placed in different

ISSN 2303 – 3037 (Print)
ISSN 2503 – 2291 (Online)

orders. While both groups were aware of which sentences were grammatically correct, the first group was not instructed as to how these sentences were correct or incorrect. They were not given any instructions regarding the rules about the order of adjectives. This group represented those who received "implicit" instructions. The second group was also given examples of grammatically correct and incorrect sentences but were also provided with a table that demonstrated the correct order of adjectives, when used in succession. This group represented those who received "explicit "instructions. After reading the examples and instructions, both groups were instructed to write five new sentences containing at least two sequential adjectives in each sentence. Following each trial attempt, the subjects were given feedback as to whether they had made mistakes in their trial attempts. The responses were tabulated, and the order of adjectives was analysed to see if there was a difference in the response rates in the two groups, and more specifically, if there were any specific adjective order that was most commonly listed incorrectly.

After the two trials that were held over two consecutive days, the groups were presented with the final test on the fourth day. Subjects were first provided with some more examples of grammatically correct sentences. They were then given the final test, which was composed of three tasks – choosing the grammatical sentence from two similar sentences, identifying whether a sentence was grammatically correct, and amending sentences with incorrect order of adjectives. Subjects of both groups were instructed to not look at any rules for adjective order for the final test..

FINDINGS AND DISCUSSION

The ten subjects were divided into two groups. There were two professionals and three postgraduate students in each group. The mean age of the subjects in group 1 was 31.6 years (range-21-48) and in group 2, was 31.8 years (range 21-50).There were four females and 1 male in each group.Table 1 and 2 list the mistakes made in the adjective order for each task in the final test. The Group 2 (the group which was given the rule) did twice as well as the first group (those who were simply told to make sentences using the adjectives but were not given the order), making half the mistakes. There were 10 mistakes (13%) made by those who received implicit training (Group 1), whereas, only 5 (6.6%) mistakes were made by those who received explicit training (Group 2). In each group, one subject completed the final test without any mistakes.

Table 1. Results for Group 1 (Implicit training)

Subject	No. of Mistakes in 1st Task	No. of Mistakes in 2nd Task	No. of Mistakes in 3rd Task	Total number of Mistakes
SB	1	0	1	2
AEG	1	1	0	2
MN	0	1	2	3
RG	0	0	0	0
SI	1	1	1	3
Total	3	3	4	10

Legend: *Table 1 depicts the number of mistakes made in each Task by the subjects in Group 1*

ISSN 2303 – 3037 (Print)
ISSN 2503 – 2291 (Online)

Table 2. Results for Group 2 (Explicit training)

Subject	No. of Mistakes in 1st Task	No. of Mistakes in 2nd Task	No. of Mistakes in 3rd Task	Total number of Mistakes
AS	0	0	0	0
RR	1	0	0	1
NC	0	0	1	1
MS	1	0	1	2
PM	1	0	0	1
Total	3	0	2	5

Legend: Table 2 depicts the number of mistakes made in each Task by the subjects in Group 2

Table 3-5 show the responses made by the subjects for each of the questions in the three tasks. In the **first task** (circle the grammatical sentence), both groups made the same number of mistakes [Table 3]. In ***Group 1***, all three mistakes were made in the sentence – "I ordered a delicious huge circular pizza" with all three subjects choosing "I ordered a huge circular delicious pizza". This could indicate confusion with the order of adjectives, as the subjects did not realize that opinion comes first in the order.

Table 3. Responses for Task 1

Correct Response to be circled	No. of Incorrect Responses in Group 1 (Implicit training)	No. of Incorrect Responses in Group 2 (Explicit training)
He had made a tasty Japanese dish called Sushi	0	0
When she was born she was a tiny thin brown baby	0	1
She had large brown eyes and a gentle smile	0	0
He played the piano with his short stubby fingers	0	1
I ordered a delicious huge circular pizzas	3	1

Legend.*Table 3 shows the number of incorrect responses by the subjects for each question in Task1. The correct response expected is shown in the first column.*

In contrast, while ***Group2*** subjects made the same number of mistakes the three members of the group who made the mistakes chose the wrong option for three different questions. There is no obvious pattern in the incorrect answers, indicating that it is probable that the mistakes are not due to a common misconception of the order.

Group2 made no mistakes in the **second task** – i.e. identifying whether a sentence is grammatically correct [Table 4]. The common mistake in the ***Group 1*** is again related to a misconception of the order of the Opinion with two people choosing "The tall English lady has a young pretty daughter" as correct (the actual sentence should be "the tall English lady has a pretty young daughter"). The other mistake too is also related to this misconception,

ISSN 2303 – 3037 (Print)
ISSN 2503 – 2291 (Online)

with one participant considering "The dancing pretty girl has torn her dress" as correct when the correct sentence should be "The pretty dancing girl has torn her dress".

Table 4. Responses for Task 2

Is this sentence below grammatical?	***Correct Answer***	***No. of wrong responses in group 1***	***No. of wrong responses in group 2***
The white little dog played with the old big cat	No	***0***	***0***
The girl's small oval face was pink with embarrassment	Yes	***0***	***0***
The tall English lady has a young pretty daughter	No	***2***	***0***
The dancing pretty girl has torn her dress	No	*1*	*0*
The noisy aluminium small clock woke me up	No	*0*	*0*

Legend.*Table 4 shows the number of incorrect responses by the subjects for each question in Task 2.*

For the **third task**[Table 5]– correcting incorrect sentences, three of the four mistakes in ***Group 1*** indicated a misconception in the order of Opinion (the incorrect sentence is "I was given a long red beautiful tie" as opposed to the grammatically correct sentence "I was given a beautiful long red tie"). The other mistake in group 1 is when one participant chose "The girl with brown curly hair liked to read" as correct when the proper sentence should be "The girl with curly brown hair liked to read".

Table 5. Responses for Task 3

Correct the following sentence if incorrect	Correct Sentence	No. of wrong responses in group 1	No. of wrong responses in group 2
The rectangular big room was painted blue	The big rectangular room was painted blue	0	0
The French happy man ate his dinner	The happy French man ate his dinner	0	0
The girl with brown curly hair liked to read	The girl with curly brown hair liked to read	1	0
The fat small dog waddled over to his owner	The small fat dog waddled over to his owner	0	1
I was given a long red beautiful Italian tie	I was given a beautiful long red Italian tie.	3	1

Legend.Table 5 shows the number of incorrect responses by the subjects for each question in Task 3

ISSN 2303 – 3037 (Print)
ISSN 2503 – 2291 (Online)

Similar to the situation in the first task, there is no pattern in the mistakes of the participants in ***group 2*** - with one mistake based on the order of opinion ("I was given a long red beautiful tie"). Another participant chose "The fat small dog waddled over to his owner" as correct, when the correct sentence should be "The small fat dog waddled over to his owner' – a problem with size, physical quality and colour.

Table 6 demonstrates the mistakes made by the subjects in choosing the correct order of adjectives for each of the questions

Table 6: Order of adjectives in the test

Sentence number	Order of adjective in the sentence	No. of Wrong Responses in group 1	No. of Wrong Responses in group 2
Task 1. Q1	Opinion – Origin	0	0
Task 1. Q2	Size - Physical Quality – Colour	0	1
Task 1. Q3	Size – Colour	0	0
Task 1. Q4	Size- Physical Quality	0	1
Task 1. Q5	Opinion – Size – shape	3	1
Task 2. Q1	Size – Colour	0	0
Task 2 Q 1	Size – Age	0	0
Task 2 Q2	Size- Shape	0	0
Task 2 Q3	Size- Origin ;	0	0
Task 2 Q3	Opinion – Age	2	0
Task 2 Q4	Opinion – Purpose	1	0
Task 2 Q5	Opinion – Size – Material	0	0
Task 3 Q1	Size –shape	0	0
Task 3 Q2	Opinion – Origin	0	0
Task 3 Q3	Physical Quality – Colour	1	0
Task 3 Q4	Size – Physical Quality – Colour	0	1
Task 3 Q5	Opinion – Size – Colour	3	1

Discussion

This study seems to imply that explicit instruction is more effective than implicit instruction for the teaching of the adjective order. Those receiving explicit instructions were more likely to perform better in placement of adjectives. The mistakes made by the implicit group are due to a common misinterpretation of the order, with nearly all the mistakes (90%) being due to confusion in the placement of "Opinion" which is supposed to be placed before all the other adjectives. Among those who received explicit instructions, two of the mistakes were to do with the placement of opinion, whereas the remaining three mistakes were to do with the placement of adjectives of size and physical quality. It is interesting to note that in all variations of adjective order, opinion is placed before all the other adjectives- yet this is the most common mistake made in this study.

ISSN 2303 – 3037 (Print)
ISSN 2503 – 2291 (Online)

CONCLUSION

There are several limitations in the study. The number of subjects in each group is very small and may not represent the learning capacity of the general population. The subjects did not have any formal assessment of their competency in the English language (Ayeni & Ebong, 2016). The subjects who received implicit training could have done better if they had had more examples and trial runs to learn the pattern of placement of the adjectives. It is possible that the adjective rules would have been difficult to analyse after only two trial runs.

Despite the limitations, it was observed that learning did happen with some members of the implicit group. One member of this group made no mistakes in the test – even though he had made the maximum number of errors in the first trial (when they were instructed to write sentences with given adjectives) -which could indicate that even if there is implicit instruction, some people are able to formulate the rules by themselves. It is also possible that he applied the Noticing Hypothesis and because he noticed that there is an order (even if he is not aware of what the order is) he has still implicitly learnt it. Members of the explicit group made no mistakes during the trials. In the final test, all subjects except one made at least one mistake, indicating that despite explicit instruction, English speakers can still make mistakes in adjective order. However, the mistakes are significantly less than in those who received implicit instructions.

It is also interesting to note that the subjects communicated on a daily basis using English, and considered themselves to be expert English speakers. Despite this, most subjects made several mistakes in the trial runs, and even in the final test. During their schooling, the subjects had learnt English through a combination of both implicit and explicit instruction. However this does not result in perfect language skills, as is evident from this study. It is possible that there will be a difference in the response rate from subjects who are native English speakers. While this study explores the possibility that explicit training can help improve the language skills among the naturalized or second language English speakers, further studies are required to identify other common mistakes that Indian speakers are likely to make, as we often bring metaphors or patterns of grammar from our first language.

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