SHORT-TERM AND LONG-TERM EFFECTS OF DIFFERENTIATED GRAMMAR INSTRUCTION: A QUASI-EXPERIMENTAL STUDY

التأثيرات قصيرة المدى وطويلة المدى للتدريس المتمايز للنحو: دراسة شبه تجريبية

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Abstract:

The present study raises two research questions: (1) Does the use of *differentiated* instruction have a differential effect on the learning of parallel structures in the short-term, in comparison with *explicit* or *implicit* instruction? (2) Will the differences, if any, last in the long term? Thirty (30) first-year university English language learners were divided into three groups: an *explicit* group (N=10), an *implicit* group (N=10), and a *differentiated* group (N=10). Grammaticality Judgment Tests were used to measure accuracy. The ANOVA test results in SPSS show that differentiated instruction had a lasting differential effect. Recommendations for research and pedagogy are discussed.

Key words: Differentiated instruction; explicit; implicit; grammar; method.

ملخص باللغة العربية:

تثير هذه الدراسة سؤالين بحثيين: (1) هل استخدام التعليم المتمايز له تأثير تفاضلي على تعلم التراكيب النحوية الموازية على المدى القصير، مقارنة بالتعليم المباشر أو التعليم السياقي للنحو؟ (2) هل يستمر التباين، ان وجد، على المدى الطويل؟ تم تقسيم ثلاثين (30) متعلم للغة الإنجليزية، سنة أولى جامعي، إلى ثلاث مجموعات: مجموعة التعليم المباشر (= N 10)، مجموعة التعليم السياقي (N = 10)، ومجموعة متمايزة (N = 10). تم استخدام اختبارات الحكم النحوي لقياس دقة اللغة نحويا. تظهر نتائج اختبار ANOVA باستخدام SPSS أن التعليم المتمايز له تأثير تفاضلي دائم. أخيرا، خلصت الدراسة بمناقشة بعض التوصيات للبحث العلمي و لتعليمية اللغات.

الكلمات المفتاحية: طريقة؛ التعليم المتمايز؛ المباشر؛ السياقي؛ النحو.

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Introduction

This study aspires to help teachers be fair with all the students, by fitting their teaching practice to learners' learning preference. What challenges the implementation of this aspiration, however, is the question of how to meet learners' diversity in a way that is effective. The present paper is, then, an attempt to suggest an answer by *differentiating instruction* and making it an effective teaching practice. This way, language in general and grammar in particular will be processed differently but optimally by the different learners in the same classroom. In fact, differentiated instruction is said to be very promising as a method for it addresses the issue of widening the educational circle by including all students in general education classes.

1. Method or No-Method?

Language teaching methods have received a great attention over the years. In fact, foreign/second language teaching has long been subject to change especially because of the dissatisfaction with existing methods. Broadly, two main eras can be distinguished: the method era and the post-method era, respectively (Kumaravadivelu, 2006).

1.1. The Method Era

The rise and fall of several teaching methods gave birth to a plethora of methods in the *method era* (Kumaravadivelu, 2006), and the swinging of

the pendulum continued shifting from one method to another. The plethora of methods included: the grammar-translation method, the direct method, the audio-lingual method, to name but a few (see, for example, Richards & Rodgers, 1986; Larsen-Freeman et al., 2011). Traditionally, in the *method era* that is, delivery of instruction often followed a *one-size-fits-all* approach. Learners' individual *differences*, however, often do not lend themselves to a particular method of teaching. The alternative idea of special schools may neither be feasible nor easily affordable. By the end of the twentieth century and the beginning of the twenty-first century, there has been a growing realization that sticking to one method cannot be successful all the time with all the learners.

1.2. The Post-Method Era

Because of the limitations of the concept of method, another era of language teaching came into existence which is the *post-method era*, where use is made of no particular method, and whose concern is to suit all types of learners in the same classroom, however different they are. Therefore, it is worthy to underscore the fact that the post-method era seeks to overcome the limitations of the concept of method by securing *variety* so as to handle *diversity*; it aims to better the teaching/learning process and make it more effective, more appropriate (Kumaravadivelu, 2006).

In point of fact, students come to the classroom with differences in terms of abilities, needs, learning styles, and interests; for this, teachers cannot limit themselves to using just one method, for a single method cannot fit all the learners' profiles. As such, the focus of language teaching is no longer on using a particular method. Focus is on helping students learn the language successfully as a result of being exposed to new ways of teaching in which the teacher *differentiates* his instructional strategies in order to suit all the learners. This is what is referred to as teaching in the post-method era, which goes counter to the *one-size-fits-all* method of teaching (Kumaravadivelu, 2006).

Given that learners are not all of a kind, and in order to effect change, the *post-method era* is favoured. The method calls for *differentiating instruction* for an *inclusive classroom*, one which uses different methods for the provision of *tailor-made* teaching, based on understanding learners' individual differences i.e. doing what is fair for students by fitting teaching practices to learning preferences.

2. On Grammar Teaching

Traditionally, focus is put on *forms*, or grammatical knowledge, and it is believed that after these are deeply rooted, communicative skills will

soon follow. Over the years, the reverse situation has taken place in reaction (Long, 1991): There is a misconception among many teachers who focus on *meaning* that grammar should not be taught and that this will look after itself when communication practice is guaranteed. Let it be stressed that the ultimate aim of foreign/second language teaching is to produce functionally competent performers who are not at a disadvantage, or short, of grammatical equipments. Be that as it may, undue *focus on meaning* or communicative skills at the cost of *forms* or grammatical accuracy results in learners who stop developing at a grammatically inaccurate level of proficiency – hence, the justification for grammar teaching (Boulkroun, 2019).

2.1. Explicit or Implicit?

The *one-size-fits-all method* of grammar teaching, which characterizes the *method era*, seems not very promising for the simple reason that it does not address the learning preferences of *all* the learners. For example, *explicit* grammar teaching is one method that puts more emphasis on form rather than meaning. It provides language learners with rules that they are required to use accurately. An example method through which grammar is taught explicitly is the Grammar-Translation Method. Actually, learners focus on memorizing the rules and become consciously aware of certain forms of grammar. Explicit grammar teaching presents grammar either deductively or inductively. This means that grammar rules are presented first or discovered at the end of instruction (Ellis, 1998, 2015). Such type of instruction is important for learners since it attempts to raise their consciousness; it is important, however, provided that it does not lose sight of meaning and communication. This is very much in keeping with Schmidt (1990, 2001) who holds that explicit teaching and consciousness-raising are conducive to noticing, which is the necessary and sufficient condition for learning to take place. Notwithstanding its importance, it seems that not all learners (with their learning preferences) match such a teaching practice and may, therefore, feel marginalized or excluded from the instruction.

Unlike its explicit counterpart, *implicit* grammar teaching presents grammar in such a way that the focus is primarily on meaning, and there is no attempt on the part of the teacher to develop explicit or conscious understanding of the underlying forms (Ellis, 2009, 2015). Put otherwise, learners are provided with communicative tasks through which they are expected to internalize the underlying grammatical structures without being consciously aware. As a good case in point, the Communicative Approach is typical of such practice. Implicit grammar instruction promotes in learners

communicative skills through meaning negotiation. As such, where the former type of instruction tends to promote accuracy, its antithesis is rather intended to develop fluency. Still, neither seems to satisfy separately the cognitive needs of *all* proportions of language learners (Kumaravadivelu, 2006).

As a matter of fact, students are not all of a kind; they bring with them to the classroom different profiles. Such *diversity* makes grouping them by such factors as readiness or ability a difficult practice (Gartin et al., 2002), let alone using one instructional method or another. Clearly, using a particular teaching method *excludes* some learners for the benefit of others; likewise, it *includes* some at the cost of others. Educationalists' concern is to find out a way of dealing with the issue of diversity in the classroom and to minimize all forms of exclusion. According to Gartin et al. (2002), two developments in education happen to address this issue: one is the philosophy of *inclusion*, the other is *differentiated instruction*.

2.2. Differentiated Instruction

A major challenge facing education nowadays all over the world is to make inclusion (of all learners) happen (Ainscow, 2005). In effect, most educationalists are supportive of the concept of *inclusive education* (e.g., Ainscow et al., 2006; McLeskey & Waldron, 2011; McLeskey et al., 2014). Inclusive education refers to including all learners by ensuring that each individual has an equal but *personalized* opportunity for learning; it aims at supporting educators to address the full range of learners' needs so as to overcome barriers to learning and to help all learners exploit their potential to the fullest (Dreyer, 2016). This is, then, a call to address all forms of marginalization and exclusion from educational opportunities and to reduce them to a minimum. In effect, inclusive educational models are said to be interchangeable with effective teaching practices, and so is differentiated instruction. In this study, we are proposing *differentiation* as a route to *inclusion*.

The traditional approach to language teaching is becoming obsolete given the increasing numbers of learners with *different* abilities, educational needs and learning styles (Dreyer, 2016). Traditionally, that is, delivery of instruction often followed a "*one size fits all*" approach (e.g., teaching grammar either implicitly or explicitly). This is a sure way to *exclude* an important proportion of learners instead of *including* 'all' of them. Challenges to inclusive, diverse classrooms can be overcome through the use of *differentiated instruction* (Gartin et al., 2002; Tomlinson, 2001; Tomlinson and Imbeau, 2010), which is likely to enable us to move from exclusion to inclusion.

In contrast to traditional instruction, then, differentiation provides *tailor-made* instruction. It is *individually* student-centered, with a focus on appropriate instructional and assessment tasks that are *fair*, *flexible*, and *engage* all students in the classroom in appropriate ways. *Differentiated instruction* takes its philosophy from the root of its name: *different*. Therefore, it stems from beliefs about differences among learners, *how* they *learn*, learning *preferences*, and individual *interests* (O'Briem & Guiney, 2001; Corely, 2005; Anderson, 2007). Differentiation is a dimension of all pedagogy concerned with handling learners' diversity in order to make learning happen.

One cannot fail to have noticed from the foregoing that differentiating instruction requires giving students *choices* about *how to learn* and *how to demonstrate their learning*. It means providing *multiple learning pathways* so that different students experience equally appropriate ways to learn. This requires the differentiation of the regular curriculum, together with creating different avenues based on background knowledge, learning styles, time for processing, and where learners are ready in terms of Bloom's (1956) Taxonomy (Remembering, Understanding, Applying, Analyzing, Synthesizing, Evaluating). The planning is time-consuming, but differentiated instruction is widely considered an optimal practice (Tomlinson, 1999) as it seeks to meet the needs of *all* students. Pre-assessment and ongoing assessment are, thus, necessary to understand what our students know and how they learn.

Teachers usually differentiate their teaching by modifying one or more of the following: the *content* (what is taught), the *process* (how it is taught), and the *product* (how students demonstrate what they learnt), based on students' readiness, interest, and learning profile (Tomlinson, 1995, 1999, 2001; Tomlinson & Strickland, 2005; Tomlinson & Imbeau, 2010; Corely, 2005). Readiness refers to what the students know, understand, and can do in a specific learning situation. Interest is about the curiosity, passion and desire of the learners to learn something. Learning profile stands for the students' way of learning, which differs in terms of preferences, needs, levels, interests, etc.

When student have choice, this helps boost their engagement in the task. *Differentiating content* becomes a reality by using, for example, materials at varying readability levels and interests, audio and video recordings, highlighted vocabulary and grammar items. *Differentiating* the *process* takes place by using leveled or tiered activities, varying the teaching tools to allow for auditory/visual/kinesthetic learning, re-wording, and varying pacing to allow for student processing, allowing for working alone, in partners, triads, whole group, small group, while alternating between

cooperative and competitive learning. Insofar as *differentiating* the *product* is concerned, it is meant that instruction makes room for tiered product choices i.e. providing options that touch upon all multiple intelligences, preference, multi-modal assessing, time allotment, and level of difficulty.

3. Methodology

To determine the role of *differentiated instruction* in the acquisition of English parallel structures, and to compare it both to *explicit* and *implicit instruction*, this paper has addressed two research questions: **(1)** Does the use of a *differentiated* type of instruction have a differential effect on learners' interlanguage in the short-term, in comparison with *explicit* or *implicit* instruction? **(2)** Will there be differences on a delayed post-test? Let us specify the comparisons to be conducted by translating the afore-stated research questions into working hypotheses.

3.1. Hypotheses

Hypothesis 1

- Learners under a *differentiated* instructional condition would outperform both *explicitly* and *implicitly* instructed groups in the learning of targeted structures.

The *null hypothesis* is that *differentiated instruction* would not make a difference.

Hypothesis 2

- There would be differences on a delayed post-test in favour of the differentiated instructional group.

The *null hypothesis* is that the differences would not last long.

3.2. Participants

The subject sample of this study consisted of 30 first year university English language learners from the University Centre of Mila; an intact class, that is, was selected, then divided into three equal experimental groups: an *explicitly instructed* group (N=10), an *implicitly instructed* group (N=10), and a *differentiated instructional* group (N=10). Of note, all the participants were present in all temporal phases of the experiment. There was no control group for there was no attempt on the part of the researcher to compare instructed conditions with uninstructed conditions whose subjects are left without receiving additional input specifically focused on target forms. The aim was simply to see how different types of grammar instruction compare.

3.3. Instruction

3.3.1. The structures

This study set out to investigate whether *differentiating instruction* and giving students choices about how to learn has a differential and an inclusive effect on the learning of *parallel grammatical structures*. Parallelism was selected because after 20 years or so of teaching written expression, it seems that the best of students suffers still from this structural problem. In order for us to determine the role of different types of grammar instruction, three instructional conditions were set.

3.3.2. Instructional conditions

Instruction took place away from the regular class hours, with three sessions, seventy-five minutes each, over a period of time equalling three sequential weeks, and it was given by the researcher who was at the same time their teacher.

A week after the pre-test (see below), subjects in the three groups received their respective experimental treatment. At this very stage, a terminological note might well be warranted. The terms *explicit instruction* and *implicit instruction* refer to two instructional approaches where focus on, or attention to, grammar form is made either overtly or covertly. *Explicit instruction* takes place when there is explanation of rules or when learners are prompted to infer rules; in sharp contrast, when no reference is made to rules, *implicit instruction* manifests (Ellis, 2015; Norris & Ortega, 2000). As a good case in point, the technique of *input enhancement* (Sharwood Smith, 1993) through which targeted forms are highlighted by way of textual enhancement goes under the umbrella of implicit instruction; contrariwise, traditional teacher-fronted rule explanation is exemplary of explicit instruction. Using both practices in the same lesson, on the assumption that learners may exhibit different learning needs and preferences, make one *differentiated* in instruction.

The first experimental group received focused input through *explicit instruction* which consisted of formal instruction and meta-linguistic information on the target linguistic structures. As such, focus was essentially on form and there was an apparent effort on the part of the instructor to develop awareness of the target forms. This way, positive evidence was made salient, and explicit negative evidence was provided.

The second instructional group received *implicit instruction* which focused primarily on communication, and where form was merely a vehicle for meaning. This way, there was no particular discussion of the forms used to negotiate meaning.

In the *differentiated instructional* group, the instructor alternated between both implicit and explicit types of instruction. The lessons, that is,

made use of both input enhancement and formal instruction together with the provision of both implicit and explicit feedback (Lyster & Ranta, 1997). This instructional condition was meant to direct the subjects to process input along with its concomitant target structures for meaning and form at the same time so as to meet both types of learning preferences i.e. to *include* all learners.

In effect, in order to provide a certain balance between the three conditions, the same reading texts were used. They were centred around the same two themes (*choosing a career*, and *diet and exercise* – taken from Folse et al., 2008: 248-249, 251) to ensure that the subjects processed the same input with no privilege in favour of one treatment group or another. Besides, the three instructional types followed the spirit of the PPP (Ellis, 2015; Ur, 1996) model (the presentation, practice, and production stages). The only difference was in the focus or type of the instruction and concomitant activities utilized.

To elaborate further, the *explicit* condition received focused input rich in parallel forms. The subjects were first presented with an overview of parallelism along with examples through formal instruction, followed with practice activities. Then, in subsequent sessions, they received a reading on two themes with comprehension questions: They were required to answer the questions such that they used the forms under focus. The concomitant training activities – in this condition and in the remainder of the conditions – included sentence completion, sentence correction, and gap-filling.

In the *implicitly* instructed condition, there was no formal instruction provided. The reading texts were followed with comprehension questions whose aim was negotiation of meaning and communication of ideas; it was ultimately hoped to find out whether the parallel forms inherent abundantly in the passages could be processed as intake by the subjects. The participants were, then, guided through a number of unfocused activities related mostly to the same theme under study. Here also, they were required to speak out their minds and negotiate meaning with no due or direct attention attributed to the forms present therein. As for feedback, it was provided by the instructor implicitly, only when necessary and in case of a communication breakdown, mainly in the form of recasts with no attempt on his part to draw attention to the rules underlying the erroneous forms.

As for the third condition, it was a combination of both explicit and implicit instruction i.e. a *differentiated* type of treatment: *explicitly*, room was secured for the provision of formal instruction in the start of the instruction, and *implicitly*, target forms were *enhanced* typographically, through the reading texts, by way of underlining to draw learners' attention to both meaning and form at the same time. Stated differently, the tasks

were partly an attempt on the part of the researcher to focus the participants' attention on the use of parallelism in English, but this was coupled with negotiation of meaning. Grammar instruction and meaning-based interaction merged through grammar consciousness-raising tasks. The researcher hoped that participants would develop knowledge and awareness of the target formal features for further communicative use. Feedback was used explicitly (by restating the rule, for example) especially in beginning stages of the instruction, but in later stages the implicit type was also made use of in the form of recasts and clarification requests, notably.

3.4. Instruments

3.4.1. The Untimed Grammaticality Judgment Test

The development of L2 grammatical parallel structures was measured by means of an *untimed paper-and-pencil Grammaticality Judgment* Test (GJT). As a matter of fact, GJTs require the learner to indicate whether a particular item is grammatically correct or incorrect. The test-takers were given a number of sentences containing correct and incorrect realizations of the target structure, and were instructed to identify which was which. Seven sentence items were correct and seven incorrect, giving a total of fourteen sentences. The respondents did not complete the tests under time constraints.

Why the untimed GJT? A number of considerations motivated its choice. One reason why may be the fact that it is designed to measure explicit knowledge. Explicit knowledge tests, by definition, call on one's explicit knowledge of a particular rule of grammar, prompt its use as a monitor, allow the test-taker some processing time, and focus attention on form. A second reason is that comprehension usually takes place before production and the GJT requires more passive grammar knowledge in comparison with other tests. One may conjecture a guess: Why not test oral proficiency? The answer is that instruction is believed to affect written, before oral, proficiency; oral language use, being more time-constrained, requires higher degrees of automatization (Bialystok, 1979, 1989).

3.4.2. The Pre-test and the Post-tests

All administered tests consisted of an *untimed Grammaticality Judgment Test*. The GJT was administered at three different temporal points all along the experiment: The first before the treatment (Test/Time 0), the second immediately after the treatment (Test/Time 1), and the third delayed long after the treatment (Test/Time 2). The three tests were similar but not identical. It may be worth our while to note that, so as to avoid the likelihood of subjects completing the post-tests while drawing on some

memorized input from prior tests, no test sentence bore any resemblance to the sentences included in the treatment condition.

The *pre-test*, delivered in written form, consisted of fourteen sentences, divided evenly between grammatical and ungrammatical and running hierarchically across different levels – the word, the phrase, and the clause levels, respectively. Test-takers were required to indicate in their own processing time whether each sentence was grammatical or ungrammatical by ticking where appropriate. The pre-test was meant to see if groups would reveal any statistically significant difference prior to instruction and to ensure that any possible comparative effects attributed to type of instruction would not be related to prior knowledge of any of the groups (see Appendix 1).

Post-tests were two in number: the *immediate* and the *delayed post-test*. Regarding the *immediate post-test*, it was administered a week after instruction took place to investigate whether type of instruction had different learning effects i.e. to inform the first research question and test our first hypothesis. It was similar to the pre-test but not identical. It also contained an untimed GJT with fourteen sentences, split evenly between grammatical and ungrammatical and running hierarchically across the same types of construction, but the test items were different. The subjects were given the same test direction as in the pre-test (see Appendix 2).

Insofar as the *delayed post-test* is concerned, it was administered a month after instruction took place to determine whether type of instruction had a lasting effect i.e. to inform the second research question and test its concomitant hypothesis. In fact, much of what characterized the preceding tests was true of the present test (see Appendix 3).

3.5. Scoring the GJT

The same scoring procedure was adopted in the pre-test and the post-tests. Each test item was dichotomously responded to as grammatical or ungrammatical, and scored on a 0 to 1 point scale. The respondents were awarded a score of 1 if they judged a sentence correctly, giving a maximum possible score of 14. Incorrect judgments were all scored 0 – all tests were worth at most fourteen points. There were no failures (e.g., abstaining, forgetting, missing), whatsoever, on the part of the respondents to respond to a test item (see scores in Appendix 4).

3.6. Analysis

The effect of different types of instruction was evaluated, giving way to a three-level between-subjects variable adopted to define instruction (namely, *differentiated* instruction, *explicit* instruction, and *implicit*

instruction), and a three-level within-subjects variable (T0, T1, and T2) which included the *pre-test*, the *immediate post-test*, and the *delayed post-test*. Raw scores were entered and calculated for further use in the statistical analyses using the *Statistical Package for the Social Sciences* (IBM SPSS) software (version 21). In order to answer the research questions, and thus put our hypotheses to the test, we submitted the raw scores for the untimed GJT to a *One-Way ANOVA*.

3.7. Results and Discussion

First year university English language learners (*N* = 30) took the *untimed GJT*. It was necessary to make sure that the compared groups had roughly the same point of linguistic departure, which is why the pre-test was conducted. This kind of testing for group homogeneity or heterogeneity before an experimental procedure is, in effect, a common practice (see Larson-Hall, 2010). The *pre-test means* of students who took a treatment under three different conditions were compared using a *One-Way ANOVA*. No significant difference was found ($F(2, 27) = .26$, $p > .05$), meaning the students from the three different groups did not differ significantly in terms of their knowledge of the target structures before instruction. Students under the *Differentiated* condition had a mean score of 6.60 (SD = 1.50); students under the *Explicit* condition had a mean score of 6.90 (SD = 1.66); students under the *Implicit* condition had a mean score of 6.40 (SD = 1. 50) (see below *Tables 1a, b & c* for the Pre-Test results). Given that the *ANOVA* was not significant, there is no need to refer to the post-hoc *Multiple Comparisons* table. Of note, since there was no statistically significant difference between the means of all three groups, the results indicate that any comparative, or say differential, effects attributed to instruction will not be related to prior knowledge of any of the groups.

Table 1a. **Descriptives for the Pre-Test**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		

Diff.G.	10	6.60	1.506	.476	5.52	7.68	4	9
Exp.G.	10	6.90	1.663	.526	5.71	8.09	5	9
Imp.G.	10	6.40	1.506	.476	5.32	7.48	4	8
Total	30	6.63	1.520	.277	6.07	7.20	4	9

Table 1b. **One-Way ANOVA for the Pre-Test**

	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Between Groups	1.267	2	.633	.260	.773
Within Groups	65.700	27	2.433		
Total	66.967	29			

Table 1c. **Tukey's HSD Post-Hoc Multiple Comparisons for the Pre-test**

(I) groups	(J) groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Diff.G.	Exp.G.	-.300	.698	.903	-2.03	1.43
	Imp.G.	.200	.698	.956	-1.53	1.93
Exp.G.	Diff. G.	.300	.698	.903	-1.43	2.03
	Imp.G.	.500	.698	.756	-1.23	2.23
Imp.G	Diff.	-.200	.698	.956	-1.93	1.53

.	G. Exp.G.	-.500	.698	.756	-2.23	1.23

**. The mean difference is significant at the 0.05 level.*

In pursuit of our aims, and in order for us to answer the first research question and, therefore, test our first hypothesis, we computed a *One-Way ANOVA* comparing the *immediate post-test* scores of participants who took a treatment under three different conditions. A significant difference was found between the groups due to type of instruction ($F(2, 27) = 34.10$, $p < .05$). A significant *ANOVA* should be coupled with the results of a *post-hoc* analysis; *Tukey's HSD* (see *Table 2c* which presents every possible combination of levels of the independent variable) was used to run *multiple comparisons* and determine the nature of the pairwise differences between the groups. This analysis revealed that students under the *Differentiated* instructional condition scored higher (M = 12.60, SD = 1.35) than both students in the *Explicit* group (M = 10.20, SD = 1.22) and students in the *Implicit* group (M = 7.80, SD = 1.31). Students under the *Explicit* condition scored higher (M = 10.20, SD = 1.22) than those in the *Implicit* group (M = 7.80, SD = 1.31) (see below *Tables 2a, b & c* for the Immediate Post-Test results).

What does all this mean? Simply, the above analysis indicates that the results are significant, suggesting that there is a *significant difference* between the means. Therefore, we reject the *null hypothesis* that *differentiated instruction* would not make a difference i.e. that there would be no difference in the learning of parallel grammar structures between the three groups, in particular the *Differentiated* instructional condition. Put otherwise, this indicates that the null is incorrect, that there is a relationship between *Differentiated* instruction and the learning of parallel structures, that *differentiation* is *inclusive* in nature, and that the difference between the instructional treatments is not likely to be due to chance.

Table 2a. **Descriptives for the Immediate Post-Test**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean	Minimum	Maximum

					Lower Bound	Upper Bound		
Diff. G.	10	12.60	1.350	.427	11.63	13.57	10	14
Exp. G.	10	10.20	1.229	.389	9.32	11.08	9	12
Imp. G.	10	7.80	1.317	.416	6.86	8.74	6	10
Total	30	10.20	2.355	.430	9.32	11.08	6	14

Table 2b. **ANOVA for the Immediate Post-Test**

	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Between Groups	115.200	2	57.600	34.105	.000
Within Groups	45.600	27	1.689		
Total	160.800	29			

Table 2c. **Tukey's HSD Post-Hoc Multiple Comparisons for the Immediate Post -test**

(I) groups	(J) groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound

Diff.G.	Exp.G.	2.400*	.581	.001	.96	3.84
	Imp.G.	4.800*	.581	.000	3.36	6.24
Exp.G.	Diff. G.	-2.400*	.581	.001	-3.84	-.96
	Imp.G.	2.400*	.581	.001	.96	3.84
Imp.G.	Diff. G.	-4.800*	.581	.000	-6.24	-3.36
	Exp.G.	-2.400*	.581	.001	-3.84	-.96

**. The mean difference is significant at the 0.05 level.*

So as to answer the second research question and test the second hypothesis, a *One-Way ANOVA* was conducted to compare the *delayed post-test* scores of the same participants who took each a treatment under a different condition. A significant difference was found between the groups due to type of instruction ($F(2, 27) = 36.41$, $p < .05$). Because the *ANOVA* test was significant, a *post-hoc* analysis was run; *Tukey's HSD multiple comparisons* (see *Table 3c*) were run to determine the nature of the differences between the groups. The *post-hoc* analysis revealed that students under the *Differentiated* instructional condition scored higher (M = 12.10, SD = 1.44) than both students in the *Explicit* group (M = 9.30, SD = 1.25) and students in the *Implicit* group (M = 7.30, SD = 1.05). Students under the *Explicit* condition scored higher (M = 9.30, SD = 1.25) than those in the *Implicit* group (M = 7.30, SD = 1.05) (see below *Tables 3a, b & c* for the Delayed Post-Test results).

The analysis indicates that the results are significant, suggesting that there is a *significant difference* between the means. Therefore, we reject the *null hypothesis* that the differences would not last in the long term for *differentiated instruction* i.e. that there would be no difference in the learning of parallel grammar structures between the three groups, in the long term. Put otherwise, this indicates that the null is incorrect, that there are differences on a delayed post-test in favour of the differentiated instructional group, that *differentiation* is *inclusive* in nature, and that the difference between the instructional treatments is not likely to be due to chance.

Table 3a. **Descriptives for the Delayed Post-Test**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Diff. G.	10	12.10	1.449	.458	11.06	13.14	10	14
Exp. G.	10	9.30	1.252	.396	8.40	10.20	7	11
Imp. G.	10	7.30	1.059	.335	6.54	8.06	6	9
Total	30	9.57	2.344	.428	8.69	10.44	6	14

Table 3b. **ANOVA for the Delayed Post-Test**

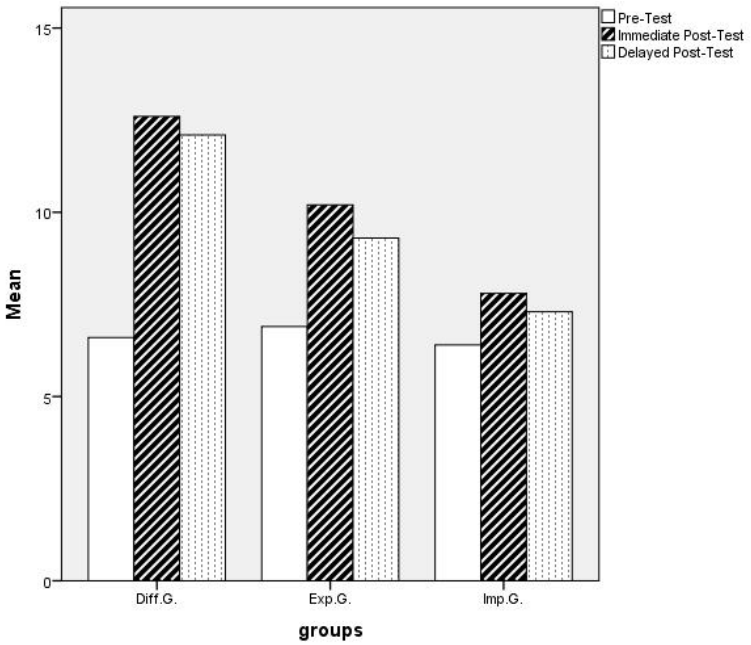
	Sum of Squares	**Df**	**Mean Square**	**F**	**Sig.**
Between Groups	116.267	2	58.133	36.418	.000
Within Groups	43.100	27	1.596		
Total	159.367	29			

Table 3c. **Tukey's HSD Post-Hoc Multiple Comparisons for the Delayed Post -test**

(I) groups	(J) groups	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Diff.G.	Exp. G.	2.800*	.565	.000	1.40	4.20
	Imp. G.	4.800*	.565	.000	3.40	6.20
Exp.G.	Diff. G.	-2.800*	.565	.000	-4.20	-1.40
	Imp. G.	2.000*	.565	.004	.60	3.40
Imp.G.	Diff. G.	-4.800*	.565	.000	-6.20	-3.40
	Exp. G.	-2.000*	.565	.004	-3.40	-.60

**. The mean difference is significant at the 0.05 level.*

Below is a summary *bar chart* which is a good graphical display, a visual representation of the data, as the height of each bar is proportional to the knowledge score mean of each group.



Graph 1. **Bar Chart of global means for pre-test and post-tests scores of the three groups**

Conclusion and Recommendations

This research has investigated the role of *differentiated instruction* in the learning of parallel grammatical structures. The results of the study are positive and very telling, but it remains to be determined in future research agendas whether differentiation as a methodology is as effective in the teaching of other language areas as it is in grammar instruction.

By considering varied learning preferences, teachers can develop personalized instruction enabling all learners in the classroom to learn effectively. To do this, changes in the curriculum are very much in order, a curriculum by which the teacher sets different expectations for students based upon their readiness. This, in turn, calls for training teachers to respond to diversity, differentiation, and inclusion, let alone sensitizing them to reflect on their attitudes towards difference.

It is the researcher's contention that diversity should be viewed as an incentive to *innovate* the curriculum, pedagogy, and assessment i.e. the use of differentiation so as to move from exclusion to inclusion of the different learners, no matter what dis/abilities they bring with them to the language classroom.

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Appendices

Appendix 1. The Pre-test

Which of the following sentences is grammatically parallel and which is nonparallel? Tick as appropriate.

Single words:

1. They waited four hours at the airport, reading and sleeping. **[Grammatical……. / Ungrammatical…….]**
2. The doctor recommended plenty of food, sleep and exercising. **[Grammatical……. / Ungrammatical…….]**
3. I am happier at my new job than I was at my old one. **[Grammatical……. / Ungrammatical…….]**
4. For the first time in his life he had a job, a home, and family. **[Grammatical….. / Ungrammatical……]**
5. Syntax, morphology, and the area of phonology are the core areas of linguistics. **[Grammatical……. / Ungrammatical…….]**
6. I was happy and my parents happy too. **[Grammatical……. / Ungrammatical…….]**
7. Global warming affects humans, the environment, and is scary. **[Grammatical……. / Ungrammatical…….]**

Phrases:

8. To chew carefully and eating slowly are necessary for good digestion. **[Grammatical… / Ungrammatical…]**
9. To swim in a lake is more pleasant than swimming at the seashore. **[Grammatical….. / Ungrammatical……]**
10. The cat climbed over the fence, up the tree, and onto the roof of the house. **[Grammatical……. / Ungrammatical…….]**
11. The judge told her to take the stand and tell the truth. **[Grammatical……. / Ungrammatical…….]**

Clauses:

12. A father who spends time with his son and who thoughtfully answers his son's questions will be respected and loved. **[Grammatical……. / Ungrammatical…….]**
13. He appreciated neither what she said nor how she said it. **[Grammatical……. / Ungrammatical…….]**
14. She's asking not where he went but the time he went. **[Grammatical……. / Ungrammatical…….]**

Appendix 2. The Immediate Post-Test

Which of the following sentences is grammatically parallel and which is nonparallel? Tick as appropriate.

Single words:

1. He introduced aids to understanding such as paintings, recordings, pieces of sculpture, and guest lecturers. **[Grammatical……. / Ungrammatical…….]**

2. He was not only kind but also knew when to help people. **[Grammatical……. / Ungrammatical…….]**
3. Bill not only passed the test but also wrote the best paper in the class. **[Grammatical……. / Ungrammatical…….]**
4. He was a waiter, a tour guide, and taught at school. **[Grammatical……. / Ungrammatical…….]**
5. It's harder to do long divisions than dividing with a calculator. **[Grammatical……. / Ungrammatical…….]**
6. The dentist did not let me eat or drink anything for at least an hour. **[Grammatical……. / Ungrammatical…….]**
7. The ambassador spoke quietly and with force. **[Grammatical……. / Ungrammatical…….]**

Phrases:

8. To support his family and to put himself through college, he worked seven hours a day. **[Grammatical……. / Ungrammatical…….]**
9. I debated whether I should give the beggar money or to offer him food. **[Grammatical……. / Ungrammatical…….]**
10. I hope to vacation either in Spain or in Ireland. **[Grammatical……. / Ungrammatical…….]**
11. The instructor recommended several books for outside reading and that we should attend a play dealing with our subject. **[Grammatical……. / Ungrammatical…….]**

Clauses:

12. If you write or if you telephone, wait for two weeks until I return from Singapore. **[Grammatical……. / Ungrammatical…….]**
13. Unfortunately for all of us, what she says and she does are very often two different things! **[Grammatical……. / Ungrammatical…….]**
14. My employer informed me that I would be sent to Hong Kong and I should make arrangements to leave in about two weeks. **[Grammatical……. / Ungrammatical…….]**

Appendix 3. The Delayed Post-Test

Which of the following sentences is grammatically parallel and which is nonparallel? Tick as appropriate.

Single words:

1. Their wedding day was beautiful, bright, and joyful. **[Grammatical……. / Ungrammatical…….]**
2. Now is the time to organize, plan, and to act. **[Grammatical……. / Ungrammatical…….]**

3. They have space for a computer but not a cupboard. **[Grammatical……. / Ungrammatical…….]**
4. He told us that the novel was timely, informative, and could hold our interest. **[Grammatical……. / Ungrammatical…….]**
5. The French, the Italians, Spanish, and Portuguese. **[Grammatical……. / Ungrammatical…….]**
6. Both my plane ticket and my passport were lost. **[Grammatical……. / Ungrammatical…….]**
7. He made learning more enjoyable and more lasting. **[Grammatical……. / Ungrammatical…….]**

Phrases:

1. Dentists advise brushing the teeth after each meal and to avoid too much sugar in the diet. **[Grammatical……. / Ungrammatical…….]**
2. Jack passes his time doing crossword puzzles and building model airplanes. **[Grammatical……. / Ungrammatical…….]**
3. Investing in his company is the same as to throw your money away. **[Grammatical……. / Ungrammatical…….]**
4. Carlos wasted his first year at college by not studying enough and spending too much time at parties. **[Grammatical……. / Ungrammatical…….]**
5. My dog likes not only to play fetch, but also to chase cars. **[Grammatical……. / Ungrammatical…….]**

Clauses:

6. I forgot that my research paper was due on Tuesday and my teacher had said he would not accept late papers. **[Grammatical……. / Ungrammatical…….]**
7. Are you staying home because you are tired or because it is a school night? **[Grammatical……. / Ungrammatical…….]**

Appendix 4. The Scores

T0				T1				T2			
N	Diff. G.	Exp. G.	Imp. G.	N	Diff. G.	Exp. G.	Imp. G.	N	Diff. G.	Exp. G.	Imp. G.
1	6	9	8	**1**	12	12	7	**1**	12	11	9
2	6	6	4	**2**	11	9	8	**2**	10	9	7
3	5	5	6	**3**	13	9	10	**3**	14	8	7

4	8	6	6	**4**	14	9	8	**4**	12	10	8
5	7	9	8	**5**	14	11	6	**5**	12	10	6
6	4	5	7	**6**	14	10	7	**6**	14	9	7
7	6	6	4	**7**	12	11	8	**7**	13	9	6
8	8	9	7	**8**	13	9	7	**8**	11	9	7
9	7	8	8	**9**	10	12	10	**9**	10	11	9
10	9	6	6	**10**	13	10	7	**10**	13	7	7