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The Effectiveness of ZPD-Wise Explicit/Implicit Expert Peers and Co-Equals' Scaffolding in ILP Development

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Abstract

Socioculturally oriented developmental Interlanguage Pragmatics (ILP) studies have just recently drawn the Second Language Acquisition (SLA) researchers' attention, and the role of concepts like peer scaffolding, and the Zone of Proximal Development (ZPD) in ILP development are among rich areas in need of attention. The present study investigates the significance of the effect of expert peers' ZPD-wise, co-equal peers' ZPD-insensitive and teacher fronted ZPD-insensitive scaffolding on EFL learners' pragmatic development. The number of students who participated in this study was 85 of which 27 were male and the rest were female. They were organized into three experimental and one control groups. The subjects in the experimental groups were given either explicit ZPD-wise or implicit ZPD-

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wise scaffolding by the expert peers, or ZPD-insensitive scaffolding by their co-equals, while the subjects of the control group received ZPD-insensitive teacher scaffolding. The study reveals that the expert peers' ZPD-wise explicit and implicit scaffolding are more effective than the other two intervention types for the ILP development, however, the co-equals' scaffolding proved to be the third effective procedure for the subjects' co-construction of ZPD and ILP development. An implication of the study is that different forms of peer scaffolding are relatively effective for the EFL learners' ILP development.

Keywords: ZPD; Peer Scaffolding; Interlanguage Pragmatics

Introduction

The field of Interlanguage Pragmatics (ILP) has been regarded as a second generation hybrid since it belongs to two different disciplines, namely pragmatics and second language acquisition (Kasper & Blum-Kulka, 1993). The interdisciplinary nature of ILP is even attested to in the definitions that are given to it. As an example, Kasper and Rose (2002, p. 5) define ILP:

> As the study of second language use, intertlanguage pragmatics examines how nonnative speakers comprehend and produce action in a target language. As the study of second language learning, ILP investigates how L2 learners develop the ability to understand and perform action in the target language.

Interlanguage developmental studies have mostly built upon two information processing models namely Schmidt's noticing hypothesis and Bialystok's two dimensional model (Kinginger, 2002), though more recently there have been some studies based on Sociocultural Theory (e.g. Aljaafreh & Lantolf, 1994; Nassaji & Swain, 2000; Takahashi, 2001, 2005) and concepts like the Zone of Proximal Development (ZPD) and Scaffolding have become the most commonly invoked aspects of this theoretical orientation (Kinginger, 2002). However, most of these studies have been observational case studies, the findings of which are not generalizable to foreign language classroom contexts (Ohta, 2005). Among such observational studies, some touch on pragmatics in some way (Donato, 1994; Ohta, 2001), though it has been less a focus of the research than a finding along the way, i.e. the main findings relate to language acquisition processes in the ZPD rather than pragmatic competence development in the same zone (Ohta, 2005). On the

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other hand, while studies of the ZPD have been observational, much of the research in intertlanguage pragmatics involve instructional interventions and none of the studies to date looks at the role of ZPD in the development of pragmatic knowledge (Ohta, 2005). Against this backdrop, the researchers in the present study tried to investigate the potentiality the ZPD concept and different forms of scaffolding could bring into the development of the foreign language learners' ILP competence in authentic EFL classrooms.

Interventional studies of the ILP are significant on the grounds that while there are many observational studies documenting what learners produce without any particular intervention of the instructor, there are relatively few studies on the effect of teacher intervention in the acquisition of L2 pragmatic information (Koike & Pearson, 2005).What's more, considering issues like the predominantly observational and comparative nature of the ILP studies, and the secondary status of pragmatics in ZPD studies, the present study is highly significant as it studied the ILP development primarily through co-construction of ZPD in authentic EFL classroom context.

Literature Review

As the study adopts sociocultural theory (SCT) as its theoretical foundation to investigate the ILP development, the invoked aspects of both SCT and ILP are briefly reviewed.

Sociocultural Theory

Sociocultural theorists use participation metaphor rather than the acquisition in their works since in this theory learning is a socially situated activity rather than an individualistic one (Lantolf & Appel, 1994). Although individuals obviously do play a role in their own learning, what they eventually will be able to do by themselves, they first achieve collaboratively during social interaction (Ellis & Barkhuizen, 2005). A key concept of the SCT, originated from Vygotsky's genetic law of cultural development, is the ZPD (Lantolf & Thorne, 2006). Vygotsky (1978, as cited in Lantolf & Thorne, 2006) defined the ZPD as the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers.

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The ZPD in this micro-genetic moment-to-moment interaction with other individuals forms an activity frame that relates the current developmental level to the potential development that is possible through collaboration with a more competent tutor (Lantolf & Thorne, 2006). However, in such collaborative tasks, it is not the successful completion of the task which is of importance, but the higher cognitive process that emerges as a result of the interaction is the main aim (Lantolf & Appel, 1994).

A principle challenge to research based on educational interventions is how to operationalize the quantity and quality of assistance the adults or more capable peers should give to the learners to help to the co-construction of the learners' ZPD, since unstructured and /or entirely emergent assistance may provide the essential help needed for the learner to carry out a task he or she is unable to manage alone, but such conditions are problematic in two ways: 1) tutors may inadvertently over or under provide the assistance and 2) qualitative and quantitative differences in assistance and their precise realizations to learner performance cannot be consistently documented (Lantolf & Thorne, 2006).

To address the over and under assistance issues in the ZPD, Aljaafreh and Lantolf (1994) developed a 13 point regulatory scale that models tutor behavior ranging from broad and implicit leading questions to explicitly phrased corrections (see page 62). This scale was used to codify the observable tutor behavior with particular attention to qualitative differences in assistance provided by the tutor. Another framework for the kind of assistance given to the learners is presented by Ohta (2001) in which the more implicit strategies like Waiting are put at one end of the scale and the more explicit strategies like Explaining are presented at the explicit end.

As another key aspect of the SCT, the progressive assistance or help provided by the more knowledgeable peer/adult to the less knowledgeable learner is generally understood as the concept of scaffolding (Frawley, 1997). More recently, many researchers of L2 learning and teaching have begun to focus on the benefits that accrue when peers at more or less the same knowledge levels (co-equals) interact and contingent scaffolding is said to occur (Ko, Schallert & Walters, 2003). Among them numerous studies have observed that peer groups of students or work teams, are also able to construct a ZPD through joint efforts among their

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members without expertise residing in any one member of the group (Anton, 1999; De Guerrero & Villamil, 2000; Ohta, 2001).

Interlanguage Pragmatics

Pragmatic competence studies have mostly taken either cross-cultural or developmental perspectives. While cross-cultural pragmatics has adopted a sociolinguistic perspective and has focused on the comparison of speech acts' realizations by speakers with different cultural background, developmental ILP studies adopt a second language perspective and focus on the study of the pragmatic development of second, and foreign language learners. Developmental ILP studies analyze the way language learners acquire and use pragmatic competence in their linguistic production and comprehension (Cenoz, 2007). The acquisition of pragmatic competence or ILP development requires three conditions: appropriate input, opportunities for output and the provision of feedback (Kasper & Schmidt, 1996) and each one of these three conditions has been the stimulating force for a group of studies in the field of ILP development (Rose, 2005).

The rationale for examining the effect of instruction in pragmatics is underscored by Schmidt's (1993) contention that simple exposure to target language is insufficient. A reason for the insufficiency of simple exposure is that pragmalinguistic forms and sociolinguistic rules are often not salient enough to ensure that learners will notice them without pragmatic instruction (Kasper & Rose, 2002; Rose, 2005).

In an attempt to highlight the necessity of instruction, Rose (1999) states that large classes, limited contact hours and little opportunity for intercultural communications are some of the features of the EFL context that hinder pragmatic learning in the foreign language classes. On the other hand, some studies (e.g. Crandall & Basturkman, 2004; Alco'n, 2005) conclude that the single presentation of pragmatic forms, norms and strategies in pedagogical materials is inappropriate and inadequate since presenting a list of linguistic forms is highly unlikely to result in pragmatic development, and instructional interventions are required.

Most of the studies concerning the effects of instruction on pragmatic development employ explicit versus implicit instructional patterns (e.g. Kasper & Rose, 2002; Alco'n, 2005; Martinez-Flor & Fukuya, 2005; Takahashi, 2005) and have revealed that providing learners with explicit meta-pragmatic instructions in

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the forms of explanations of rules and illustration of examples yields more effective learning outcomes than providing them with implicit target input, while some other studies like Koike and Pearson (2005) have raised doubts on documenting the differential impact of explicit versus implicit pragmatic instruction on the production and comprehension of pragmatic knowledge.

Research Questions

Q1: Does the expert peers' scaffolding through explicit instruction and feedback in the learners' co-constructed ZPD have any effect on the lower intermediate EFL learners' development of the three speech acts of complaint, apology and request?

Q2: Does the expert peers' scaffolding through implicit instruction and feedback in the learners' co-constructed ZPD have any effect on the lower intermediate EFL learners' development of the three speech acts of complaint, apology and request?

Q3. Does the co-equals' (non-expert peers) explicit/implicit ZPD-insensitive scaffolding have any effect on the lower intermediate EFL learners' development of the three speech acts of complaint, apology and request?

Q4: Does the teacher's ZPD-insensitive pragmatic instruction and feedback have any significantly different effect from that of the explicit peer scaffolding, implicit peer scaffolding and co-equals scaffolding on the lower intermediate EFL learners' development of the three speech acts of complaint, apology and request?

For each one of the questions a null hypothesis was assumed.

Method

Participants

The main participants of the study were 85 students of English translation studies at Bu Ali Sina University (BASU), and Payam-e-Noor University (PNU) (Hamedan center) in Hamedan province of Iran. Out of these 85 students, 37 were freshmen (first semester) in BASU, 24 of whom were female and the remaining 13 were male. Thirty five students majoring in English translation studies in PNU made the second freshman group who participated in the study, 24 of whom were female and 11 were male. In addition to the freshmen, another group of subjects

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consisting of 13 senior (four male and nine female) students majoring in the same field of study in BASU participated as the more knowledgeable peers of freshmen participants.

In addition, 33 American native English speakers took part in the two phases of the Multiple Choice Discourse Completion Task (MDCT) test's validation process. Two American native English speakers read and revised the researcher-made Written Discourse Completion Task (WDCT) and MDCT tests, and another pair of American native English speakers rated the WDCT test performances of the students quite independently.

Instruments

In order to ensure the internal homogeneity of both groups of lower and upper intermediate subjects' general English proficiency, a TOEFL sample test (excluding its listening and writing parts) was given to them. The researchers used the TOEFL test results of the senior students to select the required 13 senior subjects from among 25 senior test takers. The test takers whose score fell within +/_ 1 standard deviation from the mean were selected as the expert peers of the freshmen subjects.

All of the freshmen and the 13 selected seniors took two researcher-made Discourse Completion Task (DCT) tests as the pre and posttests, comprising of 12 WDCT and MDCT test items of three speech acts i.e. request, apology, and complaint. As most of the studies focusing on ILP development focus on different speech acts and their realization strategies, the knowledge of the test takers in these three speech acts was assumed to be partially indicative of their ILP competence. Both WDCT and MDCT tests measured the knowledge level of the test takers at four levels based on the formality of language and familiarity of the interlocutors in different test situations i.e. formal familiar, formal unfamiliar, informal familiar, and informal unfamiliar (see Hudson, Detmer, & Brown, 1992).

The MDCT test validation process: phase one.

The MDCT test (Appendix A) had been validated in two phases through two pilot administrations of the test to separate groups of Native English Speakers. The first version of the MDCT test included 17 items consisting six request, six apology and five complaint items. Each item included a short description of a hypothetical

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situation and three alternative options to realize the intended speech act (two distractors and a correct option).

In order to make sure the constructed situations and the alternatives were neither pragmalinguistically incorrect nor socio-pragmatically odd, two American English native speakers were asked to read and revise them. After this preliminary revision, the whole test was given to altogether 20 Native Speakers (NS) in the USA (eight), Americans living in Canada (seven), and Scotland (five Americans in the University of Aberdeen). Out of 20, four did not take the test and the researchers had to rely on the remaining 16 NS test takers' responses.

First pilot administration results led to the exclusion of five items since the researcher's intended choices in these items were not chosen unanimously or even near unanimously by the NSs. Four other items in which the distractors had misled few NSs were kept but put to revision. And eight items were considered as acceptable as a rather acceptable percentage (above 95%) of the NSs confirmed the researcher's intended choice as the acceptable options in the given situations. Since the required number of items was 12 (four items for each speech act) and the number of the items deemed as acceptable in first stage did not exceed eight, the four items which were chosen for revision were revised for less misleading distractors and together with the eight acceptable items were put into the second pilot administration.

The MDCT test validation process: phase two.

The second version MDCT test was given to 17 NSs in Simon Fraser University of Canada. The test takers were all Americans, majoring in different fields of study. The analysis of the results revealed that in six items, all of test takers (100%) had chosen the researchers' intended option as the correct realization of the speech act in the given situations, in four other items 16 out of 17 (94.5 %), and in the last two items 15 out of 17 (88.5 %) NSs had chosen the researchers' intended choice. The test was considered as a rather valid test at this stage.

The WDCT test.

The researcher made WDCT test (Appendix B) tested the speech acts in the same formality and familiarity levels. Each item required the test takers to read a written description of a situation and asked them to write what they would say in that situation. The same two American NSs, who had revised the earliest version of

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MDCT test, read and revised the WDCT test items and approved the authenticity of the described situations for the realization of the intended speech acts.

The rating of both pre and post WDCT tests was done by another pair of American native English speakers quite independently. In this rating process they used a three point Likert scale. The most appropriate realization forms of the speech acts in the test situations received the score (3), somehow appropriate realization forms received the score (2) and the inappropriate forms received the score (1). The sum of the scores on the 12 test items made each person's total score and the average of the two scores that each subject received from the two raters represented his / her performance in the WDCT pre and post tests.

The treatment material: A researcher developed booklet.

The material used for the treatment was a researcher compiled booklet in three units that contextualized and illustrated the three speech acts at the four levels of familiarity and formality through various authentic and simplified conversations. Each unit was designed in three parts of Pre-Focus, Focus, and Post- Focus.

The Pre-Focus part was to make the learners sensitive to different realizations of the speech act in different situations and sometimes it tried to raise questions about the most appropriate realization forms of the speech act in certain contexts.

In the Focus Part, some conversations and dialogues extracted from different parts of available instructional series (Cutting Edge, Head way, Interchange and …) were used to contextually present different situation specific realization forms of the speech acts and highlight the appropriateness rules of these forms in the given situations. Following the contextual illustration of the speech act's realization forms, short simple explanations on the pragmalinguistic realization forms and their relevant sociopragmatic norms (appropriateness principles) of the speech act were presented. These explanations were also followed by some exemplar contextual illustrations.

The Post-Focus part included some problem solving tasks like conversation, completion, matching exercises, role plays, and MDCT tasks that the subjects were supposed to do them during the treatment period.

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Procedure

Once the seniors or expert group of subjects were known, the researchers held two 60 minute sessions of instruction, training and practice on the intended scaffolding procedures for them. Aljaafreh and Lantolf's (1994) regulatory scale was considered as the ZPD wise operationalized framework of explicit and implicit scaffolding strategies in this study. In this preliminary training program, the researchers tried to first exemplify and illustrate the regulatory scale's explicit and implicit scaffolding procedures and then to give them the opportunity to practice the application of such strategies, focusing specifically on the ones they were supposed to apply in their group works.

The scale starts with the most implicit (0) and ends up with the most explicit instruction and feedback strategies (12):

0. Tutor asks the learner to read, find the errors and correct them independently, prior to the tutorial.
1. Construction of a "collaborative frame" prompted by the presence of the tutor as a potential dialogic partner.
2. Prompted or focused reading of the sentence that contains the error by the learner or the tutor.
3. Tutor indicates that something may be wrong in a segment.
4. Tutor rejects unsuccessful attempts at recognizing the error.
5. Tutor narrows down the location of the error.
6. Tutor indicates the nature of error, but does not identify the error.
7. Tutor identifies the error.
8. Tutor rejects unsuccessful attempts at correcting the error.
9. Tutor provides clues to help the learner arrive at the correct form.
10. Tutor provides the correct form.
11. Tutor provides some explanation for use of the correct form.
12. Tutor provides examples of the correct pattern when other forms of help fail to produce an appropriate responsive action. (Aljaafreh & Lantolf, 1994, p. 468)

The strategies zero to six were considered as the more implicit strategies and seven to 12 were considered as the more explicit scaffolding strategies for this study purpose.

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In addition to the scaffolding strategies, the designed booklet was introduced to the seniors in the preliminary training sessions so that they could gain a general familiarity with the text before the beginning of the treatment.

The study was done as an integrated part of the "Conversation I" course of the BA level EFL field of study. The treatment ran for 13 weeks and every week more than two third of a session (75ms) was allocated to it. In addition to the 13 sessions, two sessions were devoted to the administration of pre and post tests. The study took place in four classes, two of which were in BASU and the remaining two were in PNU. EFL freshmen in BASU made groups A and B and the freshmen in groups C and D were the students of PNU. Participants of both groups of A and B in BASU and C and D in PNU had been randomly assigned in to these different groups. The study was done using a quasi-experimental pretest–posttest design. Before the beginning of the treatment the TOEFL and the Pre WDCT and MDCT tests were given to all participants.

Group A: This group was subdivided into A1 (male) and A2 (female) subgroups. Each one included two work teams of three or four lower intermediate and an upper intermediate subject who was to play the role of the expert peer. The expert peer imparted contingent and graduated explicit instruction on the given speech act's situation specific realization forms and gave the required appropriate explicit feedback using the more explicit strategies (7-12) of the regulatory scale. The co-construction of the learners' ZPD in this group was done through collaborative problem solving of the lower intermediate learners and their senior peers. Twenty freshmen and seven seniors were in this group.

Group B: This group had the same male (B1) and female (B2) subdivisions and each one included two or three work teams of three lower intermediate subjects and an expert peer. The only difference between groups A and B was in the strategies the expert peers used for scaffolding in the co-construction of the ZPD. In this group the more implicit scaffolding strategies (0-6) were used for the instruction, feedback and the ZPD co-construction. Sixteen freshmen plus six expert peers were put into this group.

Group C: This group also included male (C1) and female (C2) subgroups. Each one consisted of work teams of three to five lower intermediate learners. These work teams did not include expert peers and the co-equal participants assisted each

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other through explicit *and* implicit scaffolding procedures while doing the tasks and activities of the booklet. The scaffolding procedures co-equals used in this group did not necessarily correspond to the regulatory scale procedures used in groups A and B, but were spontaneous assistance procedures that can be generally found in any other group work. The point to be observed in this group was whether or not the co-equal peers' assistance can help to the co-construction of ZPD and result in pragmatic development. The treatment booklet was available and they were free to use other sources of assistance like dictionaries, different books, and means like the Internet in case they needed help. Totally, 18 freshmen were taking part in this group.

Group D: The last group which served as the control group of the study was also subdivided into male (D1) and female (D2) parts. The subjects in this group were to work individually and no pair or group work was done. The same booklet tasks and problem solving activities were done individually as the teacher directed them to do. The teacher's metapragmatic instruction included explanations and illustrations of the pragmatic information. He did not limit his instruction and feedback to either explicit or implicit procedures, though both types were occasionally used in addition to other techniques like cross-cultural comparisons and translation of the difficult pragmatic forms to the learners' L1. Meanwhile the instruction and feedback of the teacher was not sensitive to the subjects' ZPD as the interaction was mainly unidirectional. Totally 18 freshmen were in this group.

At the end of the 13 weeks of treatment period, the participants of all major groups took the same WDCT and MDCT tests as the posttests.

Results

The comparison of the relative efficacy of independent variables, i.e. implicit expert peers' ZPD-wise scaffolding, explicit expert peers' ZPD-wise scaffolding, co-equals' ZPD-insensitive scaffolding, teacher fronted ZPD-insensitive instruction and feedback on the learners pragmatic development in four groups was carried out through ANOVA statistical procedure.

TOEFL Test Results Analysis

The one way ANOVA analysis of the TOEFL test results revealed no significant difference among the lower intermediate subjects' general English level at the

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outset of the study and the homogeneity of these participants' general English proficiency was assured (Table 1).

Table 1
Four lower intermediate groups' TOEFL test result's ANOVA analysis

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	380.710	3	126.903	1.659	**.184**
Within Groups	5201.276	68	76.489		
Total	5581.986	71			

As is evident in table 1, the P value is equal to .184 which exceeds .05, so the null hypothesis indicating that there was no difference among lower intermediate subjects' general English proficiency was confirmed. While an independent samples T-test comparing the lower intermediate subjects and the senior participants' TOEFL test results (Table 2) revealed a significant difference between the two groups.

Table 2
Lower and upper intermediate groups' descriptive statistics in TOEFL

	Up.Lo	N	Mean	Std. Deviation	Std. Error Mean
G.Prof.	Lower int.	72	30.48	8.86	1.04
	Upper	13	45.07	9.64	2.67

The independent samples T-test revealed the following results: T observed= -5.38, df= 83, a=.05, Sig (p) = .00. The effect size for P=.00 is d=1.6 which is considered to be a very large effect size (Leech, Barrett and Morgan, 2005, p. 56). The T-test result confirmed that the upper intermediate subjects' general English proficiency was significantly higher than the lower intermediate subjects. As is mentioned above, the TOEFL sample test was curtailed for practicality reasons and since this curtailment could have adversely affected the reliability of the test, the researcher reassessed the reliability of the abridged test, and a rather high index (Cronbach's Alpha= .88) proved the test as still highly reliable.

WDCT and MDCT Pretest Results Analysis

The reliability analysis carried out for the MDCT and WDCT tests revealed:

a=0.68 (Cronbach's Alpha = .68) for MDCT and

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a= 0.75 (Cronbach's Alpha = .75) for the WDCT test.

As is evident in table 3, the four lower intermediate groups' pre MDCT test results' ANOVA analysis revealed no significant difference at the outset of the study (p=.063). Likewise the WDCT pretest results analysis showed no significant difference among the four intervention groups (p= .071).

Table 3

ANOVA analysis of the 4 interventional groups' Pre MDCT / WDCT test results

		Sum of Squares	df	Mean Square	F	Sig.
PreMDCTT	Between Groups	41.55	3	13.85	4.53	**.063**
	Within Groups	207.72	68	3.05		
	Total	249.27	71			
PreWDCTTM	Between Groups	301.42	3	100.47	7.790	**.071**
	Within Groups	877.04	68	12.89		
	Total	1178.46	71			

However the comparison of the lower and upper intermediate subjects' performances in both MDCT and WDCT pretests revealed the following results (Table 4).

Table 4

Lower and upper intermediate subjects' Pre MDCT & WDCT ANOVA analysis

		Sum of Squares	df	Mean Square	F	Sig.
Pre MDCTT	Between Groups	18.89	1	18.89	5.88	**.017**
	Within Groups	266.35	83	3.209		
	Total	285.24	84			
Pre WDCTTM	Between Groups	269.85	1	269.85	17.92	**.000**
	Within Groups	1249.66	83	15.05		
	Total	1519.51	84			

Considering the Sig. column above (Table 4), it is evident that the performances of the two groups were significantly different from each other and because of the

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upper intermediate subjects' higher means in the two tests (MDCT Mean (upper) = 7.61 vs. MDCT Mean (lower) = 6.30, WDCT Mean (upper) = 31.34 vs. WDCT Mean (lower) = 26.39, the upper intermediate subjects' performances were proved to be significantly better than the lower intermediate subjects.

WDCT and MDCT Posttest Results Analysis

In order to answer the research questions concerning the relative efficacy of the four intervention types, separate one way ANOVA analyses were run. The four study groups' MDCT descriptive results are summarized in Table 5.

Table 5

Post MDCT descriptive statistics of the 4 interventional groups

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Explicit ZPD	20	8.50	1.4689	.3284	7.81	9.18	6.00	11.00
Implicit ZPD	16	8.75	1.0645	.2661	8.18	9.31	7.00	10.00
Ex/ Im No ZPD	18	7.50	1.5434	.3638	6.73	8.26	5.00	11.00
Classic No ZPD	18	6.94	2.0428	.4815	5.92	7.96	2.00	10.00
Total	72	7.91	1.7095	.2014	7.51	8.31	2.00	11.00

The analysis of variances of the effects of the four levels of intervention on the post MDCT test (F (3.68) = 5.09, P=.003) revealed the groups' statistically significant differences in their MDCT test results (Table 6) indicating that the four intervention types had significant different effects on the lower intermediate subjects' performance in MDCT posttests.

Table 6

ANOVA analysis of the 4 interventional groups' MDCT posttest

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	38.05	3	12.68	5.09	**.003**
Within Groups	169.44	68	2.49		
Total	207.50	71			

The effect sizes in Table 7 further distinguish the four intervention patterns' effects.

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Table 7
The effect sizes of differences among 4 intervention types in MDCT posttest

Pairs compared	**d (effect size)**	**Interpretation**
Exp. ZPD vs. Imp. ZPD	-.20	Rather small effect size favoring Implicit ZPD
Exp. ZPD vs. ex/im co-eq no ZPD	0.66	Fairly medium effect size favoring Exp. ZPD
Exp. ZPD vs. Classic	0.88	Large effect size favoring Exp. ZPD
Imp. ZPD vs. ex/im co-eq no ZPD	0.93	Fairly Large size effect favoring Imp. ZPD
Imp. ZPD vs. Classic	1.09	Very large effect size favoring Imp. ZPD
exp/im co-eq no ZPD vs. Classic	0.30	Rather small effect size favoring exp/im co-eq no ZPD

As is evident in Table 7, expert peers' ZPD wise implicit scaffolding had the best effect on the lower intermediate learners' development in the recognition of the most appropriate pragmatic forms for the realization of the three speech acts. The second most effective intervention type in this regard was the expert peers' ZPD wise explicit scaffolding type. Co-equal learners' scaffolding was proved to be the third in its effect on the recognition of the most appropriate forms and the teacher fronted ZPD-insensitive intervention was proved to be in the fourth rank. The schematic representation of the relative effects of the four intervention types on the MDCT test results is presented in Figure 1.

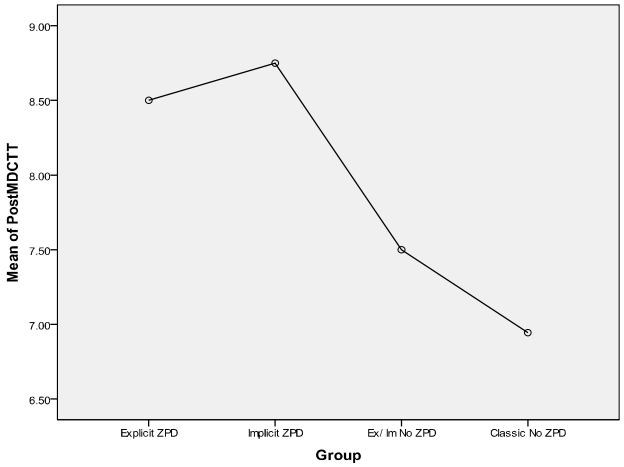


Figure 1: Post MDCT means plot of the four groups

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The analysis of the post WDCT test results revealed a different pattern for the relative effects of the four intervention types. Table 8 presents the descriptive results of the four groups' performances on the WDCT posttest.

Table 8
Descriptive statistics of the 4 interventional groups' WDCT posttest

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Min	Max
					Lower Bound	Upper Bound		
Explicit ZPD	20	33.57	1.3791	.3083	32.92	34.22	29.50	35.50
Implicit ZPD	16	33.15	1.7580	.4395	32.21	34.09	29.00	35.50
Ex/ Im No ZPD	18	31.69	4.0078	.9446	29.70	33.68	20.50	36.00
Classic No ZPD	18	28.88	2.9879	.7042	27.40	30.37	24.00	33.50
Total	72	31.84	3.2553	.3836	31.07	32.60	20.50	36.00

The relative effects of the four intervention types on the subjects' WDCT test performance were also proved to be significantly different by the following one way ANOVA.

Table 9
ANOVA analysis of the 4 interventional groups' WDCT posttest

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	245.06	3	81.69	10.94	**.000**
Within Groups	507.34	68	7.46		
Total	752.41	71			

As is evident in Table 9, the F (3.68) = 10.94 is statistically significant which means that the four groups' performances in this test were not the same. The exact nature of the differences is clarified when we consider the comparative effect sizes of the four intervention types on the WDCT test results (Table 10).

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Table 10
The effect sizes of differences among the 4 intervention patterns on WDCT

Pairs compared	**d (effect size)**	**Interpretation**
Exp. ZPD vs. Imp. ZPD	0.27	Rather small effect favoring Exp. ZPD
Exp. ZPD vs. exp/imp no ZPD	0.65	Fairly medium effect favoring Exp. ZPD
Exp. ZPD vs. Classic	d > 1	Very large effect favoring Exp. ZPD
Imp. ZPD vs. ex/imp no ZPD	0.46	Medium effect favoring Imp. ZPD
Imp. ZPD vs. Classic	d > 1	Very large effect favoring Imp. ZPD
exp/imp no ZPD vs. Classic	0.80	Large effect favoring exp/imp no ZPD

In simple terms, table 10 indicates that the most effective scaffolding procedure for the learners' ILP development in the production of the three speech acts had been the expert peers' explicit ZPD wise scaffolding procedure. The expert peers' ZPD wise implicit scaffolding type is proved to be the second most effective, co-equal's ZPD-insensitive procedure is proved to be the third , and the teacher's ZPD-insensitive instruction and feedback is proved to be the fourth effective procedure for the ILP development of the lower intermediate subjects.

The rather small effect sizes of the differences between the implicit ZPD-wise expert peers' scaffolding and explicit ZPD-wise expert peers' scaffolding in both MDCT and WDCT post test results highlight the rather impractical significance of the differential effects of these scaffolding types on recognition (MDCT) and production (WDCT) of the speech acts. The schematic representation of the relative effects of the four intervention types on the WDCT test results is presented in Figure 2.

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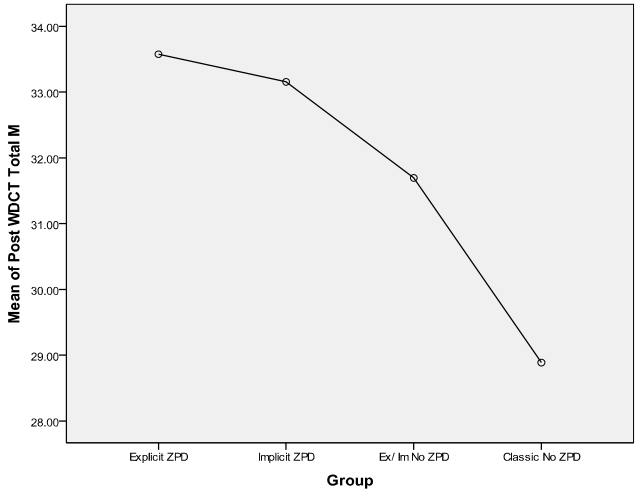


Figure 2: Post WDCT means plot of the 4 groups

Discussion

As Tables 7 and 10 present, the four intervention procedures had significantly different effects on the subjects' MDCT and WDCT test results. This means that the null hypotheses assumed for the research questions one to four are all rejected and each one of the four intervention types had comparatively different and significant effects on the subjects' ILP development.

Concerning the first research question, the results indicated that the expert peers' explicit scaffolding in the lower intermediate subjects' ZPD had significantly superior effects on both WDCT and MDCT test performances of the subjects compared with teacher fronted ZPD-insensitive instruction and feedback, and co-equals' ZPD-insensitive scaffolding. This significant effect was the highest on the subjects' post WDCT test performance, while it was the second-highest effect on post MDCT test. The effect sizes of the significant differences in MDCT test results (Table 7) favored this intervention style over co-equals' scaffolding style (d= 0.66 i.e. fairly medium effect size) and teacher fronted ZPD-insensitive instruction and feedback (d= .88 i.e. large effect size).

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Concerning the second research question, the findings indicate that the expert peers' implicit scaffolding had the most significant effect on the subjects' MDCT test performance. This scaffolding procedure was statistically preferred over expert peers' ZPD-wise explicit scaffolding, though the small effect size (d= .20) indicated a rather impractical significance for the difference. The superiority of the expert peers' ZPD-wise implicit scaffolding over co-equals' scaffolding in the MDCT posttest results was highly significant (d=.93 i.e., fairly large effect size). Compared with teacher fronted ZPD-insensitive procedure, the expert peers' ZPD-wise implicit scaffolding was shown to be of utmost efficiency since the effect size was very large (d =1.09).

Considering the third research question, the co-equals' scaffolding had also statistically significant superiority over teacher fronted metapragmatic instruction and feedback, but the rather small effect size (d=0.30) warns against radical practicality interpretation.

The last research question was related to the efficacy of teacher fronted ZPD-insensitive instruction and feedback for the ILP development. The analyses revealed that this intervention type was the least effective procedure among the four studied intervention types.

To summarize, the expert peers' implicit ZPD wise scaffolding had the best effect on the recognition (MDCT) of the appropriate situation specific realizations of the three speech acts. While expert peers' ZPD wise explicit scaffolding was significantly superior to the other ZPD-insensitive intervention types in its effect on the learners' recognition of pragmatic forms. Co-equals' explicit/implicit ZPD-insensitive scaffolding's effect proved to be the third effective procedure among the four intervention types and the classic teacher fronted ZPD-insensitive instruction and feedback proved to be the least effective of all for the pragmatic development of the lower intermediate subjects considering the recognition or MDCT test results.

But the order of significant effects of the four intervention types was trivially different when we consider the WDCT (production) test results. As table 10 statistically proves, the expert peers' ZPD-wise explicit scaffolding was of the most superior effect on the WDCT test performances of the subjects. This significantly different effect was of rather small size when it was compared with expert peers'

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ZPD-wise implicit scaffolding (d = .27), but it was fairly medium when compared with co-equals' scaffolding (d =.65), and very large when compared with teacher fronted style (d > 1). Contrary to what was seen in the MDCT results, the expert peers' ZPD-wise implicit scaffolding had the second strong effect on the WDCT test results. Compared with co-equals' scaffolding, expert peers' ZPD-wise implicit scaffolding's effect size was 0.46 which is considered to be medium in its significance, and compared with classic teacher fronted scaffolding type, the significant effect size was d > 1, which is considered to be very large.

Co-equals' ZPD-insensitive scaffolding had the third significant effect on the subjects' WDCT test performance as it was the case with their MDCT test results. It was preferred over teacher fronted type since the effect size was of a large magnitude (d =0.80).

Finally, the teacher fronted type was the least effective intervention for the pragmatic development of the subjects considering the WDCT test result as well.

The results implied that the expert peers' ZPD-wise explicit and implicit scaffolding did affect the recognition and production of the pragmatic elements differently but considering this difference two points need to be raised:

1. The difference between the two scaffolding procedures' effects on the recognition (MDCT) and production (WDCT) of pragmatic information, although statistically significant, is impractical due to rather small effect sizes.
2. Contrary to what Koike and Pearson (2005) suggested, expert peer's ZPD-wise implicit scaffolding led the subjects to better understand pragmatic elements and gain superior results in the recognition test, while the expert peers' ZPD-wise explicit scaffolding led to better results in the production of pragmatic elements .

Koike and Pearson (2005) suggest that the explicit instruction and feedback are effective in helping learner understand pragmatic elements and contexts by calling their attention to pragmatic form while implicit instruction and especially the implicit feedback in the form of recasts may help learners produce appropriate pragmatic utterances. The results gained in the present study partially contradicts their suggestion since the explicit and implicit expert peers' instruction and feedback led to improved recognition and production of pragmatic elements in the

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opposite direction to what they suggested, however, one needs to consider the point that the one/s who provided the explicit and implicit instruction and feedback in this study were expert peers and not the teachers. Meanwhile, the second point of caution is related to the role of ZPD-sensitivity of the explicit and implicit scaffolding strategies applied in this study.

Many studies (e.g. Koike & Pearson, 2005; Martinez-Flor & Fukuya, 2005; Alco'n, 2005; Takahashi, 2005; Ohta, 2005) have revealed that providing learners with explicit meta-pragmatic instruction yields more effective learning outcomes than providing them with implicit target input, however, the present study revealed that the teachers' explicit metapragmatic instruction and feedback was placed in the fourth rank in it's effects on the pragmatic comprehension and production of the lower intermediate subjects compared with the expert peers' ZPD-wise explicit or implicit instruction and feedback, and co-equal's ZPD-insensitive scaffolding.

There might be a couple of reasons for the superior effects of explicit or implicit expert peers' ZPD-wise instruction and feedback. The first seems to be the role of the friendly environment that was prevailing in such group works as the peers could freely interact with their expert peers and group mates and discuss the points much more freely than the situations in which they interacted with their teachers. The second factor seems to be the role of ZPD sensitivity of the group works in the present study.

Inconsistent with Takahashi (2001) who claims that a teacher's lecture can serve as a scaffold upon which learners can construct new knowledge functioning as assistance in their ZPD, the expert peers' sensitivity to the learners' ZPD is found to be much more effective than the teacher's metapragmatic and explicit lecture and actually the teacher's metapragmatic instruction and feedback is proved to be the least effective for the construction of the learners' ZPD in pragmatic development, however, consistent with numerous other studies that observed peer groups of learners in their group works and reported them to be able to construct a ZPD through joint efforts among their members without expertise residing in any one member of the group (e.g. De Guerrero & Villamil, 2000; Ko, Schallert & Walters, 2003), co-equal learners' scaffolding, though assumed to be ZPD-insensitive by the researchers at the outset of the study, was quite effective for their pragmatic development. As the results indicate, the performance of the subjects in the co-equals group in both recognition (MDCT) and production (WDCT) tests outpaced

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the results' of the subjects in teacher fronted metapragmatic instruction and feedback group. This might indicate that the learners in this group were able to co-construct their own ZPD and develop within.

The findings also support the results of studies like Ohta (2001), Swain and Lapkin (1998), Anton (1999), that have studied peer interaction in a foreign /second language context and found that differential competence among peer learners allow a ZPD to emerge in groups or pairs of adult learners when no true expert is present. However, compared with the expert peers' ZPD-wise explicit or implicit scaffolding, the results indicated that the co-equals' scaffolding effect on the pragmatic elements recognition and production fell shorter – a point which might highlight the power and significance of the peers' expertise.

Conclusion

The study revealed that ZPD wise scaffolding of the more knowledgeable peers in both explicit and implicit modes was more effective for the lower intermediate subjects' pragmatic development than the teacher fronted instruction and feedback. Furthermore, the co-equal learners successfully co-constructed their ZPD in their groups for their pragmatic development while there was no true expert in such groups. Based on the results of the study, it seems that the EFL learners' ILP development can be ideally achieved through group works in which a more knowledgeable peer or tutor progressively helps the less knowledgeable peers, though if all learners happen to be more or less at same pragmatic knowledge level, they can still effectively help each other for their ILP development through group works. It implies that EFL teachers should limit the amount of their metapragmatic instruction and feedback to its minimum and try to apply the potentiality of the suggested group works in their EFL classroom context.

Finally, it needs to be mentioned that the study is suffering from a number of limitations. As a major limitation, owing to the autonomy that was intended to be given to the expert peers in their respective group activities, the researchers were not completely able to assure the application of merely group specific explicit or implicit scaffolding procedures, though the researchers tried to observe the group works indirectly and reminded the experts about their group specific strategies at the end of every single session of treatment.

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Appendices

Appendix A: MDCT (3 Exemplar Items)

Dear test taker: Following you will find 12 situations and dialogues in need of your completion. Please choose the most appropriate response regarding the formality level and familiarity of the speakers in the situation.

1. You accidentally spill your friend's coffee. You would say:

a. Oh, I beg your pardon!
b. Oops! I'll get you another one.
c. Excuse me please, I am sorry.

2. Two strangers having their meal on a table in a restaurant:

Mr. Jones: Excuse me, could you pass me the salt, please?
Miss Wilson:…….

a. Give it back afterwards, please.
b. Could I have it back when you are finished, please?
c. Give it back when you are finished please. Will you?

3. Mother: Hello! Had a good day in school?
Son:
……

a. Really a Black Monday! Our teachers were short tempered; our classroom was very hot and...
b. Well, actually I'm terribly sorry to have to say this but it was really a black Monday! Our teachers were short tempered, our class was very hot and ...
c. Well, you know … mm… I need to … bring something up to you. It was really a Black Monday! Our teachers were short tempered; our class was very hot and...

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Appendix B: WDCT (3 Exemplar Items)

Dear Test Taker: Complete the following dialogues with the most appropriate sentences. Please pay attention to the situation and the people who are involved.

1. Alex, a college student, wants to borrow his professor's book. What's the best way to ask his professor to lend him the book?

Alex: Actually, the book is not available in the library.

Prof.: But that is your main source. You need to have it for next week.

Alex:

……..

Prof.: Mm, I see. I can lend it to you if you would return it in only two days, not up to next week.

2. You accidentally step on someone's foot on the bus. How would you apologize?

Man: Ow! Be careful, would you?

You:

……
…

3. Callum and William live together. Callum is not happy with William because he never seems to do the washing up. How would he complain to him?

Callum: Oh, not again!

……..

William: I did it. I did it on Sunday.

Callum: Yeah, but it's Friday now, for goodness sake!

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