EFFECT OF EXPLICIT TEACHING OF PROSODIC FEATURES ON THE DEVELOPMENT OF LISTENING COMPREHENSION BY FARSI-ENGLISH INTERPRETER TRAINEES: AN EXPERIMENTAL STUDY

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Abstract
This study investigates the effect of explicit teaching of prosodic features on developing listening comprehension by interpreter trainees. Two groups of student interpreters were formed. All were native speakers of Farsi who studied English translation and interpreting at the BA level at the State University of Arak, Iran. Participants were assigned to groups at random, but with equal division between genders (9 female and 9 male students in each group). No significant differences in English language skills (TOEFL scores) could be established between the groups. Participants took a standard pretest of listening comprehension before starting the program. The control group had exercises in listening comprehension, while the experimental group spent part of the time on theoretical explanation of, and practical exercises with, prosodic features of English. The total instruction time was the same for both groups, i.e. 8 hours. Students then took a standard listening comprehension test. The results show that the prosodic feature awareness training significantly improved the students' listening comprehension skills. The results have pedagogical implications for curriculum designers, interpreting programs for training future interpreters, material producers and all who are involved in language study and pedagogy.

Key words: Listening comprehension, prosody, curriculum designers, interpreting studies

1. Introduction

The process of decoding the auditory input by anybody who uses language is called listening. It is a complex process through which the auditory stimulus is transformed to a mental reconstruction by the listener (e.g. Poelmans 2003). Listening comprehension is a conscious process by which listeners, through using different types of cues from the context and their previous knowledge, construct meaning from the incoming input (O'Malley & Chamot 1989). Listeners consciously process utterances in particular settings so as to perceive the message (Mendelsohn 1994). Purdy (1997) states that listening is an active process through which listeners attend to, perceive, interpret, remember and provide feedback on. Listeners should be able to decode meaning, apply different strategies, and exploit interactive processes in deciphering the message (Gilakjani 2011). Willis (1981:134) elaborates on some skills that are necessary for listening comprehension, which she refers to as "enabling skills". These are categorized as: (1) predicting the points people want to talk about, (2) guessing at unknown words or phrases, (3) using one's own previous knowledge of the subject to help one understand, (4) identifying all the relevant points; rejecting irrelevant information, (5) keeping relevant points by note-taking, (6) recognizing discourse markers, e.g., *well*; *oh*, *another thing is*; *now*, *finally*, etc., (7) recognizing cohesive devices, e.g., *such as* and *which*, including link words, pronouns, references, etc., (8) understanding different intonation patterns and uses of stress, etc., which give clues to meaning and social setting, and (9) understanding inferred information, e.g. speakers' attitude or intentions.

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Anderson (2009) states that the listening comprehension process includes three stages: perceiving, parsing and utilizing. Through perceiving, the listener decodes the spoken language. By parsing, the listener transforms the words in the utterance into a mental representation to get the meaning. In the final phase, using the mental representation, the listener reconstructs the sentence meaning. Conscious awareness of the rules and structures plays an important role in processing linguistic input and decoding the incoming information (Schmidt 1990; Tomlin & Villa 1994).

Listening comprehension in English as a foreign language has not been paid enough attention to in the past. Yet, this skill is one of the important skills in second-language teaching and learning (Oxford 1993; Rubin 1994; Berne 1998; Clement 2007). The view was that second-language listening comprehension skills naturally improve in second-language classrooms inductively. According to Clement (2007) second- language listening skill would automatically develop through exposure to second-language speech in the classroom. Also, different scholars have come to believe that second-language listening skills demand awareness training in different aspects (Cohen 1998; Oxford 2002; Carrier 2003; Berne 2004; Chamot 2004; Clement 2007; Liu 2009; Graham, Santos, & Vanderplank 2011). Conscious perspectives and metacognitive strategies are the higher-order executive skills that permit learners to accomplish a learning goal through planning, monitoring and evaluating (O'Malley & Chamot 1990; Chamot 2004, reported in Guan 2015). Explicit teaching of strategies should be part of the daily activities of instructors in second-language classes (Chamot 2004). Fahim and Fakhri Alamdari (2014) suggest that developing metacognitive awareness in second-language learners of different components in listening comprehension would result in better perception of the message by the students. Metacognitive awareness implies the usage of pedagogical perspectives to make second-language learners increase their awareness of the listening comprehension process by having metacognitive knowledge about themselves as a second-language listeners, the necessities of listening and all the strategies of listening (Vandergrift & Goh 2012).

The second-language learners' speech production deviates from that of native speakers in both segmental and suprasegmental aspects. These deviations cause the foreign accent and often have a negative impact on the non-native speaker's comprehensibility (Trofimovich & Baker 2006; Munro & Derwing 2008; Kang, Rubin, & Pickering 2010, reported in Gordon et al. 2013). Research shows that prosodic awareness has a positive effect on the interpretation of ambiguous prepositional phrases for foreign-language learners (Schafer 1997; Warren et al. 2000; Snedeker & Trueswell 2003; Schafer et al. 2005; Kraljic & Brennen 2005, reported in Kang 2007). Buck (2001) stated that listeners take advantage of stress as an important cue in message perception. Explicit teaching of suprasegmentals and raising the learners' awareness of prosodic differences through formal teaching may have a positive effect on perceiving the meaning of sentences (Lord 2005; Pennington & Ellis 2000). Derwing et al. (1998) pointed out that explicit teaching of suprasegmentals may enhance second-language learners' comprehension more strongly than focusing on segmental aspects in formal instruction. Gordon et al. (2013) concluded from experimental studies that explicit teaching of prosodic features and raising the consciousness of the learners of prosodic features improve comprehension skills on the part of the students. Gordon et al. (2013) investigated the effect of explicit instruction of prosodic features on the acquisition of phonological features and also tested the participant's production after providing explicit instruction on how to make their speech (more) comprehensible. Three groups of English-as-second-language learners were selected and explicitly taught pronunciation features during three weeks using a communicative approach (Celce-Murcia, Brinton, & Goodwin, 2010; Hinkel, 2006, reported in Gordon et al. 2013). Two groups of participants received explicit instruction on suprasegmental and segmental features of English while the third group received exposure to these features orally without explicit teaching. The results showed that the explicit teaching of suprasegmental features makes learners notice the second-language features and can enhance the second-language learner's development of comprehensible speech.

The explicit teaching of suprasegmental features should be a prerequisite in pronunciation teaching in second-language learning classrooms (Seidlhofer & Dalton-Puffer 1995, reported in Ak 2012). Field (2005) looked at the distribution of sentence stress in the utterance and pointed out that items in the speech which are mis-stressed may prompt the listener to construct a wrong meaning representation and as a result the listener would shape a wrong representation of what follows in the stream of speech as well. Field also states that incorrect lexical stress would negatively impact on locating words in the stream of connected speech. Ak (2012), in an experimental study, also concluded that pronunciation awareness training improved second-language learners' listening comprehension skills.

Therefore, interpreting studies need to consider the issue of prosody awareness training in the training of future interpreters. Since there is no systematic study of the effect of prosody awareness training on developing listening comprehension skills in the performance of consecutive interpreters, we decided to conduct an experimental study to investigate this issue so that results would pave the way for training qualified future interpreters. Accordingly, we experimentally investigated the effect of prosodic feature awareness training on the development of listening comprehension skills for interpreting performance. The results may lead to modification of the curriculum of interpreting studies in order to enhance the quality of the next generation of interpreters.

2. Research question

Listening comprehension skills play an important role in message perception for all interpreters. Without perceiving and decoding the message, there would not be any type of encoding and interpretation of message. In order to see how much conscious prosodic information can contribute to the perception of the message by interpreters, the following research question is investigated.

Does awareness training of prosodic features (stress at word and sentence level) lead to develop the global listening comprehension in message perception for student interpreter trainees?

3. Method

3.1 Participants

Thirty-six students of translation and interpreting between Farsi and English were chosen randomly from 68 junior students at Arak University, Iran. They were randomly divided into two classes of 18 students that each incorporated 9 male and 9 female students. The participants were native speakers of Farsi with an age range of 18-25 years. They participated in all sessions of the training.

3.2 Procedure

The participants were divided into control and experimental groups through the application of systematic random sampling. The control group received routine exercises (i.e. placebo), asking them to listen to authentic audio tracks in English and doing exercises based on questions about the contents of the audio tracks. The experimental group spent less time on these tasks and instead received prosodic feature awareness training for 15 minutes during each training session.

At the beginning of the program all the participants took a pretest of general English proficiency. The test battery was the standard Longman's TOEFL English proficiency test, with separate modules testing the learner's (i) Listening comprehension, (ii) Reading comprehension and (iii) Structure and writing skills. The participants took part in the program for eight sessions (one hour per session) in four weeks, i.e. 8 hours in all.

Altogether the control group listened to 320 minutes of authentic audio tracks and did the exercises based on them. Moreover, both the control group and the experimental group listened during 160 minutes to the Iranian instructor who explained how to do exercises in listening comprehension. The experimental group altogether listened for 200 minutes to authentic audio tracks and did the exercises based on them. Additionally, they listened for 60 minutes to the theoretical explanation of English prosody that was provided by the Iranian instructor and spent 60 minutes in all doing practical exercises in English prosody.
In all the sessions, at different times, formative tests were administered to the participants in order to measure their progress and to diagnose problems on the part of the participants. Both at the beginning and at the end of the program, standard Longman's TOEFL listening comprehension test modules were administered as pretest and as posttest to evaluate the global listening comprehension in message perception for both groups**.** Both pretest and posttest had 50 multiple-choice items with four alternatives per item. The participants listened to a conversation or description of some phenomenon and, based on that, chose one option from four choices. These standardized pretest and posttest have the same level of difficulty as claimed by the documentation that goes with these standard tests.

3.3 Data analysis

In order to see whether the participants were homogeneously distributed over the two groups a Two-Sample Kolmogorov-Smirnov Test was run. Linear Regression was conducted in order to find out the extent to which components of the TOEFL language proficiency pretests predict a student's performance in the posttest. To see whether the difference between the mean scores of the experimental and control groups is statistically meaningful, t-tests were performed. The correlation between pretest scores and posttest scores was established by the Pearson correlation coefficient.

4. Results

4.1 Effect of prosodic awareness training

Table 1 summarizes the raw component scores of the proficiency test of the control group (left-hand part of table) and of the experimental group (right-hand part).

Table 1 Raw component and overall scores on TOEFL proficiency test obtained by control (left-hand part) and experimental groups (right-hand part). Within each group subjects are listed in descending order of the overall TOEFL score.

Control Group							Experimental group						
Nr.	ID	Gend.	List. Comp	Struct. & Writing	Read. Comp	overall TOEFL	Nr.	ID	Gend.	List. Comp	Struct. & Writing	Reading Comp	overall TOEFL
1.	ReA	M	60	58	61	596.6	1.	JaN	M	59	63	61	610
2.	SaS	F	59	57	59	583.3	2.	FaN	F	59	56	58	576.6
3.	HaD	M	57	56	57	566.6	3.	AmD	M	58	57	56	570
4.	MaM	F	57	55	56	560	4.	FaB	F	57	56	55	560
5.	SiK	M	55	53	56	546.6	5.	AlK	M	56	55	55	553.3
6.	LeD	F	55	52	55	540	6.	YaM	F	54	54	55	543.3
7.	PaH	M	55	53	53	536.6	7.	SaR	M	53	54	54	536.6
8.	GoR	F	54	53	52	530	8.	RaT	F	52	54	53	530
9.	JaB	M	53	54	51	526.6	9.	HaS	M	52	52	53	523.3
10.	TiR	F	52	54	49	516.6	10.	FeN	F	51	53	52	520
11.	JaM	M	51	52	49	506.6	11.	MeR	M	50	52	52	513.3
12.	AtR	F	50	51	49	500	12.	HaR	F	51	51	51	510
13.	AkJ	M	50	50	49	496.6	13.	AbS	M	49	50	50	496.6
14.	PaF	F	49	50	49	493.3	14.	NaN	F	48	50	50	493.3
15.	HoT	M	48	50	49	490	15.	BeR	M	47	49	49	483.3
16.	ZaK	F	48	49	49	486.6	16.	PaN	F	46	48	48	473.3
17.	HaK	M	47	49	48	480	17.	AmM	M	45	48	47	466.6
18.	PaK	F	46	48	47	470	18.	MoM	F	44	48	46	460
Mean			52.6	52.4	52.1	523.7	Mean			51.7	52.8	52.5	523.3
SD			4.2	2.8	4.2	36.7	SD			4.7	3.8	3.8	41

One-sample Kolmogorov-Smirnov (KS) tests were run to ascertain that the overall TOEFL proficiency scores were distributed both normally and uniformly. The results show that the distribution of the scores were both uniform, z = .674 (p = .796) and normal, z = .704 (p = .705). Moreover, a two-sample KS test showed that the shape of the distribution of the TOEFL scores did not significantly differ between the experimental and control group, z = .707 (p = .699). It was decided that standard parametric statistics could be safely used to analyze the data.

A t-test for unrelated samples then shows that none of the small differences on the pretest and its components between the experimental and control group are significant, $t(34)$ = .482 (p = .633) for Listening comprehension, $t(34)$ = .788 (p = .437) for Structure and written expression, $t(34)$ = 1.421 (p = .168) for Reading comprehension and $t(34)$ = −.703 (p = .487) for the overall TOEFL proficiency score.

Before starting the awareness training program, a pretest of listening comprehension was run to investigate the participants' global listening comprehension skill. After having followed the awareness training program for eight sessions, a posttest was run to see the effect of training program on experimental and control groups listening comprehension skill.
The results of pretest and posttest of global listening comprehension are presented in Table 2 (control group in the left-hand half of table, experimental group in the right-hand half).

Table 2 Pretest scores and posttest scores for control group in listening comprehension (left-hand part) and experimental group (right-hand part). The last two rows contain the mean and standard deviation of the scores. Participants are ordered as in Table 1.

Control Group					Experimental Group				
Nr.	ID	Gender	Pretest	Posttest	Nr.	ID	Gender	Pretest	Posttest
1.	ReA	Male	61	63	1.	JaN	Male	60	64
2.	SaS	Female	58	59	2.	FaN	Female	60	63
3.	HaD	Male	58	57	3.	AmD	Male	59	62
4.	MaM	Female	57	56	4.	FaB	Female	59	62
5.	SiK	Male	53	54	5.	AlK	Male	57	61
6.	LeD	Female	53	53	6.	YaM	Female	55	59
7.	PaH	Male	53	53	7.	SaR	Male	53	57
8.	GoR	Female	52	53	8.	RaT	Female	53	56
9.	JaB	Male	52	53	9.	HaS	Male	52	52
10.	TiR	Female	52	54	10.	FeN	Female	52	51
11.	JaM	Male	51	53	11.	MeR	Male	51	55
12.	AtR	Female	50	53	12.	HaR	Female	51	54
13.	AkJ	Male	49	52	13.	AbS	Male	51	55
14.	PaF	Female	49	49	14.	NaN	Female	48	50
15.	HoT	Male	49	47	15.	BeR	Male	46	49
16.	ZaK	Female	47	47	16.	PaN	Female	46	48
17.	HaK	Male	46	44	17.	AmM	Male	45	45
18.	PaK	Female	45	46	18.	MoM	Female	45	47
Mean			51.94	52.56	Mean			52.39	55
SD			4.3	4.7	SD			5.1	5.9

In order to compare the results of both the control and the experimental groups and to know whether the difference in the means truly stems from the awareness training in stress at the word and at sentence level in global listening comprehension taken by the experimental group (i.e. treatment), an independent-samples t-test was employed. Ideally, for this test, the subjects should be randomly assigned to two groups, so that any difference in response is due to the treatment and not to other factors, which conditions were clearly met in the present case. Before running the t-test, the test scores were submitted to the two-samples KS test to check the groups' final test results for normalcy, uniformity and homogeneity. It is concluded that the test scores of both groups are sufficiently homogeneous, so that t-tests (and other parametric tests) can be safely used, $z = .707$ ($p = .699$).

In the next stage of the analysis we computed the gain in the Listening comprehension score between the pretest and the posttest. The gain was very small (.6) and only marginally significant by a within-subject t-test (paired t-test) for the control group, $t(17) = 1.7$ ($p = .051$, one-tailed) but larger (2.6) and highly significant for the experimental group, $t(17) = 7.2$ ($p < .001$, one-tailed). Moreover, an independent-samples t-test on the difference scores shows that experimental group gained significantly more than the control group, $t(34) = 3.9$ ($p < .001$, one-tailed).

Finally, Figure1 plots the relationship between the overall TOEFL scores and posttest scores of the individual students, with separate symbols for participants in the experimental and control groups.

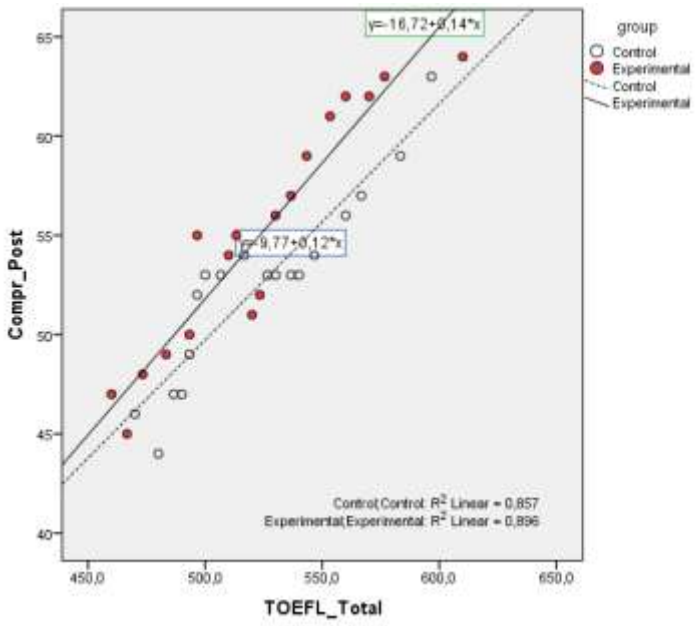

Figure 1 Posttest comprehension scores of individual students plotted as a function of their TOEFL scores, with separate markers for participants in the experimental group and in the control group.

The overall correlation between the pre-test and post-test scores was r = .946 (N = 36, p < .001). The figure illustrates quite clearly that the experimental and control groups have the same distribution of overall TOEFL scores at the beginning the experiment but that the experimental group performs better overall than the control group in the listening comprehension posttest. The figure also shows that the overall proficiency level of the individual student prior to the experiment has a much greater effect on the posttest score than the intervention has.

5. Conclusion

In this study the effect of prosodic feature awareness training at word and at sentence level on developing global listening comprehension was investigated. The result of the study showed that awareness training of prosodic features would contribute to interpreter trainees significantly in developing listening comprehension skill if they have conscious knowledge of stress at word and at sentence level. Statistical analysis of the data showed that prosodic feature awareness of stress at word and at sentence level enhances the participant's listening comprehension skill in perceiving the message. This perspective is supported by Khaghaninejad & Maleki (2015) who state explicit teaching of phonetic rules for English-as-a-foreign- language students results in developing listening comprehension skills. This finding shows that explicit teaching of prosodic features at word and at sentence level can be pedagogically important for training future interpreters. It also converges with Xiaoyu's (2009) claim that the explicit teaching of suprasegmentals for English-as-foreign-language students would contribute a lot in overcoming phonological obstacles in their listening comprehension.

The pedagogical implications are that in training future interpreters conscious knowledge of prosodic features should be included as a complementary part to various aspects of instruction in interpreting techniques so that interpreters, by having conscious knowledge of prosodic features, perceive the message more accurately. Policy makers in training programs of interpreting should take this perspective into account when designing the curriculum of interpreting. Moreover, by including prosodic feature exercises in their textbooks material producers for interpreting programs can pave the way for the practitioners to implement these discussions in interpreting programs.

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