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The Impact of Morphological Awareness on Iranian Pre-University Students' Listening Transcription

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Morphological Awareness (henceforth: MA), defined as the ability to understand the morphemic structure of the words, has been reported to affect various aspects of second language performance including reading comprehension ability, spelling performance, etc. Yet, the concept has been far less treated with reference to l2 listening transcription. Thus, against this background, this study aims to investigate the link between MA and listening transcription ability of Iranian pre-university students. To this aim, 40 pre-university students participated in the study, and were assigned to two control and experimental groups. Both groups were first given three short listening passages to transcribe as the pre-tests. The results of the independent-samples t-test revealed no significant difference between the two groups. The experimental group, then, received five one-hour sessions briefing them on the morphological realization of English words. The two groups were then given three short listening passages to transcribe as their post-tests. The results of the independent-samples t-tests attested to the significant difference between the two groups, thus, supporting the relationship between MA and listening transcription ability. The study concludes with some suggestions as to the incorporation of MA into L2 learning programs.

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Several metalinguistic skills, including phonemic awareness, orthographic knowledge, and morphological awareness (MA), are said to contribute to better language performance (e.g., Apel, Wolter, & Masterson, 2006; Nagy, Berninger, Abbott, Vaughan, & Vermeulen, 2003; Mahony, Singson, & Mann, 2000). Among these, MA has received considerable attention in both L1 and L2 literacy development; it has been extensively studied with reference to skills such as reading, writing, vocabulary acquisition and spelling development and has been reported to account for significant and unique variance in these skills (e.g., Carlisle, 2000; Champion, 1997; Tyler & Nagy, 1990; Freyd & Baron, 1982; Mahony, 1994; Deacon, Wade-Woolley & Kirby, 2007; Mann, 1986; Leong, 2000; Deacon & Kirby, 2004; Deacon & Bryant, 2006).

Morphological awareness (MA) refers to "…children's conscious awareness of the morphemic structure of words and their ability to reflect on and manipulate that structure" (Carlisle, 1995, p. 194). It is, in fact, the explicit understanding of the smallest units of meaning in the language, including inflectional (e.g., *-ing, -ed)* and derivational (e.g., *-ly, -tion*) markers (i.e., suffixes). It also implies learners' use of metacognitive strategies for reflecting on and manipulating word formation rules to derive the meaning of new words in the absence of a communicative context.

There is a surge of interest in MA as a critical element of language knowledge. The rationale for this heightened interest rests on several facts related the contributions MA offers to the learners. In the first place, as Singson, Mahony and Mann (2000) put it, morphemes have semantic, phonological and syntactic properties that clearly express the role of a particular word in its linguistic context (e.g. *–s* in the verb *rides* shows that the person who does the action is only one and he does the action in the present time). Moreover, representing morphological units sometimes requires the flouting of letter-sound rules. The inflectional morpheme for the past forms of the regular verbs in

English, *'ed',* is a good case in point, for which there is not a letter-sound correspondence (Totereau, Thenevin & Fayol, 1997).

The other contribution that MA presents to language learners is that it makes them more aware of the writing system of the language. With the morphological knowledge, learners can perceive spelling and phonological irregularities (e.g. *sign-signature*) (Kuo & Anderson, 2006). This takes on even a greater importance in the many scripts wherein there is more than one way to represent a sequence of sounds adequately.

Still the other reason is the conservation in the spelling of stems across words in spite of a change in phonology. Totereau, Thenevin and Fayol (1997) note that in some languages, such as in the European variety of Portuguese, there are phonological changes in the stem vowels when a suffix is added, and a clearly pronounced and stressed vowel in the base form takes an indistinct form when the suffix is added and stress is shifted. For example, the word *'tambor'* (drum) is stressed on the last syllable and has a clearly pronounced /o/; when a derivational suffix is added to form the verb *'tamborilar'*, stress shifts to the second last syllable and the preceding vowel is pronounced as */w/*. In spite of the change in the phonological form, the spelling of the stem is conserved. Similar cases exist in English: for example, the final consonant in the stem of *'magic'* changes from the base form to the derived one, *'magician'*, but the spelling is preserved (Totereau, Thenevin & Fayol, 1997).

Finally, the existence of silent morphemes in any language provides another reason for the importance of MA. Examples of silent morphology are the apostrophe to indicate possession in English and the plural of nouns and the third person of verbs in French. In oral English, there is no difference between *'boys'* and *'boy's'*. But the use of an apostrophe in written English indicates possession, and thus, distinguishes the different meanings of these two words. Similarly, there is no difference between *'chante'* and *'chantent'* in spoken French, but the plural is marked by *–nt* in the written form (Totereau, Thenevin & Fayol, 1997).

These contributions underscore the role of MA in language learning and may well be the major reasons why MA has attracted

so much attention in both L1 and L2 literacy development. In fact, numerous studies have been carried out focusing on the link between MA and different aspects of language learning. For instance, Nunes, Bryant and Olsson (2003) developed a 10-lesson intervention, designed to improve children's awareness of morphology. They compared its effects on word reading and spelling with the effects of a phonological intervention in the same period of time. The program was delivered by researchers to small groups of children (varying between four and seven per group). The children were from different ranges of abilities and had enrolled in grade 3 and 4 (aged seven to 10 years) in schools in London. The morphological intervention groups, like the phonological intervention groups, made significantly more progress in word reading than children in an unseen comparison group. Only the morphological intervention groups made significantly more progress in spelling target words whose spelling could not be predicted from phonology, but could be predicted from morphology. They concluded that a program that develops children's MA may have a positive impact on their word reading and spelling.

Deacon, Wade-Woolley and Kirby (2007) also investigated the relationships between performance on past tense analogy tasks (the measure of MA) and reading of English and French in a group of 58 French immersion children across Grades 1–3. Early measures of English MA were reported to be significantly related to both English and French reading, after controlling for several variables. In contrast to this, early measures of French MA were significantly related to French reading only. Later measures of MA in French were shown to be significantly related to both English and French reading. These relationships tended to persist even after controlling for several variables. The results of this study suggested that MA could be applied to reading across orthographies, and that this relationship changes as children build their language and literacy skills.

In their two-year longitudinal study of grade 4 Spanish-speaking ELL students, Kieffer and Lesaux (2008) found that the magnitude of the relation between derivational MA and reading

comprehension increased over the course of two years. Performance on the MA tasks in grade 4 also predicted reading comprehension scores in grade 5; however, this relationship was no longer significant after taking into account other reading skills measured in grade 4.

Saiegh-Haddad and Geva (2008) also investigated the relationship between phonological and morphological awareness (MA) and word decoding in English and Arabic; they also wanted to see if these skills are transferred from English to Arabic in bilingual children. The findings indicated that, despite the typological differences, there is a significant cross-linguistic effect of phonological awareness of English as L1 on Arabic as L2, but no impact of morphological awareness. The authors confirmed that phonological and morphological awareness improve word reading in English but add that morphological awareness in English does not predict performance on reading proficiency in Arabic. Nevertheless, in each language, the level of complex word-reading is correlated to both phonological and morphological awareness.

MA has also been investigated with reference to vocabulary acquisition in a number of studies. For example, Fowler and Liberman (1995) assessed children's knowledge of the connection between a base and a derived form, and proposed three measures of progress in literacy (word recognition, pseudo-word decoding, and spelling). They observed significant correlations between all three measures of literacy and performance in the MA tasks even after controlling for age and vocabulary.

Similarly, Bertram, Laine and Virkkala (2000) examined the role that morphology plays in vocabulary acquisition in L1 Finnish. Systematically, they investigated the role that affix frequency and productivity might play in the development of the children's knowledge of words. The results showed that the Finnish elementary school children benefit significantly from utilizing morphology in determining word meanings.

Nagy and Scott (1990) also conducted a study of students' word schemas on seventh and tenth graders and undergraduate students. All were asked to rate the plausibility of 96 definitions on a four- point scale (1: implausible- 4: plausible); the items' word

classes, definitions and sentences that illustrate word usage were presented. The results show that there is increasing sensitivity to semantic regularities (i.e. morphological units that share same semantic meaning) among the students. The results also highlight that the undergraduates developed specific information about the types of meaning associated with English verbs (i.e. morphological awareness).

There have also been few studies of morphological awareness in EFL contexts, too. For example, A-Farsi (2008) examined the relationship between morphological awareness and vocabulary size in Omani EFL learners. The principle research question in this study concerned if morphological awareness would correlate with vocabulary size in the L2 learners. The participants who were 54 Omani EFL learners enrolled in an English Intensive Program completed two tests - Morphological Awareness and Vocabulary Levels Tests. The results indicated that the students' overall morphological awareness and vocabulary size were limited, and that a relationship between the two constructs could not be established, due to the appearance of floor effect in the test scores and task difficulty.

As it can be clearly seen, despite a variety of studies carried out on MA with reference to reading (e.g., Tyler & Nagy, 1990; Deacon, Wade-Woolley & Kirby, 2007; Seymour, 1999), spelling development (e.g., Bryant, Devine, Ledward, & Nunes, 1997; Bryant, Nunes, & Bindman, 2000; Ehri, 1997; Deacon & Bryant, 2006), and vocabulary acquisition (e.g., Morin, 2003; Lyytinen & Lyytinen, 2004; Bertram, Laine & Virkkala, 2000; Fowler & Liberman, 1995), the concept has, to the best of the researcher's knowledge, been far less treated with reference to listening, as a cursory look at the well-credited journals reveals. Despite the recognition of the critical role it plays both in communication and in language acquisition, listening remains one of the least understood processes in language learning. Thus, to introduce the concept of MA into L2 listening research and to make up for this gap in knowledge, this paper aims to consider the potential of MA in listening transcription in pre-university students in Iran.

The principle rationale behind the study is to determine if only phonological awareness can account for the listening transcription of the students or if MA also makes a significant difference in their listening performance. Specifically, thus, the study deals with the following research question:

- *Does EFL students' morphological awareness have any significant effect upon their listening transcription ability?*

Accordingly, the proposed null hypothesis was as follows:

- *EFL students' morphological awareness does not have any significant effect upon their listening transcription ability.*

Method

This part of the paper describes the participants, instrumentation, design and the procedure used in the study.

Participants

The participants of the study were a sample of 40 pre-university students studying natural sciences and mathematics in a state school. Pre-university in the educational system of Iran is the last of the four years of high school studies which is thought to bridge the gap between high school and university. They were the researchers' students, all male and at the pre-intermediate level of English proficiency. They studied English as a general course in their curriculum. They were randomly classified into two groups of 20 subjects, the Control and Experimental groups. To avoid following an Intact Group Design, ten students from one class were randomly selected and exchanged for ten random subjects from the other class, thus allowing a Control Group Pretest-Posttest Design.

Instrumentation

Three short listening passages were used as the pretests which included 21 tokens of words with the morphemic structures. The researchers focused on in the three one-hour sessions they held with the experimental group. Also, as the post-test, we used three other short listening passages which again included 21 tokens of words we covered in the instruction we gave to the experimental group. The target words in the post-test passages were different from those in the pre-test passages and attempts were made not to include the words given as examples of morphologically structured words during the treatment to overcome the practice effect.

Design

The study enjoyed a Control Group Pretest-Posttest Design as there were two groups of participants only one of which received treatment. The design used can be schematically represented as:

G1 (random) – X1 – T – X2

G2 (random) – X1 – 0 – X2

The statistical procedure used for the purpose of investigating the hypothesis of the study was Independent samples T-test, used both for the pre-test and post-test.

Procedure

The participants, who were the researchers' students, were randomly classified into two groups, as explained above. They were labeled Group 1 and Group 2. Group 1 was the experimental group and Group 2 the control group. At the beginning of the experiment, both groups were given three short listening passages which included 21 tokens of words with morphological characters. These listening passages served as the pretest. Then, the experimental group was given three one-hour sessions of instruction regarding morphological characters in English such as *plural s, -ing, -ness, -tion, possessive –s,* etc.. After the instruction, the two groups were given three other short listening passages which again included tokens of words with morphological realization we focused on in the instruction. In both pretest and post-test, the participants were required to transcribe verbatim the

passages played to them. Correct transcription of the target words which contained morphological characters participants were familiarized with in the treatment was the criterion based on which the researcher scored the transcriptions. The samples are presented here:

a) The men are *digging* a hole here. (The word *digging* which contained the morpheme –*ing* was a target word)
b) The *girl's* dolls are inside the room (The word girl's is a target word here; it is believed to be a complex case as the participants should distinguish between girl's and girls which is achieved through morphological rather than phonological awareness)

Results

As discussed earlier, the study aimed to specifically deal with the following question:

Does *EFL students' morphological awareness have any significant effect upon their listening transcription ability?*

And in response to this question, we put forward the following null hypothesis:

EFL *students' morphological awareness does not have any significant effect upon their listening transcription ability.*

To probe the present question, the researcher followed a Control Group Pretest-posttest Design. Both experimental and control groups were given two listening passages as the pretest prior to the instruction given to the experimental group. The results of the pretests are as follows:

Table 1
Group Statistics (Pre-Test)

Group	N	Mean	Std. Deviation	Std. Error Mean
Treatment Group	20	11.95	3.01	.674
Control Group	20	11.60	2.50	.559

Table 2
Independent Samples T-Test (Pre-Test)

Independent Samples Test	T	Df	Sig. (2-tailed	Mean Differences
Equal variances assumed	.339	38	.692	.35

As it can be observed in Table 2 (t = .39; df = 38; p>.05), there was no significant difference between the two groups in terms of the listening transcription ability prior to giving them any instruction regarding the morphological character of English words. Then, the experimental group received three one-hour sessions of instruction regarding the morphological realization of English words focusing on inflectional markers such as –ing, -ed, etc and derivational markers including suffixes such as –tion, -ly, -er, etc. The principle aim of these three sessions was to promote the learners' MA of the English words to see if it has any effect on their ability to transcribe listening passages. Finally, a post-test was given to both of the groups. The results are as follows:

Table 3
Group Statistics (Post-Test)

Group	N	Mean	Std. Deviation	Std. Error Mean
Treatment Group	20	13.70	2.73	.611
Control Group	20	10.80	3.67	.822

Table 4
Independent Samples T-Test (Post-Test)

Independent Samples Test	T	Df	Sig. (2-tailed	Mean Differences
Equal variances assumed	2.82	38	.007	2.90

As shown above, Table 4 illustrates (t = 2.82; df = 38; p<.05), there was a significant difference between the two groups in terms of their ability to transcribe listening passages. In fact,

MA, on the part of the participants, significantly promoted their ability to transcribe listening passages played to them.

Discussion

The significant effect of morphological awareness on the participants' listening transcription is mainly owing to the fact that there are many words in English (as in most other written languages) whose spellings cannot be predicted from mere awareness of phonology, but are entirely regular if analyzed into morphemes. The word '*madness*', for example, ends with double *'s'*; this is entirely predictable from the fixed spelling of the suffix *'ness'* but not from phonology. The word *'musician*' would be considered highly irregular if we analyzed it in terms of letter-sound correspondences, but its spelling is completely regular if we consider that it is formed by *'music'* and the suffix *'ian'*, used to form nouns for the doer of an action from other nouns. Recent research has shown that children's awareness of grammar and morphology is related to their progress in spelling (e.g., Carlisle, 1988; Treiman & Cassar, 1996; Nunes, Bryant & Bindman, 1997). This improvement in spelling is for sure a strong predictor of ability in listening transcription and consequently listening comprehension (Holmes & Ng, 1993).

Moreover, knowledge of morphological characteristics of a word is believed to be related to building a substantial vocabulary size, identification of their grammatical categories, and effective word recognition skills which are, in turn, reported to be strong predictors of listening transcription performance (Nation & Newton, 2009). Besides offering benefits to transcription, knowledge of morphology can also help listening comprehension, for which transcription is a prerequisite, by helping learners guess the meaning of unfamiliar words based on their morphological characteristics (Koda, 2008).

The study, although carried out with a relatively small sample size which requires precautions in the interpretation of the results, revealed that MA significantly affects the ability of the students to transcribe listening passages which, in turn, affects the students' listening comprehension ability. The literature provides

some clues as to the correlation between spelling and listening comprehension ability (Holmes & Ng, 1993; Sado Al-Jarf, 2005), and correct transcription is actually the ability to write down the words correctly.

As discussed earlier, in many alphabetic languages, including English, there exist aspects of orthography which cannot be predicted merely on the basis of phonological awareness and the simple correspondence between sounds and letters. There was, for instance, a target word in one of the listening passages which 19 of the students in the MA treatment group transcribed correctly but only 6 students in the control group could transcribe it correctly. The word was *robbed* in the sentence: *The thief robbed the man of all his money*. When it is spoken quickly, the inflectional morpheme *–ed* is not very much clear based merely on the phonological awareness of the word, which was why the majority of the participants in the control group did not manage to transcribe it correctly. The reason why the majority of the students in the experimental group were able to perceive the presence of *–ed* at the end of the word *robbed* was that they knew from the tense of the passage that *–ed* morpheme which has the function of "indicating the past time" should be present there. In Totereau, et al's (1997) terms, all regular past verbs in English are spelled with the 'ed' ending although the ending is not pronounced in this way: *'kissed'*, for example, is pronounced as */kist/* and 'killed' as /*kild/*. Thus, learners have to learn when the final */t/* and */d/* sounds are spelled with *'ed'*; the simplest way to learn this is to know that 'ed' is an ending for past regular verbs.

Thus, it can be argued that an awareness of the morphemic structure of the words can, in all probability, enable the L2 learner to predict many aspects of L2 which phonological awareness cannot. The results of the present study offer significant hints that this ability can also be a potential predictor in listening transcription and consequently listening comprehension.

Conclusions and Pedagogical Implications

The research reported here moves beyond the existing theoretical frameworks in three ways. In the first place, it can be

claimed to be a ground-breaking study in introducing the concept of morphological awareness (MA) into listening, especially L2 listening. It has been documented that the role of MA could be extended to other areas of language other than reading or vocabulary development. The study is, moreover, conducted in an Iranian EFL context where, to the best of the present researchers' knowledge, no such study had been done prior to this. The results of the study, also, add to the comparatively smaller body of research in L2 literacy development than in L1 literacy development, and helps in broadening our understanding of the relations between underlying cognitive meta-linguistic processes and listening development in EFL learners.

Through the normal course of a day, listening is said to be used nearly twice as much as speaking and four to five times as much as reading or writing (Rivers, 1981). Moreover, it has been claimed that over 50 percent of the time that students spend functioning in a foreign language is devoted to listening (Nunan, 1998). Despite this fact, "we often take the importance of listening for granted, and it is arguably the least understood and most overlooked of the four skills (Listening, Speaking, Reading and Writing) in the language classroom" (Nation & Newton, 2009, p. 37).

Given the importance of this skill and the dearth of research on how to teach it and also the much more complexity this skill presents to learners than any of the other skills, researchers should be looking for effective strategies that improve learners' performance in this vital skill. Raising MA could be considered as one of the potentially effective strategies for listening enhancement, a form-focused bottom-up cognitive process that tends to derive the meaning of the message from the analysis of the morphemic structure of the incoming language data.

Thus, according to the hints provided by the results of the present study, it seems quite advisable to incorporate MA into educational L2 listening instruction programs_although the researcher still believes that more research should be carried out in this respect. Most L2 pedagogical programs focus only on phonological awareness and thus, lose sight of MA, but as a matter

of fact, this ability, as shown in the present paper, can have the potential of predicting different aspects of L2 learning far more than phonological awareness.

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