Listening Comprehension: The Role of Morphological Knowledge[1]

Md. Kamrul Hasan[2], English Language Institute, United International University, Dhaka, Bangladesh

Singhanat Nomnian[3], Research Institute for Languages and Cultures of Asia, Mahidol University, Nakhon Pathom, Thailand

Abstract

Morphological knowledge has been identified as a significant sub-skill in bilingual listening comprehension, and lexical researchers consider listening comprehension an essential means for language learning. The current research attempted to examine the crucial four derivative word classes (adverb, adjective, verb, and noun) to represent knowledge of morphology. The objective was to find out if morphological knowledge can predict students' listening comprehension and investigate the correlation between the four derivative word classes and listening comprehension. The participants of the present study comprised 171 English as a foreign language (EFL) undergraduate university students. This study was quantitative in nature and a multiple regression analysis was administered. Two tests of English language proficiency were conducted: listening comprehension and morphological knowledge. The findings of the research showed that there were positive and significant correlations between all four major derivative word classes and listening comprehension. In addition, verb derivative form not only had the most significant, positive correlation with the dependent variable, (i.e., listening comprehension), but it was also the most statistically significant contributing predictor of listening comprehension.

Resumen

El conocimiento morfológico ha sido identificado como una sub-habilidad significativa en la comprensión auditiva bilingüe, y los investigadores léxicos consideran la comprensión auditiva como un medio esencial para el aprendizaje de idiomas. Esta investigación examinó las cuatro clases de palabras derivadas cruciales (adverbio, adjetivo, verbo y sustantivo) para representar el conocimiento de la morfología. El objetivo era averiguar si el conocimiento morfológico puede predecir la comprensión auditiva de los estudiantes e investigar la correlación entre los cuatro. clases de palabras derivadas y comprensión auditiva. Los participantes del presente estudio fueron 171 estudiantes universitarios de pregrado en inglés como lengua extranjera. El estudio fue cuantitativo a través de análisis de regresión múltiple. Se realizaron dos pruebas de dominio del idioma inglés: comprensión auditiva y conocimiento morfológico. Los hallazgos de la investigación mostraron que había correlaciones positivas y significativas entre las cuatro clases principales de palabras derivadas y la comprensión auditiva. Además, la forma derivada del verbo no solo tuvo la correlación positiva más significativa con la variable dependiente (es decir, comprensión auditiva) sino que también fue el predictor contribuyente más estadísticamente significativo de la comprensión auditiva.

Introduction

Listening comprehension is considered an essential skill for learners who want to learn a language (Tran & Duong, 2020). They further add that listening skills are considered among the most difficult skills for students to learn thoroughly. If learners are not skilled listeners, they might face difficulties while exchanging information orally (Rost, 2002; Underwood, 1989). Poor listening skills may also affect communication among language learners (Anderson & Lynch, 2003; Tuan & Mai, 2015; Ur, 1996). Bonk (2000), Cutrone (2019), Graham (2011), and Xiao et al. (2017) have propagated the importance and need for a better understanding of the characteristics of the listeners and the characteristics that determine the success of L2 learners in comprehending speech or spoken language.

Furthermore, referring to the importance of listening comprehension, Gottardo et al. (2018) mention that after examining the concept of listening comprehension thoroughly, one can find that listening comprehension comprises many important linguistic and cognitive elements. To illustrate, the linguistic parts of listening comprehension encompass morphology, syntax, and vocabulary knowledge (Kieffer et al., 2016). Furthermore, Gottardo et al. (2018) find that knowledge of vocabulary is highly related to listening comprehension and highlight that the constituents' skills that are needed for performing well on assessments of listening comprehension comprise syntactic knowledge, morphological knowledge, attention, vocabulary, working memory, and expressive language skills when the task requires an open-ended answer.

Moreover, for second language acquisition, vocabulary knowledge is pivotal (Wen, 2014). Vocabulary knowledge consists of at least two components: breadth and depth of vocabulary (Hasan & Monsiur, 2020;

[1] This is a refereed article. Received: 17 November, 2020. Accepted: 17 May, 2021.
[2] mkamrulhasan77@gmail.com, 0000-0003-2353-4673, Corresponding author.
[3] snomnian@hotmail.com

Qian, 1999; Read, 1987; Wesche & Paribakht, 1996;). Depth of vocabulary knowledge encompasses diversified dimensions, namely, pronunciation, spelling, frequency, meaning, morphological and syntactic characteristics, and register (Chappele, 1994; Haastrup & Henriksen, 2000; Henriksen, 1999; Meara, 1996; Nation, 1990; Qian, 1998, 1999; Read, 2004; Richards, 1976).

One of the fundamental constituents of vocabulary knowledge is morphological knowledge. Morphological knowledge or morphological awareness refers to word-formation knowledge, which comprises a blend of implied awareness and obvious knowledge of the internal structure of words. Carlisle (1995), Koda (2000), Kuo and Anderson (2006), and Zhang and Koda (2018) defined morphological knowledge as the capability to analyse and understand the morphological structures of a word. According to Nagy et al. (2006), McBride-Chang et al. (2005), and Carlisle (2000), morphological knowledge predicts English vocabulary. Studies conducted by Nagy et al. (2006) and Kieffer and Lesaux (2008) showed that morphological awareness and vocabulary were related.

An example of the relationship between morphological knowledge and listening comprehension comes from a study carried out with Bangladesh learners of English as foreign language (EFL) at the tertiary level. (Yakub & Hossain, 2018). The researchers claimed that learners' deficiency in English language skills was demonstrated primarily by morphological errors, which in turn negatively affected their listening comprehension, namely academic performance. Thus, the current study's goal was to investigate morphological knowledge's correlations and prediction to listening comprehension in English language classes in higher educational institutions.

Literature Review

Depth of Vocabulary Knowledge

The breadth of vocabulary knowledge is also referred to as the size of vocabulary knowledge of a learner, and it signifies the number of words or the quantity of words a learner knows in a language (Nation, 2001). Depth of vocabulary knowledge refers to the comprehension level of a particular word's diversified constituents (Teng, 2016). In other words, it assesses how well a student knows a single word or how well words are placed in the mental lexicon of a learner (Nation, 2001). Richards (1976) was the first researcher who provided the conceptual framework for the depth of vocabulary knowledge. He proposed that the knowledge of a word signifies knowledge of its register, frequency, derivations, syntactic behaviour, semantic value, association, and polysemy (i.e., a particular word that has two or more dissimilar senses). Nation (1990) included productive (i.e., speaking or writing) and receptive knowledge (i.e., comprehending a text or a listening task) as vocabulary knowledge and defined position, form, meaning, and function as the four parts of vocabulary knowledge. Other successive researchers have also attempted to define vocabulary knowledge and its components.

Qian (1998) improved the theoretical frameworks propagated by Richards (1976) and Nation (1990). He incorporated spelling, pronunciation, syntactic attributes, and morphological properties under vocabulary depth knowledge. Moreover, Qian (1999) encompassed collocation attributes as a constituent for vocabulary depth knowledge. The above-mentioned research studies (i.e., Nation, 1990; Qian, 1998; Richards, 1976; Teng, 2016) showcase that the depth of vocabulary knowledge is multidimensional. In conclusion, the depth of vocabulary knowledge includes not only semantic knowledge but also a variety of other components of a particular word, namely syntactic characteristics (i.e., collocation) and paradigmatic relations (i.e. synonymy, antonymy, hyponymy).

Morphological Knowledge

According to Mokhtari et al. (2016), morphological knowledge comprises a blend of overt knowledge and implied consciousness of the internal formation of words. They identify two classes regarding morphological formations in English. The first type of morphological formations refers to words that are different in their derivational affixes, but they share a morpheme or base root word. For example, the words *nationality* and *nationalisation* share the root word *nation*; however, they are generally treated as different words and have different meanings. The second type of morphological formations pertains to words that are different in their inflectional affixes and share a morpheme or base root, but they are treated as the formations of the same words. For example, the base root word *help* can have its core meaning with inflectional affixes, like *ed* or *ing*. According to Carlisle (2003), morphemes or root words give information regarding the spelling, meaning, and pronunciation of a word. In addition, morphological knowledge predicts word reading, spelling,

and reading comprehension proficiency significantly (Carlisle, 1995, 2000, 2003; Deacon & Kirby, 2004; Kirby et al., 2012; Kieffer & Lesaux, 2008; Kuo & Anderson, 2006; Nagy et al., 2006).

Morphological Knowledge and Listening Comprehension

Many studies have investigated the relationship between morphological knowledge and reading comprehension (Berninger et al., 2010; Carlisle, 2010; Deacon & Kirby, 2004; Kieffer & Lesaux, 2008; Kieffer et al., 2013; Kirby et al., 2012; McBride-Chang et al., 2005; Nagy et al., 2006). The limited research findings related to listening comprehension and morphological knowledge show that the correlation between listening comprehension and morphological knowledge has not received much attention from the lexical researchers. However, it is assumed that morphological knowledge might be one of the predictors of lexical comprehension. Furthermore, some previous studies have found a strong correlation between listening comprehension and morphological knowledge when the participants were advanced learners of English (Gottardo et al., 2018).

After examining research studies related to morphological knowledge in the last thirty years, one can observe that the focus of the literature is on the relationship between morphological knowledge and reading ability (Bian, 2017). However , little investigation has been carried out regarding the association between morphological knowledge and listening proficiency. Bian's (2017) study investigated morphological knowledge, listening comprehension, and reading comprehension. It was found that morphological knowledge was an important predictor of listening comprehension. Several previous studies (Gottardo et al., 2018) employed listening comprehension as a controlled variable and explored the relationship between morphological knowledge and reading comprehension. They focused on the subcomponents of listening comprehension (syntax, morphology, and vocabulary) and their contributions to listening comprehension. The findings of the research by Gottardo demonstrated that the three constituents (syntax, morphology, and vocabulary) of listening comprehension contributed to reading comprehension.

Concerning the relationship between morphological knowledge and listening comprehension, Rost (2002) found that several morphological and syntactic cues affect how the listeners process meaning. Jeon (2011) and Droop and Verhoeven (2003) investigated the relationship between morphological knowledge and listening comprehension ability. Their studies revealed that there was a strong association between morphological knowledge and listening comprehension ability. Droop and Verhoeven's (2003) study included students from lower grades who belonged to the minority class in terms of language position in the Netherlands. Their study showed a strong association between the learners' knowledge of morpho-syntax and the learners' achievement in understanding the verbal text. Jeon's (2011) study, consisting of Korean high school EFL learners, examined the relationship between the knowledge of morphology and listening comprehension, and found a significant relationship between the listening test and the scores on two morphological tests. Karimi (2013) examined the correlation between knowledge of morphology and listening transcription ability of L2 learners. His study found that morphological knowledge seemed to be a strong predictor of listening transcription ability (i.e., listening comprehension).

On the other hand, Li and Kirby's (2014) study did not explore the relationship between knowledge of morphology and listening comprehension. Their study showed that both the tests differentiated unexpected good comprehenders from expected average comprehenders. However, Kieffer et al. (2013) found contradictory results concerning the correlation between listening comprehension and morphological knowledge among non-native English-speaking learners. Their findings revealed that listening comprehension and morphological knowledge were not correlated. Kieffer et al. (2013) and Jeon (2011) employed derivational words while assessing morphological knowledge. From the discussion above, we observe that the studies related to morphological knowledge and listening comprehension have resulted in divergent findings.

Research on Vocabulary in the Context of Bangladesh

According to Khan and Akter (2011) and Afrin (2016), most of the learners who are studying undergraduate level university studies in Bangladesh are not proficient in four language skills of English. Khan and Akter (2011), Afrin (2016), and Arju (2011) demonstrated that the students did not possess the expected degree of English language proficiency even after they finished higher secondary and secondary schools. The researchers found that students' deficiency in English language proficiency was due to lack of vocabulary knowledge (Arju, 2011). Jahan and Jahan (2011) showed that the tertiary level learners encountered enormous hardship in comprehending English written textbooks mainly due to their inadequate vocabulary

knowledge, insinuating that students' inadequate vocabulary knowledge in English at the tertiary level in Bangladesh negatively influenced their academic performance.

Siddiqua (2016) focused specifically on the achievement and attitude of the students. She stressed the challenges or difficulties that EFL teachers encountered at the time of teaching vocabulary in the classrooms. Bristi (2016) investigated the use of strategies related to vocabulary learning, focusing on the need to examine the vocabulary learning strategies adopted by EFL learners at the tertiary level in Bangladesh. In addition, Ashraf (2014) suggested that students should employ strategies, which could be utilized by tertiary level EFL students in Bangladesh to overcome their deficiency in vocabulary knowledge.

Afrin (2016) emphasised the English writing skills of students and illustrated the vocabulary knowledge perspective of the tertiary level EFL students in Bangladesh. Opel et al. (2009) elaborated on the influence of preschool dialogue reading on the acquisition of vocabulary of rural Bangladeshi learners. The objective of their study was to enhance students' expressive vocabulary.

To summarize, we can observe that the aforementioned studies that were conducted in the Bangladeshi context have focused on the vocabulary knowledge of EFL learners. Nevertheless, the studies discussed above failed to include the association of morphological knowledge to predict listening comprehension with university-level EFL undergraduate students in Bangladesh. There have been lack of studies that investigate which part of morphological knowledge plays a prominent role in predicting listening comprehension in an academic EFL context like Bangladesh. To this end, the current study examined the association and prediction of the crucial four derivative word classes to listening comprehension of EFL undergraduate university students in Bangladesh.

Research Questions

The present study addressed the research gap in light of the previous studies, and the study formulated the following research questions.

> *1. How are the four major derivative word classes used by 171 undergraduate EFL learners at the tertiary level in Bangladesh related to listening comprehension?*
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> *2. To what extent do the four major derivative word classes used by 171 undergraduate EFL learners at the tertiary level in Bangladesh contribute to predicting their performance in listening comprehension?*
>
> *3. To what level do the four major derivative word classes used by 171 undergraduate EFL learners at the tertiary level in Bangladesh affect their listening comprehension?*

Method

Sampling

The researchers employed purposive sampling as the first step and random sampling as the second step for collecting data for the study. With regard to purposive sampling, the researchers selected the present university because one of the researchers obtained permission from an authority to conduct the tests. The total number of students (i.e., entire population) in Fall 2019 trimester was 3887, and this consisted of 110 class sections. The researchers employed random sampling and extracted sample size/participants from the whole population. After extraction from the entire population, the total number of participants was 171, forming five class sections.

Participants

The total number of participants for the current study was 171 EFL learners in their first year of undergraduate-study from a top-ranked private university in Bangladesh. One hundred and six students were selected from the Business School/Faculty of Business. Thirty-five of them were from the Department of Business Administration in Finance or Marketing/Human Resource Management, and 40 students from the Bachelor in Science in Economics major. Business administration in the Accounting department consisted of 31 students. The Business School included 56 female students (52.83%) and 50 male students (47.17%). The students' average age (mean value) was 20.5 years (Std Dev = 1.261, range 17-23). Sixty-five students in total were selected from the Engineering School. Thirty-five were from the Department of Computer Science and Engineering and 30 from the Department of Bachelor of Science in Electrical and Electronic Engineering. From the Engineering School 22 (33.85%) female students and 43 (66.15%) male students

were included. The Engineering School students' average age was 20 years and 3 months (Std Dev = 1.017, range 17-23). Students' selection for the current study was based on the students' passing the Intensive English I course which was equivalent to A2-B1 level (Common European Framework of Reference). English was a foreign language for the participants, and the students had studied English for 12 and a half years.

Instruments

The researchers employed one morphological knowledge test that consisted of the four major derivative word classes and a listening comprehension test that included twenty questions.

Morphological Knowledge Test

The aim of the morphological knowledge test was to check the learners' productive knowledge of the derivative forms of a word family. One target word was given, and students were asked to provide in each blank the correct derivative form, i.e., noun, verb, adjective and adverb, of the target word. With regard to the score of the morphological knowledge test, the students obtained one point for each correct answer and zero for incorrect answers; therefore, the students could obtain a maximum of 30 marks, one mark for each blank. A sample item of the morphological knowledge test is given below.

Authority	
Noun:	The judge had the _____ to let us view the tax records.
Verb:	He decided to _____ the viewing of the tax records.
Adjective:	The _____viewing of the tax records was unpopular.
Adverb:	All judges speak _____.

Figure 1: A sample item of morphological knowledge

Following the instructions of the morphological knowledge test, the students simply marked X (cross) in the blank if they found that there was no derivative form of the target words in English. The authors did not include any attached inflections since the main attention of this study was on derivative word forms. The authors adopted the format of the present morphological knowledge test which Schmitt and Zimmerman (2002) developed. The authors selected words from the Academic Word List (AWL) (Coxhead, 2000; Schmitt & Zimmerman, 2002) because the learners were EFL tertiary level students. In addition, the AWL is specifically structured or intended to cater to English as a second language (ESL) or EFL learners. The authors marked the acceptable derivative forms of the target words on the basis of the answers by Schmitt & Zimmerman (2002, p. 168) in Appendix A.

Listening Comprehension Test

The listening comprehension test administered by the researchers in the current study had a question-and-answer category option. There were 20 questions in total for the listening test. The highest possible score a learner could obtain was 20 (1 x 20 = 20). Students had the opportunity to listen to the tape of the listening test once, and then they were asked to write down the answers in the provided answer sheets. The researchers adopted the listening comprehension test from Soars et al. (2019). Considering the objectives of the study, two tape scripts were selected for the listening test since the listening tracks were appropriate for university-level students. The rationale for selecting the listening test from Soars et al. (2019) was due to its validity and reliability since these listening tests/tape scripts (2019) had carefully pretested for their validity and reliability before placing those in the "*New Headway: Student's Book. Intermediate"*.(Qian, 1998).

Research Design

The present study adopted a quantitative approach with multiple regression analysis, which falls under a correlation design (Creswell, 2014). The current study examined the probable correlations and predictions related to the variables. First, the authors provided a printed background questionnaire and a letter of informed consent to the students. In the letter of informed consent, the students had the option to (tick √ or ×) to determine whether they would take part or not in the tests. After that, the authors conducted the two tests, namely the listening comprehension test and morphological knowledge test in a regular English class of the students. Students had 30 minutes to write their answers to the morphological knowledge test and another 30 minutes to answer the listening comprehension test. Next, as the primary instrument for data analysis, the authors employed the two-tailed Pearson Correlation in the Multiple Regression Analysis for determining the extent of inter-correlations between the four main derivative word classes of the

morphological knowledge test and the listening comprehension test. In addition, the researchers carried out standard multiple regression analysis (since the data were normally distributed) for determining the powerful predictors of the listening comprehension test. In other words, the researchers applied force-entry multiple regression (not stepwise) analysis for determining the role of morphological knowledge in explaining listening comprehension proficiency. An SPSS version 24 (Statistical Package for Social Sciences) was used as the primary statistical program for data analysis.

Instrument Validity

The authors conducted a pilot study in the Fall 2019 trimester to determine the reliability and validity of the two instruments. In addition, the two English language proficiency tests were sent to three English language-teaching experts with similar backgrounds and they were asked to check the appropriateness of the English language of the adapted tests. The authors took the opinions of the experts into consideration and modified the language of the two tests accordingly. Then the authors ran the reliability analysis for each measure separately. Concerning the reliability of the two language proficiency tests, the Cronbach's alpha coefficients for all the constructs of the two instruments are provided in Table 1.

Language Tests/Variables	No of Items	Cronbach's Alpha
Morphological Knowledge Test	30	0.837
Listening Comprehension Test	20	0.816

Table 1: Cronbach's Alpha Coefficients

With regard to Cronbach's alpha lower acceptable limit, Hair et al. (2010) suggest that the values from 0.60 to 0.70 are considered acceptable.

Table 1 shows that the Cronbach's alpha coefficients for all the measures of the two instruments were more than the acceptable level of values (i.e. from 0.60 to 0.70) for the current study. This suggests that both instruments had relatively high internal consistency.

Research Findings

The current study investigated the correlations between the four major derivative word classes used by 171 undergraduate EFL learners at the tertiary level in Bangladesh and listening comprehension. To answer research question 1 which examines the extent of inter-correlations of the four major derivative word-classes and the correlations between the four major derivative word classes and listening comprehension, the authors conducted a two-tailed Pearson Correlation under multiple regression. Table 2 demonstrates how Pearson correlation can present the degree of correlations between the four major derivative word classes and listening comprehension.

	Noun	Verb	Adjective	Adverb
Verb	.534**	-----		
Adjective	.529**	.585**	---	
Adverb	.493**	.569**	.590**	----
Listening Comprehension	.371*	.566**	.484**	.489**

* p <.01, ** p <.001

Table 2: Correlations among the four major derivative word classes and listening comprehension

Table 2 presents that there were positive, significant, and either moderate or high correlations among the independent variables, namely noun, verb, adjective, and adverbs. In other words, all the independent variables of the present study are significantly correlated with one another. Cohen (1988) suggests that for behavioural science disciplines, an association value (i.e., r) close to 0.50 normally suggests a "large correlation effect size" (p. 80). As demonstrated in Table 2, there were positive and statistically significant inter-correlations between the scores of the crucial four derivative word forms and listening comprehension. Also there existed a positive and statistically significant association at the 0.01 level (r = .371; p < .01) between noun word class and listening comprehension. Moreover, there was a statistically significant and positive association at the 0.001 level (r= .566; p < .001) between verb word class and listening comprehension. The relationship between verb word class and listening comprehension was the highest compared with the correlations between other independent variables (noun, adjective, and adverb) and dependent variable, listening comprehension. Moreover, there were statistically significant and positive inter-correlations at the 0.001 level between the scores of the other two independent variables and listening

comprehension. A statistically significant and positive association between adjectival word class (r = .484; p < .001) and listening comprehension, as was a significant and positive association between adverbial word class (r= .489; p < .001) and listening comprehension. This implies that the students whose performance was better in listening comprehension knew the adverbial, adjective, verb, and noun word forms of morphological knowledge well. In other words, it can be inferred that the adverbial, adjective, verb, and noun word forms of morphological knowledge enhanced the performance of the students in listening comprehension considerably.

The present study examined the degree of prediction of the four major derivative word classes used by 171 undergraduate EFL learners at the tertiary level in Bangladesh to their performance in listening comprehension. In addition, the current study investigated the level of effect of the four major derivative word classes used by 171 undergraduate EFL learners at the tertiary level in Bangladesh on their' listening comprehension. For addressing research questions 2 and 3, the authors administered the standard multiple regression analysis. The regression analysis and its findings appear in Tables 3 and 4.

R	R^2	Adjusted R^2	Std. Error of the Estimate	ANOVA			
				df	Mean Square	*F*	*p*
.575	.331	.324	11.5429	4	89.781	41.47	.000

Table 3. Prediction and ANOVA values of all students' score

	Standardized Coefficients	*t*	Sig.	Correlations		Collinearity Statistics	
IV[1]	β			Partial	Part	Tolerance	VIF
Noun	-.005	-.021	.897	-.004	-.004	.901	1.311
Verb	.565	6.234	.001	.547	.532	.803	1.420
Adjective	.326	2.530	.328	.250	.240	.854	1.427
Adverb	.503	2.757	.041	.437	.426	.877	1.387

IV[1] = independent variables

Table 4. Coefficients of all variables of students of business and engineering

As shown in Table 3, the value R, multiple correlation coefficient, .575 shows an acceptable degree of the prediction for the study. As Table 4 demonstrates, verb word-class alone explained $(.532)^2$=28.30% of the variance in listening comprehension and noun word-class uniquely explained about $(-.004)^2$= .0016% of the variance. In addition, adverbial word-class alone explained $(.426)^2$=18.15% of the variance and adjective word-class $(.240)^2$=5.76% of the variance. From the above discussion, we can conclude that the verb derivative form of morphological knowledge explained the highest unique prediction (28.30%) in listening comprehension, followed by the adverbial derivative form of morphological knowledge.

Table 4 presents the degree of the effect of the four major derivative word classes of morphological knowledge on listening comprehension. As presented in Table 4, verb derivative word class of morphological knowledge had the largest Beta value (β = .565; t = 6.234, p = .001) (significant) (p < .05). This implies that the verb derivative form of morphological knowledge affected to the largest extent explaining the dependent variable, listening comprehension, when the other three variables -noun, adjective, and adverb- jointly explained the variance.

The Beta values of other independent variables, namely adverb and adjective word classes were adverb derivative form (β =.503, t = 2.757, p = .041 (significant; p < .05) and adjective word class (β =.326; t = 2.530, p = .328 (p > .05 not significant) respectively. The Beta values of adverbial and adjective derivative word classes imply that adverbial and adjective word derivative word classes had a larger effect on explaining the dependent variable, listening comprehension than noun word class (β = -.005, t = -.021, p = .897 (p > .05; not significant). From the discussion of Beta values of all the four major derivative word classes of morphological knowledge, we can conclude that the two major derivative word classes (verb and adverb) affected listening comprehension more than the other two derivative word classes, adjective and noun. Moreover, adjective and noun word classes did not have significant effects on the dependent variable, listening comprehension.

The authors have presented above the research findings regarding the research questions of the present study. The first finding is that the relationship between verb word class and listening comprehension was found to be both positive and most significant among the inter-correlations between the four derivative forms and listening comprehension. The second is that students who performed better in listening comprehension had more knowledge about verb word-class than about the adjective, adverb, and noun word classes of morphological knowledge. The third is that the unique, significant, and strongest prediction in listening comprehension was accounted for by verb word class when the three other variables jointly explained the variance. Finally, the verb derivative form of morphological knowledge affected to the largest extent in explaining listening comprehension.

Discussion

As presented in Table 2, there are positive, either strong or moderate, and significant correlations between noun, verb, adjective, and adverb word classes of morphological knowledge and listening comprehension. Since noun, verb, adjective, and adverbial derivative word forms formed a category of morphological knowledge, the positive and significant correlations between noun, verb, adjective, adverbial derivative word forms and listening comprehension are expected. The existence of statistically significant and positive inter-associations between noun, verb, adjective and adverbial word forms and listening comprehension determine that the analyzed noun, verb, adjective, and adverbial word forms must be regarded as inseparable parts of morphological knowledge by lexical researchers. To date, there has been little empirical evidence in quantitative research that includes the correlation and prediction of the four major derivative word classes to listening comprehension. As discussed in the literature review, Droop and Verhoeven (2003), Gottardo et al. (2018), Jeon (2011), Karimi (2013), and Kieffer et al. (2013) have included morphological knowledge and listening comprehension in their studies; however, they have not investigated the correlation and prediction of the four major derivative word classes to listening comprehension. As a result, there exists little opportunity to compare or contrast the results of the present study with the results of the studies mentioned above.

Moreover, Schmitt and Zimmerman's (2002) study included the four major derivative word classes; however, they did not investigate the correlation and prediction of these four major derivative word classes to listening comprehension. In addition, their results demonstrated that verb derivatives had the highest production percentage, which is 67%; noun derivative came up with 63% production. The present study shows that verb word class and adverb word-class not only had close, positive correlation with listening comprehension, but also had large unique significant prediction and effect on listening comprehension. In the present study, noun word-class had the weakest correlation and least unique prediction and effect on listening comprehension. This aspect of finding out four essential derivative word families under quantitative investigation has added to the novelty of the lexical knowledge domain.

As presented in Table 4, verb and adverb word classes of morphological knowledge are found to have a more unique contribution in explaining the listening comprehension and larger effect on listening comprehension than adjective and noun word classes of morphological knowledge. Thus, the results of the study reveal that EFL tertiary level learners found it easier to learn verbal word class as compared to adverbial, adjective, and noun derivative forms since the verb word-class is the most significant and fundamental part of speech of English language. The listening comprehension task in the present study was structured particularly for fundamental English comprehension in academic settings at the tertiary level. From the results of the study, we observed that verb and adverb word classes of morphological knowledge are not only closely, significantly and positively related to each other but they are also associated with listening comprehension. We can state that verb and adverb word classes of morphological knowledge are important for enhancing listening comprehension skill in an academic setting and university-level EFL learners as well. In other words, it can be said that the knowledge of the morphological dimension of vocabulary knowledge, especially the verb and adverb word forms of knowledge of morphology, is a crucial factor in the performance of listening comprehension skill.

The findings of the research by Gottardo et al. (2018) showed that there exists a strong link between morphological knowledge and vocabulary. The present study also showed positive, significant and either moderate or strong correlations (Table 2) among the independent variables, namely noun, verb, adjective, and adverbs. All four major derivative word forms are significantly correlated with one another. These results are congruent with the abovementioned study (Gottardo et al., 2018) since all the four major derivative word classes formed a category under morphological knowledge. In addition, noun, verb, adjective, and

adverbial word forms that represented knowledge of morphology, were shown to be useful predictor variables of listening comprehension. The unique contribution of the current study is that it investigated the separate contribution and effect of the four major derivative word classes in connection with listening comprehension.

Implications

Many teachers at the university level will agree that morphological knowledge plays an important role in successful listening comprehension of the learners. However, the teachers at the tertiary level still do not focus on teaching the morphological aspect at the time of conducting listening comprehension tasks in EFL classrooms, particularly in Bangladesh. The results of the study would help teachers to create awareness of the significance of noun, verb, adjective, and adverbial word forms among students, an activity which, in turn, would improve other English language skills. There are many possible activities that could help students. For example, the teachers could give students a list of words where there will be only base words or root words. Then the teachers could ask the students to provide them with the other word classes, using derivational suffixes or prefixes. The teachers can check the answers of all students, show them the correct derivative word classes, and discuss with them for correction if anybody gives him or her wrong derivative word classes. Thus, the knowledge of noun, verb, adjective, and adverbial word forms will enhance the students' listening comprehension. Laufer (1992) advocated that instructors ought to create the need for enriching students' vocabulary level (beyond) vis-à-vis their present level of vocabulary knowledge (Schmitt, 2014; Schmitt & Zimmerman, 2002).

Students can learn morphological properties of vocabulary knowledge when the teachers use morphological properties to help students learn unfamiliar words by associating the words to known words or suffixes and prefixes. Teachers are recommended to teach the students some frequently occurring affixes because many words in English are built with affixes. The teachers at the tertiary level can show the learners how to separate morphologically complex words. The rationale for the decomposition of morphologically complex words on the part of students is to find out their meanings, and the students will learn how to create more complex words and employ root affixes and morphemes. On the other hand, the spelling of many words in English is completely regular if they are analysed into morphemes. For example, the words *illness*, *foolishness*, and *silliness* end with double *s.* The occurrence of double *s* is completely predictable from the fixed spelling of the suffix *ness*. The knowledge of morphological characteristics of words helps the students build a considerable vocabulary size. Thus, the awareness of the spelling of the derivative word forms on the part of the students would improve their listening comprehension.

Teachers cannot presume that learners would be able to learn the derivative forms of a word family without any attention given to the words, or only one exposure to them would suffice. Rather, emphatic attention to forms of word family would bear significant improvement in the performance of EFL learners' English language skills. Nation (1990, 2001) argued for the inclusion of categorical teaching of word parts in the curriculum. By incorporating the derivative words in their teaching curriculum, EFL instructors would be able to teach the words to the students; thus, students will benefit in improving their listening comprehension skill.

Conclusion

The correlation between the crucial four derivative word forms and listening comprehension was positive and statistically significant. This implies that learners whose performance was better in the listening comprehension test knew the crucial four derivative forms that represented knowledge of morphology well. That is to say, English teachers at the tertiary level should highlight noun, verb, adjective, and adverbial word forms that represent knowledge of morphology at the time of teaching the students vocabulary and listening comprehension since noun, verb, adjective, and adverbial word forms correlated significantly and positively with the listening comprehension test of the students. The present study has helped us to grasp the correlation and prediction of the four major derivative word classes of morphological knowledge to listening comprehension; however, there are some limitations in the study. This study included students from a single university. As a result, the current study can only be generalised after including students from divergent educational institutions. The present study also did not investigate the influence of the socio-economic background, exposure to English, and mother tongue of the students on listening comprehension. Future researchers can employ a large sample size to determine whether a large sample size would provide different results or not. Moreover, future studies can also investigate the contributions of cognitive components of listening comprehension along with morphological knowledge.

In conclusion, the findings of the current study demonstrate that all four major derivative word classes that represented morphological knowledge correlated with listening comprehension. Out of the four major derivative word classes, verb and adverb derivative word classes had a significant unique contribution to and effect on listening comprehension. The correlations, predictions, and effects can assist in better comprehending listening comprehension for EFL learners. Conducting this study highlights that the important role of morphological knowledge can be applied to other language skills or areas as well, not only on vocabulary development or reading comprehension.

There is a dearth of literature which encompasses the four major derivative word classes of morphological knowledge and the association and prediction of morphological knowledge to listening comprehension. The present research employed a quantitative research design and investigated the association and prediction of the four major derivative word classes to listening comprehension. This research has filled a gap and contributed to the vocabulary knowledge domain.

Acknowledgement: Funding was provided by the Institute of Advanced Research, (IAR) Research Grant, United International University, Dhaka, Bangladesh. [Project Code: IAR/01/19/MD/21]

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