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TEACHING ENGLISH WORD-FORMATION PROCESSES TO TRANSLATION STUDENTS

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English and Arabic have different word formation processes with which translation students must be familiar. Results of a needs-assessment questionnaire showed that junior translation students almost had no knowledge of English word formation processes such as compounding, derivation, back formation, conversion, extension, blending, clipping, acronyms and abbreviations, onomatopoeia, borrowings and neologisms and had difficulty translating lexical items in each category into Arabic. Results of a post-test showed that direct instruction in word formation processes was effective in developing students' awareness of similarities and differences between English and Arabic word formation processes and enhanced their ability to Arabize English technical terms.

Keywords: *word formation processes, English, Arabic, translating, instruction, ESP, Arabization.*

1. Introduction

Lexical knowledge is an important element in second language acquisition. By learning new words, students can improve their comprehension, production and communication in L2. Results of a study by Nassaji (2004) showed that ESL students who have wider vocabulary knowledge make more effective use of certain types of lexical inferencing strategies than their weaker counterparts. Depth of vocabulary knowledge made a significant contribution to inferential success over and above the contribution made by the learner's degree of strategy use. (August, Carlo, Dressler & Snow, 2005) also found that English language learners who experienced slow vocabulary development were less able to comprehend texts at the grade level. Such students were likely to perform poorly on assessments in these areas and were at risk of being diagnosed as learning disabled.

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In addition, sufficient lexical knowledge plays an important role in meaning construction. According to Evans (2006) 'meanings' associated with words are protean in nature, i.e. the semantic values associated with words are flexible, open-ended and highly dependent on the utterance context in which they are embedded. Evans distinguishes between lexical concepts and meaning. Lexical concepts constitute the semantic units conventionally associated with linguistic forms and form an integral part of a language user's individual mental grammar, whereas meaning is a property of situated usage-events, rather than words. That is, meaning is not a function of language per se, but arises from language use.

Furthermore, lexical knowledge is multi-faceted. It encompasses phonological, orthographic, morphological, semantic, and syntactic aspects. Therefore the teaching and learning of words entail the following: the pronunciation of words and how they form patterns of knowledge in the learner's mind (phonetics and phonology), how written forms represent words (orthography), meanings of words (semantics), how words are formed from small meaningful units (morphology), word classes (parts of speech), and how words are organized in relation to each other (syntax).

Word formation, such as derivation, morphology or compounding, is another aspect of lexical knowledge that students should study as it provides essential clues for word recognition (Soudek, 1981). As in second language acquisition, knowledge of word formation in the source and target languages is vitally important for translation students' lexical knowledge and their ability to transfer meanings of words into the target language. A review of the literature has shown that studies that investigated the effect of teaching word formation processes to L2 and translation students are very few. In one study, it was found that advanced L2 students reached a level of target language competence that enabled them to produce and evaluate linguistic innovations in ways that approximated native speakers' responses, whereas intermediate students deviated considerably from target level competence (Olshtain, 1987).

In another study, Khoury (2008) investigated whether morphological awareness of the main *word formation process* of root and patterns in L2 Arabic facilitated learners' ability to infer meanings of unknown *words*, coin new *words*, and retain *words*. Results showed that students who received explicit instruction

and training on roots and patterns significantly out-performed those who did not in inferring and coining unfamiliar items. Morphological awareness greatly enhanced students' lexical inferencing and coining abilities. The researcher recommended that L2 Arabic learners receive instruction in the Arabic root and derivational pattern system as an integral part of lexical development activities starting as early as the first semester.

In American Sign Language (ASL), Lillo-Martin (1984) investigated the acquisition of several word formation devices by deaf children learning ASL as a native language analogous to word formation devices in spoken languages (compounding, affixation, and derivation) and some in ASL that may not have counterparts in spoken languages. The tasks tested the applicability of several proposed principles of the acquisition of word formation (semantic transparency, formal simplicity, productivity, and conventionality), and reinforced the importance of using several tasks for revealing a variety of processes. Results indicated that those specific tasks called for specific word formation processes to be used, and they were acquired following the principles of formal simplicity and semantic transparency. The results also suggested that tasks involving verbal description of stimuli called for word-based morphological devices.

At the College of Languages and Translation (COLT), undergraduate students are trained to become translators and interpreters. The translation program lasts 10 semesters. In semesters 1-4, students take 61 hours of English language courses. In semesters 5-10, they take 6 interpreting and 18 translation courses in 18 subject areas: medicine, engineering, physical sciences, humanities, military, administration, Islamic studies, media, education, sociology, politics, commerce, computer science, petroleum industry, law, security, agriculture and literature. Students also take an Arabization course in which they study Arabization strategies and processes and learn how to translate English technical terms into Arabic. Arabization of English technical terms is an important skill that English-Arabic translation students must acquire in the translation courses they take in the translation program and after graduation when they are confronted with unfamiliar English technical terms, words and phrases. Specialized bilingual dictionaries do not always provide Arabic equivalents for new technical terms. These dictionaries sometimes provide false equivalents or equivalents used in a particular context are not given.

Furthermore, English and Arabic belong to two different language families and are thus genetically different. They have different word formation processes with which English-Arabic translation students must be familiar. Training English-Arabic translation students to identify, comprehend and translate English lexical items is of ultimate importance.

In the Arabization course that the author taught to junior translation students in the Spring semester of 2010, the students were introduced to English word formation processes, the similarities and differences between English and Arabic word formation processes, and they extensively practiced translating English technical terms with different forms such as primary compounds, secondary compounds, neologisms, acronyms, abbreviations, back formations, clippings and so on into Arabic under the instructor's supervision. Therefore, the present study aims to describe the word-formation processes taught and training procedures followed and to report the effects of instruction in English word formation processes on technical term translation skill development and development of awareness of the differences between English and Arabic word-formation. Results will be reported quantitatively and qualitatively based on the post-test, student survey results and instructor observations.

2. Subjects

Twenty junior EFL female college students majoring in translation at the College of Languages and Translation (COLT), King Saud University, Riyadh, Saudi Arabia, participated in the study. They were in semester 7 of the translation program and were enrolled in an Arabization course (2 hours per week) taught bz the author. The subjects comprised 61 hours of English language courses (listening, speaking, reading, writing, grammar, vocabulary building and dictionary skills; 11 hours of linguistics, semantics, text linguistics, and semantics courses; 6 hours of interpreting courses; 16 hours of translation courses in 8 subject areas: medicine, engineering, physical sciences, media, Islamic studies, military, administration and the humanities; and 12 hours of Arabic grammar and morphology.

3. Needs Assessment

At the beginning of the semester, a needs-assessment questionnire was administered to all of the students enrolled in an Arabization course. The students were also given an Arabization pre-test which consisted of commonly used terms in context and isolation and required the students to identify the types of linguistic units, word formation process used in coining them and provide relevant Arabic equivalents. Results showed that the subjects had poor knowledge of English word formation and Arabization processes such as back formation, extension or neologisms, although they had completed 2 vocabulary courses, 16 hours of specialized translation courses and 12 hours of Arabic grammar and morphology. They had difficulty translating English technical terms, general lexical items and phrases into Arabic (See pre-test results in Table 1 below).

4. Instructional Procedures

In the first 8 weeks of the semester, the students received direct instruction in English word formation processes such as compounding, derivation, back formation, conversion, extension, blending, clipping, acronyms and abbreviations, onomatopoeia, periphrasis, borrowings and neologisms. Each word formation process was explained, compared and contrasted with Arabic, illustrated by English and Arabic examples, then English examples were translated into Arabic. In the case of word formation processes that are not commonly used in Arabic, students were taught alternative translation strategies. Lectures were delivered in English and Arabic using a smart interactive board. Exercises that required the students to understand, identify, discriminate and apply the word formation processes under study were given. The word formation processes taught and their definitions were adopted form Tekauer & Lieber (2006), Plag (2003) and Bauer (1983). English and Arabic examples were compiled by the author.

4.1 Word-formation Processes

(i) Acronyms and Abbreviations

An acronym is a word formed from the initial letters of a name, such as *USA (United Status of America), NASA (National Aeronautics and Space Administration); NATO (North Atlantic Treaty Organization); UNESCO (United Nations Educational, Scientific and Cultural Organization); radar (Radio Detection and Ranging), laser (light amplification by stimulated emission of radiation).* An abbreviation is shortened form of a written word or phrase used in place of the whole word or phrase as in *'e.g. (for example); kg (kilogram); bldg. (building) and temp (temperature)*. Acronyms and abbreviations are very productive in English. On the contrary, Arabic has few acronyms and abbreviations such as ش.م.م (شركة مساهمة محدودة) ، ص.ب (صندوق بريد)، واس (وكالة الانباء السعودية)، م/ث (متر/الثانية)، ص (صفحة)، يد (هيدروجين)، ح (حديد)، نق (نصف قطر)، سم (سنتمتر)، كم (كيلومتر) ، ق.م. (قبل الميلاد)، ر.س. (ريال سعودي).

(ii) Neologisms

A *neologism* refers to any newly coined word, identifying a new concept. In the 1980s, English neologisms included *yuppie, pocket phone,* and *user-friendly*; in the 1990s, Internet neologisms, such as *spam* and *texting* were common; and in the 2000s, Internet neologisms related to blogging, such as *videoblog and blogosphere* became widespread (Cambridge Encyclopedia). Neologisms are very productive in English. In Arabic, They are very few and some of them are borrowed.

(iii) Blends

Blends are compounds created by clipping and blending elements of a complex term such as *brunch (breakfast + lunch)*, *smog (smoke + fog)*, *motel (motor + hotel)*. Blends are also used in Arabic as in كهروطيسي (كهربائي + معناطيسي)، افرواسيوي 0افريقي + آسيوي)، سرمن (سار اثناء النوم) ، متشاجه (تشابه + جهة)، حسبل (قال حسبي الله ونعم الوكيل) ، فذلك (قال فذلك كذا وكذا)، بيخلوي (بين + خلوي).

(iv) Back-formation

In this process, derived words are formed by analogy, either by dropping an affix, or by creating a new base form as in the following English examples: *editor*

> edit; hawker > hawk; enthusiasm > enthused. In Arabic, back formations derived from underived nouns. Such forms are very common as in:

- باب > بوّب، تبويب.
- فهرس > فهرس، فهرسة، مفهرس.
- تلفزيون > تلفز.
- قانون >قنن ، تقنين، مقنن.
- كهرباء >كهرب، مكهرب.
- برنامج >برمج ، مبرمج، برمجة.
- سياسة >سيس، تسييس، مسيس.

(v) Shortening (clipping)

Shortening is the subtraction of one or more syllables from a word as in the following English examples: *telephone > phone, airplane > plane; photograph > photo; facsimile > fax; influenza> flu.* Shortening (clipping) is not used in Arabic at all.

(vi) Extension

In this process, new words are formed from already existing words, which appear to be analyzable as in the English examples*: general > generalize, generalization, generalizable, generalizability.* Extension is a common word formation process in Arabic as in: (اكسجين) أكسد، أكسج، اكسيد، اكسيدات، اكاسيد، اكسدة، تأكسُد، مؤكسِد، مؤكسَد.

(vii) Onomatopoeia

In this process, a word is formed as an imitation of some natural sound associated with the object or action involved. Some English examples are: *buzz, hiss, pop, moo, mew.* Onomatopoeia is a common process in Arabic as in مواء القط، ازيز الطائرات، دويّ المدافع جرجر، خرخر، قهقه، زلزل، سلسل، شمشم، عمعم، كمكم، لعلع، دغدغ.

(viii) Borrowings

Both English and Arabic have borrowings from common language as in the following English examples: *bed, cell, nut, crane, wing, conjunction, current* and the following Arabic examples:مجتمع، جامعة مجمع، دعاية، يعالج، خلية، جناح، تصفية، وارد، صادر. Both English and Arabic have borrowings from foreign languages as well, as in

the English words *alcohol, algebra, yoghurt, bacteria, strata, machine* and the Arabic words هليوكبتر، كمبيوتر، تلفزيون، باص، هرمون انزيم، تلفون، بكتيريا، فيروس،

(ix) Conversion

Conversion is a derivational process by which an item changes its word-class without the addition of an affix. As in the following English examples:

- *N > V*: *doubt, love, laugh, SMS, e-mail, fax.*
- *Adj > N: daily, comic, young*
- Adj > V: *calm, empty.*

Unlike English, conversion is not common in Arabic.

(x) Compounds

English has primary and secondary compounds. In primary compounds two bases (roots) are joined together as in *confer, offer, refer, suffer, differ*; *subway, subterranean, submarine, subclass.* In secondary compounds, two lexical items are joined together and used as a unit. Secondary compounds can be agglutinated, separated by a hyphen or a blank as in: *Spaceship, self-expression, department store.* Primary compounds consisting of Greek and Latin bases do not exist in Arabic. Secondary compounds are prolific. However, most Arabic compounds consist of lexical items separated by a blank such as: الاعتماد ، الاكاديمي الجهاز العصبي، التقويم المؤسسي، الحمى الشوكية. Very few compounds are agglutinated such as: حضرموت، بعلبك، طولكرم ، معديكرب ، انما ، لكنما ، بينما. No compounds are hyphenated in Arabic.

(xi) Derivation

In English, derivatives (derived nouns, verbs, adjectives and adverbs) are formed by adding one or more affixes to bases or lexical items as in: *scholarship, translation, humanity, productivity, incredible; nation, national, nationalize, nationalization, nationalized; enlarge, enlargement.* Arabic is a derivational language. It has about 1200 derivational patterns that are used to derive new verbs, nouns, adjectives, adverbs, agents, tool names, place names and many others. New forms are usually derived from tri-consonantal roots by adding a consonant, doubling a consonant, lengthening a vowel, or by root modification (metathesis). For example, numerous words can be derived from

the tri-consonantal root /ktb/ كتب such as كاتب، مكتوب، كتاب، اكتتاب، كتّاب، كتب، مكتب، مكتبة، اكتتب، كاتب، مكاتبة، استكتب، استكتتاب، كتيب، مكتبات، كتيبات.

5. Tasks

Since the Arabization task is very complex, weekly written assignments were given. An asynchronous online discussion forum was created and used to post assignment questions related to the topics covered in class. The online assignments focused on English word formation processes and how terms coined on the basis of each could be translated into Arabic. The students worked on identifying problems of translating English terms. The assignments were based on media reports covering political, economic, technological and medical topics selected from the BBC, CNN, and Al Jazeera websites in addition to Google News. The assignments were aimed at the following: helping students understand the basic Arabization concepts, terms, and strategies; classifying the linguistic units to be translated into abbreviations, acronyms, back formations, primary compounds, secondary compounds and so on; developing students' awareness of the differences between English and Arabic word formation processes, accuracy of newly-Arabized terms and faulty forms; finding Arabic equivalents for English terms and expressions in common use; developing students' awareness of faulty Arabic translation equivalents in common use.

The online homework forum was process-oriented and learner-centered. The author served as a facilitator and encouraged student-instructor and student-student interaction and communication. Instruction was geared towards developing students' Arabization competence and performance.

6. Data Collection

6.1 Instruments

At the end of the instructional module, the subjects were given a post-test that consisted of lists of words covering all of the word formation and Arabization processes covered in class. The words were given in isolation and in context. Words were presented in news headlines and short news stories from the BBC and Al Jazeera websites. For each lexical item or phrase, the test required the subjects to identify the type of linguistic unit, give the Arabic equivalent and identify the word formation and Arabization process used. The students also

responded to a post-treatment questionnaire-survey with open-ended questions that aimed at finding out students' views on the topics covered and instructional procedures followed and whether they found them helpful in learning. The author also kept a daily log of students' progress and their difficulties and problems.

6.2 Data Analysis

The subjects' written responses were marked by the author. To be marked as correct, each lexical item or phrase had to be classified and translated correctly. The total of correct responses was calculated and converted to percentages. To find out whether there was a significant difference between the pre- and post-test scores, a paired T-test was calculated. To find out the effects of practice provided on the students' comprehension and application of word formation processes and their ability to transfer the meaning of lexical items into Arabic based on their knowledge, the frequency of students' posts in the online assignment forum was correlated with their post-test scores.

6.3 Reliability

Since it was not possible to use parallel forms, split-halves, or re-test the students two weeks after the first administration of the test, reliability of the test scores was calculated using the Kuder-Richardson 21' formula as it estimates the internal-consistency of the test items from a single administration of the test. The reliability coefficient of the test scores was 84. Inter-scorer reliability was also calculated by having a colleague mark a sample of answer sheets and by comparing both analyses. There was a 92% agreement between the two scorers. Disagreements were solved by discussion.

7. Results

Results presented in Table (1) show that the subjects' performance on the post-test was much better than on the pre-test (mean= 72.89% and 21.25% respectively). Results also show that the typical student scored 75% on the post-test and 17.5% on the pre-test. Comparisons of the mean scores of the pre- and post-tests showed significant differences in understanding the course material, ability to identify, distinguish, and apply the English and Arabic word

formation and Arabization processes and strategies (T=29.01; DF=19; P<.000). This means that instruction in English and Arabic word-formation processes proved to be effective in developing students' awareness of the similarities and differences between English and Arabic and enhancing students' skills in translating technical terms and lexical items accurately based on their knowledge of those word formation processes.

Table (1) Descriptive Statistics of the Pre and post-test Scores

	Mean	**Median**	**Standard Deviation**	**Standard Error**	**Range**
Pre-test	72.89	75.00	10.94	2.5092	57.50-92.50
post-test	21. 25	17.50	5.79	1.2936	5.00-40.00

In addition, the correlation between the students' scores and frequency of responses posted to Arabization assignment questions was also significant (r=.49; p<05) showing that students who posted more responses in the online forum had a better performance on the post-test and made significant improvements in their word formation processes knowledge and translation skills as a result of the online assignments.

Qualitative analysis of students' responses to the Arabization post-test test showed great improvement in students' ability to identify Arabization errors, distinguish word formation processes, and translate English terms with a variety of word formations into Arabic. Answers became more accurate, more detailed and more comprehensive. It was noted that the students submitted more efficient answers to the Arabization questions towards the end of the course. They also developed critical thinking skills.

Analysis of the participants' responses to the questionnaire–survey revealed positive attitudes towards class instruction in word formation and Arabization processes. The course helped them develop awareness of the structure of lexical items they encounter and select an Arabic equivalent based on the structure of lexical items and the specific context in which they are used. They reported that comparing and contrasting the English and Arabic word formation processes helped them develop accuracy and critical thinking in selecting translation equivalents. The subjects reported that they found the word

formation assignments useful as they provided extra practice, gave instant feedback and provided an opportunity to improve their ability to analyze, scrutinize, translate, identify errors and weaknesses and correct them. Assignment questions helped the students' understand the word formation processes. They benefitted from the different kinds of feedback and comments given to the different students. They acquired skill in conveying and transferring the meaning of English technical terms into Arabic. They learned to overcome difficulties in translating terminology with different types of structures.

8. Discussion and conclusion

Findings of the present study showed that instruction in English and Arabic word-formation processes proved to be effective in developing students' awareness of the similarities and differences between English and Arabic word formation processes and enhanced students' skills in translating English technical terms and lexical items accurately. These findings are consistent with findings of prior studies in the literature by Olshtain (1987) who found that advanced L2 students who received instruction in word formation processes reached a level of target language competence that enabled them to produce and evaluate linguistic innovations in ways that approximated native speakers' responses and Khoury (2008) who found that students who received explicit instruction and training on roots and patterns significantly out-performed those who did not in inferring and coining unfamiliar items. Morphological awareness greatly enhanced learners' lexical inferring and coining abilities.

Comparing and contrasting the English and Arabic word formation processes seemed to have helped raise participants' awareness and ability to transfer meaning into Arabic. This is also consistent with finding of a study by Laufer & Girsai (2008) in which they investigated the effect of explicit contrastive analysis and translation activities on the incidental acquisition of single words and collocations, by comparing three high school groups of learners of the same L1 and comparable L2 (English) proficiency. Each group represented one instructional condition: meaning focused instruction, non-contrastive form-focused instruction, and contrastive analysis and translation. The contrastive analysis and translation group significantly outperformed the other two groups on all the tests.

Providing explicit instruction and translating English examples representing the different word formation processes into Arabic seems to have been effective in enhancing students' learning. This is consistent with the results of a study by Ramachandran & Rahim (2004) in which they investigated the effectiveness of the translation method in teaching vocabulary to elementary level ESL learners. The findings revealed that the translation method had a positive impact on learners' recall and retention of the meaning of words that they learned.

Based on the findings of the tests and surveys, the study recommends that English word formation processes be a main part of the Arabization course offered to translation students at COLT. The different English and Arabic word formation processes should be compared and contrasted. Illustrative English and Arabic examples should be given and the students should be encouraged to translate the different English examples into Arabic. It is also recommended that students receive instruction in English and Arabic word formation processes in semester 4 or 5 of the translation program at COLT, before the students start taking their translation and interpreting courses, to be able to apply their knowledge of word formation processes in the translation courses taken in the subsequent levels especially levels 5 and 6. Focus should be on extensive application of each word formation process. This would help raise students' awareness and enhance their understanding of English technical terms and ability to convey their meaning into Arabic.

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جامعة الملك سعود، الرياض، المملكة العربية السعودية

تدريس طرق وضع المفردات لطالبات الترجمة

الملخص

ينبغي ان يكون طلاب الترجمة على دراية كافية بطرق وضع المفردات الجديدة في اللغتين العربية والانجليزية واوجه الشبه والاختلاف بينهما وكيف يمكن ترجمة المفردات الانجليزية التي صكت بطرق مختلفة الى اللغة العربية. ولقد اظهرت نتائج استبانة تقدير الحاجات عدم معرفة الطالبات بطرق صك المفردات في اللغة الانجليزية وعدم معرفتهن بطرق تعريب المصطلحات واستراتيجياتها مثل التركيب والاشتقاق، والنحث والاختصارات، والتوسع في الاشتقاقات والاشتقاق العكسي والاشتقاق الصغير والاشتقاق الكبير والتركيب الاتباعي والاقتباس وغيرها. وكان لدى الطالبات صعوبات في ترجمة مصطلحات اتبع في صكها طرق مختلفة الى اللغة العربية . لذا حاولت هذه الدراسة وصف الطرق التي اتبعت في تدريب الطالبات على تعرف الطرق التي اشتقت بها المصطلحات الانجليزية وكيفية ترجمتها الى اللغة العربية. ولقد اظهرت نتائج الاختبار البعدي ان فعالية الطرق التي اتبعت في التدريب وتعريف الطالبات بطرق صك المصطلحات في اللغتين العربية والانجليزية وجوانب الشبه والاختلاف بينهما وتمنية قدرة الطالبات على ترجمة المصطلحات من الانجليزية الى العربية بدقة.

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