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The First International Conference on Education and Language (ICEL)

28,29,30 January 2013
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PROCEEDINGS

The First International Conference on Education and Language

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PREFACE

The activities of the International Conference is in line and very appropriate with the vision and mission of Bandar Lampung University (UBL) to promote training and education as well as research in these areas.

On behalf of the First International Conference of Education and Language (ICEL 2013) organizing committee, we are very pleased with the very good responses especially from the keynote speakers and from the participants. It is noteworthy to point out that about 80 technical papers were received for this conference

The participants of the conference come from many well known universities, among others:
University of Wollongong, NSW Australia, International Islamic University Malaysia, Kyoto University (Temple University (Osaka), Japan - Jawaharlal Nehru University, New Delhi, India - West Visayas State University College of Agriculture and Forestry, Lambunao, Iloilo, Philipine - Bahcesehir University, Istanbul, Turkey - The Higher Institute of Modern Languages, Tunisia - University of Baku, Azerbaijan - Sarhad University, KPK, Pakistan - Medical Sciences English Language Teacher Foundation Program, Ministry of Health, Oman - Faculty School of Arts and Sciences, Banga, Aklan Philippines - Sultan Ageng Tirtayasa, Banten, - Pelita Harapan University, Jakarta - STIBA Saraswati Denpasar, Bali - University of Muhammadiyah Yogyakarta - Ahmad Dahlan University Yogyakarta - Sriwijaya University, Palembang - Islamic University of Malang - IAIN Raden Fatah Palembang - Universitas Diponegoro, Semarang, Indonesia - Universitas Haluoleo Kendari - State Islamic University of Sunan Gunung Djati, Bandung - Tadulako University, Central Sulawesi - Sanata Dharma University - Lampung University and Open University,

I would like to express my deepest gratitude to the International Advisory Board members, sponsors and also to all keynote speakers and all participants. I am also grateful to all organizing committee and all of the reviewers who contribute to the high standard of the conference. Also I would like to express my deepest gratitude to the Rector of Bandar Lampung University (UBL) who gives us endless support to these activities, so that the conference can be administrated on time.

Bandar Lampung, 30 January 2013

Mustofa Usman, Ph.D
lCEL 2013 Chairman

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(ICEL 2013)
BANDAR LAMPUNG UNIVERSITY
Bandar Lampung, Indonesia
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GREEK AND LATIN AFFIXES AND THE GENERATION EFFECT

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Abstract

This action research study was conducted in 2012 at a private high school in Antalya, Turkey. The research focus was on Greek and Latin affixes and vocabulary along with the robust vocabulary discovery- the generation effect. The results of the study were significant in terms of recall and the application methodology. This paper is an abbreviated version of the complete study. The paper discusses background, literature review and cultural factors unique to Turkey. The project testing and data collection involved academic quiz bowls, unique classroom instruction, a survey, and visual mapping tools. The paper ends with limitations and areas of future study.

Keywords: Academic, Affixes, Greek, Latin, Vocabulary

1. INTRODUCTION

1.1 Literature Review

Dictionaries and other sources cite the English language having somewhere between six-hundred thousand to two million words. Considering this colossal vocabulary instructors question which words to teach and how many? The learning strategies instructors and students naturally migrate towards are reading and implicit learning of vocabulary combined with selective words from course books. Many students also bring in a companion in the form of a massive dictionary. Extensive vocabulary can be filtered down by emphasizing and prioritizing the learning of academic vocabulary. Academic vocabulary can be abstract and difficult to define and learn.

A review of the literature contrasted against the premise and needs of this research study resulted in three ground-breaking research works. These will be briefly discussed along with related cognitive learning theories. The research of the literature migrated towards academics when it came to looking for answers regarding which words to teach and how many. One of the early corpus pioneers of academic corpus, Coxhead, created specific criteria that would filter a scholastic volume of three and half million running words from a variety of academic sources for her Master's thesis [1]. Her efforts resulted in five-hundred and seventy different academic terms that were sorted from highest to lowest frequency. Twelve years later, her lists retain high credibility and remain steadfast as many higher education institutions rely on these words to help students progress towards proficiency. Even today the words remain durable and retain high respect having gained momentum with extensive internet support with many online resources. Teaching English using just wordlists presents challenges for even experienced teachers and special training on how to best use corpus is merited for such endeavors. New more modern corpus depositories such as Corpus of Contemporary American English will in the near future identify these academic words from a much more comprehensive and practical methodology and with supplemental professional training educators will be able to use this resource to help students better master key academic vocabulary. Two years after Coxhead published her work; a group of researchers made a ground-breaking contribution. These researchers developed a tiered process that identified which words to teach.

The concept of three-tiered vocabulary was developed using a process methodology [2]. With respect to literacy, the first-tier is high frequency and implicitly learned. The second-tier words are considered academic and critical for comprehension and understanding and it is these words that should be taught explicitly. The third-tier is special vocabulary unique to the content such as math or science. As mentioned earlier, these researchers do not specify a list of words but rather a methodology for identity. This approach continued until a major education reform arrived on the scene, standards-based teaching. Teaching to international standards such as the Common European Framework of References for Language and the World Class Instructional Design and Assessment from the United States has heightened the need for unambiguous word lists[3],[4]. With the standards movement in full motion the next significant academic vocabulary research work begins and it results in a massive and well-supported list of words.

In ground-breaking book on academic achievement this researcher went through an elaborate process of

analyzing forty-five different educational standards and hundreds of associated documents to create an impressive four-tier academic vocabulary word list of seven-thousand nine-hundred and twenty-one words with some phrases [5]. Besides being aligned to standards, these words were also grouped and sorted across eleven different subject areas and span a comprehensive age-range starting with primary school and ending with graduation of the secondary grade school. Brilliantly, the researcher targeted key words from the standards and used pragmatics to sort and scale language and words. The weakness of this lists is it is stagnate and frozen in time. It was published in 2004 and English language vocabulary and usage is not stagnating. The more time that passes the higher the probability the words will become outdated, replaced or morphologically changed. One final point, all three groups of researchers advocate for direct vocabulary instruction of eight to ten words a week. Even though Marzano hints that the number of direct vocabulary instruction could rise to fifteen in one week he qualifies this by explaining that content instructors must supplement the effort for English learners. The last topic of this general literature research involves Greek and Latin.

Even with what seems likes endless possibilities to date there remains no useful study identifying the most frequent or useful Greek and Latin affixes [6]. In their reading book of lists, these two researchers cite no specific source, give little insight on instruction, but do delineate *more and less common Greek and Latin roots* [6]. Furthermore, there is scarce classroom-based research that details successful vocabulary instruction of such affixes [7]. In terms of learning by decoding, an article on Greek and Latin roots appears in an impressive international handbook on teaching English [8]. English has a convoluted history of origins with many other foreign language influences and intrusions. Over sixty-percent of the total words in English can be traced back to Latin or Greek and the numbers rise to ninety-percent in the content areas of science and technology [9]. This completes a general review of academic vocabulary literature. The next sections of the report pertain to important cognitive learning theories.

1.2 Fast-Mapping and the Generation Effect

How young children have the ability to acquire large, accelerated vocabularies in a short period of time remains a mystery despite years and years of study. The first researchers who coined the term, fast-mapping, thought they may have made a cognitive breakthrough explanation [10]. However, over time their results have been brought into question. Debating fast-mapping's worth is beyond the scope of this paper and only added here as it will be included in a follow-up study to this one. Generally, fast-mapping attempts to explain how rapid language acquisition occurs when a toddler is exposed to a new concept or word. Basically, the toddler uses background vocabulary with inference or thinking to learn a new concept or word. It is this researcher's opinion that during thirty plus years of debate researchers may have lost sight of what was probably deemed as surface-level understanding. In contrast to this controversial theory is a more robust vocabulary learning theory that has stood the test of time.

The generation effect was first studied in isolate and identified as a rather simple learning concept with tremendous potential [11]. Simplified, the theory believes that words or word parts that are self-generated by the learner enable recall significantly above what can be retrieved by simple passive reading. This learning concept is probably not understood and under-utilized by many second language instructors and professionals. A recent and most impressive review of the generation effect was conducted by four university professors and in their review they evaluated eighty-six different studies all with positive and impressive results [12]. To put this theory to an even simpler level, saying it out loud, parts or whole, has a statistically significant advantage (0.40) over the passive reading of books. This finding appears counter-intuitive. In a skill's based classroom it is quite normal to have super majority percentages of students with over-developed receptive skills and underdeveloped productive ability. Thus, this technique is not understood or perhaps not used by instructors in Turkey. As mentioned earlier, evaluating and analyzing the literature against the problem statement uncovered three studies. Rationale of three specific studies is detailed in the next section.

2. RATIONALE OF THREE STUDIES

The first study looked at the word retrieval effects of known words and the memory of new words [13]. It was selected because its evaluation was based on the generation effect, fast- mapping, and visual learning theories. The material and methodologies were visual and picture-based, second language vocabulary learning techniques. The generation effect analysis attempted to explain or show that the learning of new vocabulary happens more effectively when the words are learned in pieces or parts. The assessment of the generation effect was innovative in that it used a lexical production scoring protocol that measured student ability in terms of academic vocabulary repository. The second study evaluated a group of English language learners by taking the instructional strategies typically used for learning general vocabulary and examining how they function and transfer to academic vocabulary learning [14]. In the review of the literature these researchers discovered that middle-school students have unique needs and historically this age-group has been under-represented in other similar vocabulary studies.

Further, this study also pointed to the importance of conducting a future study of Greek and Latin affixes. The final literature review research study retains an even closer nexus to this research project in that the researcher concentrates on lexis and the grouping of academic content vocabulary. The third study evaluated cognitive synonymy in the realm of second language vocabulary [16]. The study uniqueness is that the focus was to not prove the worth of teaching synonyms but rather make a viable contribution to the understanding of the vocabulary acquisition process itself. Furthermore, the study administered ten different test- measuring parameters such as orthography, syntagmatic association, grammar, meaning and form. The ten different measures appear to border on excessive. This study also covers in detail what is commonly known as the learning burden. Critical reviews of each of the studies will not be summarized due to parameters for publishing at this conference. The action research is discussed next.

2.1 Framework

This action research study was conducted in accordance with principles and practices from Dominican University Master's program, Teaching English as Second Language and by [17]. Action research is an orderly, broad-based inquiry with the intent of gaining insight into how a school functions, instructors teach, and students learn. The ultimate goal is data gathering that provides great insight and the groundwork for reflection and instructional improvement. This study will also provide valuable insight and structure for a future experimental research study involving academic vocabulary in an intensive English program. Action research analysis and collaborations results in positive classroom instructional changes and improvements for learning can more easily be implemented with administrative support and praise. This systematic inquiry was performed in the spring of 2012. The study builds on the research work of others by evaluating the generation effect using Greek and Latin affixes and doubling the number of words studied in one week. Students studied seventy-five academic words over a period of three weeks. Because the study focuses on academic vocabulary a definition is in order. Academic vocabulary is the words that are critical to understanding the concepts of the content taught in schools [18]. In addition to the purpose, the study explores the concepts of fast-mapping and the generation effect while exploiting visual mapping tools [19]. Data was gathered using competitive scholastic quiz bowls.

2.2 Problem Statement Narrative

The aim of this research study was to improve classroom instruction of direct academic vocabulary instruction by looking at the effects of using affixes or combining forms of twenty-five new academic vocabulary words in one week. The target was to achieve a surface-level understanding of the vocabulary. In reviewing the literature it was noted that terminology such as prefix, suffix, affix and roots are words all used interchangeably. For the purposes of this study, an affix is a group of letters that when added to a word or to other letters alters meaning or function [25]. For example, the Latin root *acu* means sharp. When combined with other letters or words it produces such words as, acupressure, acute, or acumen. The affix carries the essential meaning and is fairly easy for English learners to understand. Therefore, the research hypothesis is this: English language learners who are taught Greek and Latin word family clusters will be able to recall a high number of these words and be able to generate new academic words. The study predicts Greek and Latin affixes, assessed and evaluated using the generation effect, will reveal deeper academic insight into this exciting and robust, discovery [12]. One strategy that helps English learners filter, file-down and decode this mammoth, expanding vocabulary base is to focus instruction on core affixes and their semantic meanings. In past research studies involving direct vocabulary instruction, instructors were advised to only teach ten to twelve words per week [2], [5]. This long-held recommendation severely limits target language learning. This study sets out to prove that generating and remembering Greek and Latin affixes will give English learners powerful, short-term intuitive retrieval tools and build language confidence by using intuitive semantic skills. Replacing traditional methods with more progressive, aggressive and cooperative method of learning this study aims to increase the number of words learned in one week to twenty-five. Academic or scholastic quiz bowls for the pre and post test were selected because high school students are highly competitive and these types of games engage intrinsic motivation. The original conception of this study was two grades and the design would be quasi-experimental research with a control class. Give the flexible nature of action research the project was re-designed to a mixed-method research project and the control group was dropped. Ninth grade students were selected due to the exam schedule conflicts of the tenth grade students. The research framework of this project aligns with the school's goals of fluency, proficiency, and attendance at an English medium instruction university.

3. THE RESEARCH STUDY

This study used existing English classrooms. Each classroom was equipped with a computer, projector, chalkboard and simple sound system. There are three commonalities. First, each class met once a week for two forty-five minute sessions. Treatments were organized and applied during one forty minute session. Second,

each week students learned five affixes and twenty-five associated academic words and the treatments would last three weeks. The third common denominator was academic notebooks. Academic notebooks provided a consistent mechanism for student learning and helped the instructor monitor, guide, and deliver consistent instruction. The participants in this study were ninth grade classes, one tenth grade class, two Turkish-English instructors and the researcher. Prior to the start of the study, students were introduced to visual thinking maps [20]. Visual mapping of the entire study was carefully constructed using enhanced Venn diagrams and visual metaphor mapping. Student motivation during competitive situations resulted in competitive learning environments. In these types of settings, productive language and thinking saturates the learning atmosphere thus, creating high motivation. During the pre and post-tests data was collected using performance-based contests, academic quiz bowls. Performance-based environments are some of the best ways to collect data as they closely simulate the real-world [21]. The constant in this action research project was the method of vocabulary instruction, instruction using Greek and Latin affixes. The three dependant variables in this study were: the retrieval of learned words, the pragmatic ability or inability to use words, and the generation or connection to a new word(s). Data was collected in a variety of ways to attain triangulation [17]. The diagram below exemplifies the diversity:

3.1 Diagram One-Triangulation
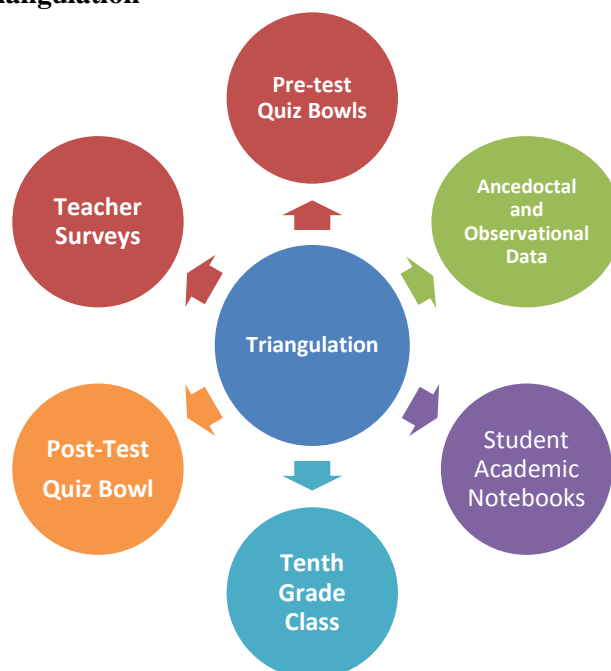
The pre-test circumvolved around fifteen Greek and Latin affixes selected from math, science, and history content [7]. Classroom treatments are discussed next.

The treatments had similar characteristics to the pre-test. During one, forty-minute lesson students were exposed to five Greek-Latin affixes and twenty-five associated academic words and recorded their learning using academic notebooks. A total of fifteen affixes and seventy-five words were studied . The treatments were two-dimensional. The first dimension illustrated each root using an advanced organizer, a Venn quadrangle. The quadrants of the diagram reflected the root in the middle and then spiraling out were five words, the semantic meaning, a picture, and translation into the students' mother-tongue. Students re-constructed these specialized visual diagrams in their academic notebooks and drew simple picture in the blank quadrant or they made a bilingual connection by writing the Turkish equivalent of the root or its semantic meaning. Appendix A provides thumb-size diagrams of the treatments. Instructional approach of the generation effect is detailed in the next paragraphs. After the diagram was completed the instructor verbally modeled each word and helped students recite the words in the spirit of the generation effect. For example, the Latin root for universe is *cosm*. In chorus, the class would mimic this exaggerated chanting by saying the associated words in unison: mi-cro-cos-m, cos-mo-pol-i-tan, cos-mo-s, cos-mo-naut, and mac-ro-cos-m. One major hope of this study was to show that this duet of instructor and student chorus of the words would significantly enhance student recall. The second phase of the treatment was accomplished using visual mapping graphic. This second treatment represented images, the root, and no words. Students matched the diagram and words recorded in notebooks to these graphic images.

3.2 Post-Test

This academic quiz bowl consisted of three rounds and teams competed simultaneously not independently. In the first rounds, each team attempted to recall the affixes and associated words. During the third round students were then given fifteen minutes to construct fifteen never before seen or noted in English dictionaries academic words.

3.3 Analysis

Two treatments were observed closely to ensure correct transfer of information took place. The illustrations utilized advance organizers, pictures, semantic meanings, and translation. The most challenging part of the treatments involved the second application where pictures had to be matched with the words. Field notes and observations concluded that learning five affixes and twenty-five new academic words was not stressful on the instructor or the students. A negative aspect had to do with time-management. The time it took the instructor to create these graphics was time-consuming. Post-test results are evaluated next. The highlight of this study was overwhelmingly the post-test. The post-test competition proved electric in the classroom and generated meta-cognition, conation, and volition in three out of five teams. The first post-test resulted in mixed results. Three teams during rounds one and two scored high recall numbers. In contrast to this was the performance of the other two teams whose scores were substantially lower. These lower-performing teams were comprised of students who exhibited excessive chatter, poor attention and concentration. During round two it was observed that many students were reciting the words in chunks just as they had been instructed. No quantitative data was gathered but the chunking and syllabic recall of the words was anecdotal evidence of the generation effect. The last round of the competition involved generation of new, never before heard or seen academic words using the affixes and creative and critical thinking. The results of the third round were perhaps the most significant. One team generated twenty-one new and interesting words, three teams generated fifteen new words and the remaining team generated nine. This particular round had two stages. The first was creation of new word and the second had to do with generating logical explanations of the new words. Beyond the creative nature of this round was the obvious generation of new words that had meanings consistent with the semantic core during the three weeks of the study. Turning to the generation effect and associations to this project, correlations and evidence of learning rose to positive high levels with the second and third rounds. The pre-test results for this class were near baseline zero and the post-test represented significant gains, connections, and ramifications beyond this last task and study. Furthermore, by extending the analysis it could be inferred that students broke through a decoding barrier by engaging cognition that could see affixes and the semantic core meanings. At least three of the teams were operating in a learning zone where creative and critical thinking were functioning at accelerated rates beyond a normal classroom.

4. CONCLUSIONS

This action research project achieved its aims of focusing on classroom instructional learning improvements and attaining insights into the potential of fast-mapping and the generation effect. Using affixes, exploiting visual tools and using images that enhanced classroom learning was a huge success in terms of learning academic vocabulary. The study highlighted nine important lessons. First, cooperative learning played a major role in boosting motivation. Second, students and the instructor enjoyed this type of learning and when this happens it creates a positive and productive learning environment. Third, the target of a *surface-level understanding* of new vocabulary was achieved and the results were significant enough to discard the notion of only learning ten to twelve new words a week. In fact, learning using fast-mapping and the generation effect may enable students to gain surface-level understandings of as many as fifty to one-hundred new academic words in a week. Fourth, further research needs to be done to identify and collect measurable generation effect data. This theory while appearing simple on the surface is in fact a quite complicated cognitive process. Fifth, the teaching of affixes needs further study with perhaps a stronger student technology presence and the assistance of corpus. The sixth recommendation has to do with multi-media. The internet and internet games play vital influential roles in student development and short duration videos can tap motivation, enhance learning and further understanding. Seventh, further critical analysis needs to be done on the words generated in the final round of words from the post-test. These words were not only generative but also reflection of emergent thoughts and ideas. Analyzing these words may provide insight into what appeals to students in the content areas of learning English. Eighth reflection has to do with classroom tools. Strategic use of bilingual and online thesaurus and dictionaries can be invaluable and facilitate bilingualism and bilingual education. The final observation invokes the question of how best to advance academic vocabulary to much deeper levels of understanding in intensive English programs where instruction last for only one academic year and time is of the essence. The answer to this question remains unanswered.
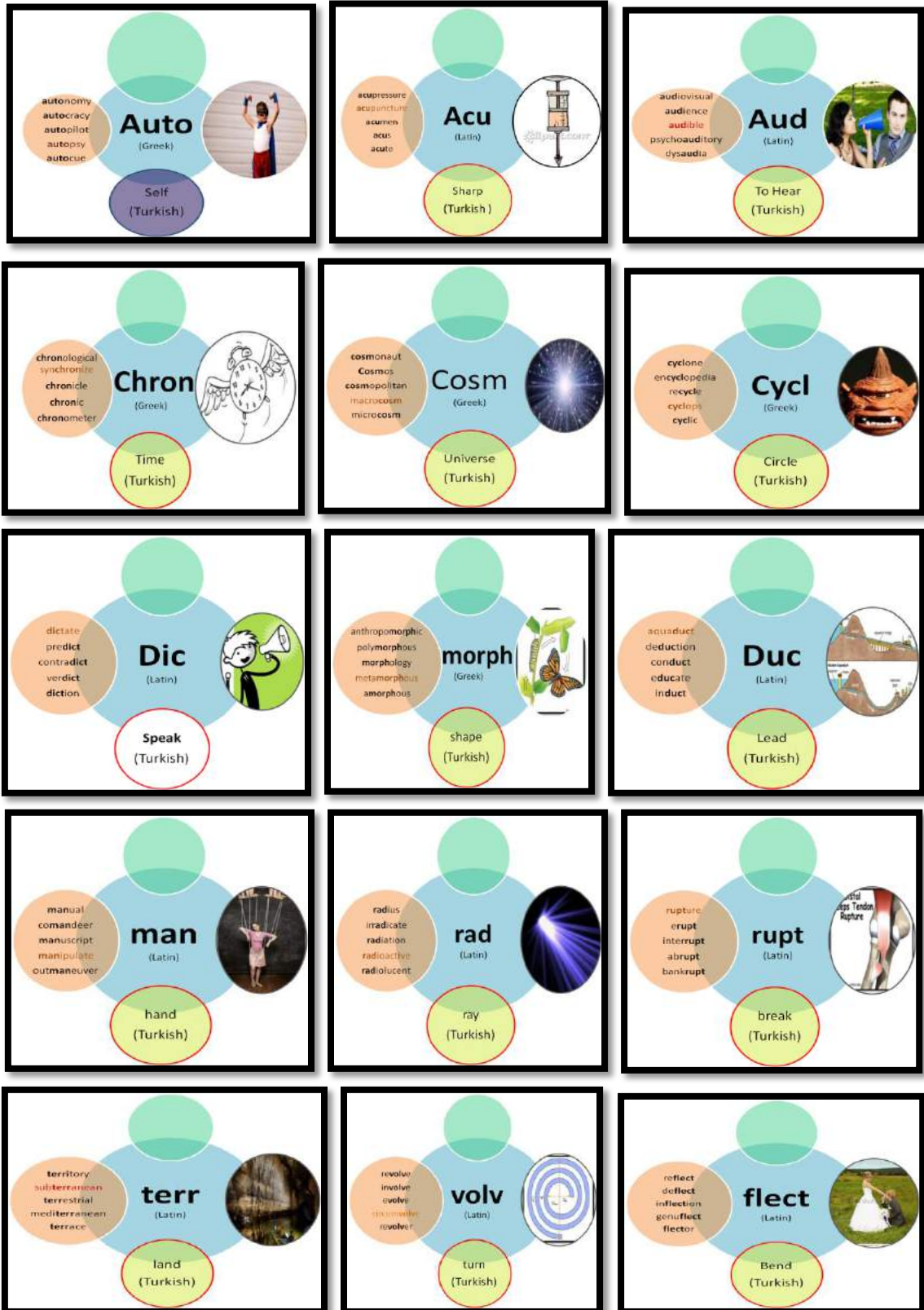
4.1 Limitations and Future Studies

Even though the study was highly successful more research is needed. The study started out with eight classes and was going to be a quasi-experimental quantitative research study. It finished with two classes. Had the experimental design and characteristic remained, the added strength of a control class would have resulted in conclusions using generalization and transferability. The reality is it is difficult to do scientific research in high schools because of competing administrative demands and short-notice schedule changes. The final limitation pertains to the generation effect. This robust vocabulary discovery is exciting to work with and to see the results. This theory is evolving and more application and studies are needed.

Future Studies. In the spring of 2013, plans are being made to conduct an experimental or quasi-experimental research study at Azerbaijan Diplomatic Academy in Baku. The intent of the project is to not only build upon the foundation of knowledge summarized in this action research project but to also partner outside the English department to create a unique cross-curriculum research project. The study plans on using academic vocabulary sourced from the Corpus of Contemporary American English. In this study, students and faculty will work together to design the research study and the overarching aim will be to push the upper limits of academic vocabulary learning using corpus, technology, fast-mapping and the generation effect.

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Appendix A
Visual Mapping Clusters - Greek and Latin Affixes (Thumbnail size)

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