EXPRESSION OF EPISTEMIC MODALITY IN ARGUMENTATIVE WRITING: A STUDY BASED ON LEARNER CORPORA

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DOCTORATE DISSERTATION

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ÖZET

TARTIŞMACI KOMPOZİSYONLARDA BİLGİSEL KİPLİK BELİRTEÇLERİNİN İFADESİ: ÖĞRENCİ DERLEMİNE DAYALI BİR ÇALIŞMA

Pınar Karahan

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Bu çalışmada, Anadolu Üniversitesi İngilizce Öğretmenliği Bölümü birinci sınıfta okumakta olan Türk öğrencilerin İngilizce yazdıkları tartışmacı kompozisyonlarda bilgisel kiplik belirteçlerini nasıl kullandıkları araştırılmıştır. Araştırmada aynı kiplik belirteçlerini, ana dili yine Türkçe olan başka bir öğrenci grubunun da nasıl kullandığı incelenerek ana dili İngilizce olan öğrencilerin kullanımlarıyla karşılaştırma yapılmıştır. Çalışmada ayrıca bilgisel kiplik belirteçlerinin güç dereceleri bağlamında üç öğrenci grubunda nasıl bir değişkenlik gösterdiği de araştırılmıştır. Araştırmanın amaçları doğrultusunda, üç farklı veri tabanı kullanılmıştır. Veri tabanlarından bir tanesi ana dili İngilizce olan öğrencilerin yazmış oldukları tartışmacı kompozisyonları kapsamakta olup, diğer ikisi Türk öğrencilerin yazdıkları kompozisyonları içermektedir. Her üç veri tabanı, gruplar arasında bilgisel kiplik belirteçlerinin kullanım sıklığı, kullanım çeşitliliği, kullanıldıkları dilbilgisel kategoriler, birlikte sıklıkla kullanılan kalıplar ve ifade ettikleri epistemik güç gibi değişkenler bakımından detaylı olarak incelenip karşılaştırılmıştır. Çalışmanın nicel bölümünde, bilgisel kiplik belirteci kullanımlarının veri tabanları arasındaki dağılımı frekans analizleriyle gösterilmiş ve her üç veri tabanı arasında anlamlı farklar olup olmadığının belirlenebilmesi için de Log-likelihood testleri yapılmıştır. Çalışmanın nitel tarafında ise, bilgisel kiplik belirteçlerinin her üç veri tabanında da nasıl kullanıldıklarını saptayabilmek amacıyla detaylı dizin analizi yapılmıştır.

Çalışmanın bulguları, Türk öğrencilerin bilgisel kiplik belirteçleri kullanımlarının sınırlı ölçülerde kaldığını göstermektedir. Ana dili İngilizce olan Amerikalı öğrencilere göre Türk

öğrencilerin daha az ve sınırlı sayıda bilgisel kiplik belirteçleri kullandıkları görülmektedir. Bir diğer dikkat çekici bulgu ise Türk öğrencilerin bu sınırlı ve az sayıda olan bilgisel kiplik belirteçlerini, ana dili İngilizce olan öğrenci grubuna oranla daha yüksek sıklıkta kullanmalarıdır. Bu durum, Türk öğrencilerin epistemik fiil kullanımlarında, özellikle de *'I think'* ifadesinin sıklıkla kullanımında, açıkça gözlenmektedir. Bilgisel kiplik belirteçlerinin dilbilgisel kategorilere göre dağılımına bakıldığında ise, Türk öğrencilerin bilgisel kipliği ifade etmek için genellikle fiil ve zarfları kullandıkları gözlemlenirken, ana dili İngilizce olan Amerikalı öğrenci grubunun modal fiilleri sıklıkla tercih ettikleri görülmüştür. Türk öğrencilerin kullanmayı tercih ettikleri modal fiiller ile Amerikalı öğrencilerin tercih ettikleri modal fiillerin de birbirinden farklı olduğu tespit edilen bir diğer bulgudur. Türk öğrencilerin modal fill *'will'* kullanımlarının bir diğer modal fiil olan *'would'dan* daha yüksek sıklıkta olduğu görülürken, ana dili İngilizce olan Amerikalı öğrenci grubunun modal fill *'would'* kullanımlarının *'will'* e oranla daha yüksek sıklıkta olduğu tespit edilmiştir. Ayrıca Türk öğrencilerin, İngilizce sözlü anlatımda sıklıkla kullanılan birtakım ifade ve yapıları İngilizce yazılı anlatımlarına yansıttıkları da tespit edilmiştir. *'I think (that)', 'of course'* ve *'maybe'* gibi ifade ve sözcüklerin Türk öğrenciler tarafından sıklıkla kullanılması buna örnek olarak verilebilir. Bir diğer dikkat çekici bulgu ise *'perhaps'* ve *'certainly'* sözcükleri ile ilgilidir. Bu sözcükler AELT veritabanındaki Türk öğrenciler tarafından hiç kullanılmazken, US-ARG veritabanındaki Amerikalı öğrenciler tarafından sıklıkla kullanılmaktadırlar. Son olarak, Amerikalı öğrencilerin yazdıkları kompozisyonlarda genellikle orta ve daha zayıf düzeyde bilgisel kiplik belirteçlerini kullandıkları gözlemlenirken, her iki veritabanındaki Türk öğrencilerin daha çok güçlü düzeyde bilgisel kiplik belirteçlerini tercih ettikleri görülmüştür.

Anahtar Sözcükler: Bilgisel kiplik, Bilgisel kiplik belirteçleri, Tartışmacı anlatım, Epistemik güç, Epistemik güç düzeyleri.

ABSTRACT

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This thesis investigates into how Turkish student writers employ epistemic modality devices in order to make argumentation in their writing. The research concentrates on understanding the ways in which the use of epistemic modality devices by Turkish student writers compare with the use of these same rhetorical features by American student writers in argumentative writing. The study also attempted to investigate how the degrees of epistemic strength differ (in terms of weak, medium and strong categories) between and among the student writers. With regard to the aims of this study, three sets of databases (one for the American students, the other two for the Turkish students) were analyzed in order to compare the epistemic modality features between and across the three groups of student writers in terms of frequency of use, diversity of use, grammatical categories of epistemic devices, co-occurrence patterns of notable epistemic devices and degrees of epistemic strength or commitment. The quantitative aspects of the study were mainly based on frequency counts of epistemic devices, Log-likelihood tests to determine significant differences of epistemic modality use between and across the three groups of student writers. The qualitative aspects relied mainly on a close examination of concordance lines to make comparisons between and across the three databases.

Findings of the study revealed that the Turkish student writers are slightly more restricted in their choice of epistemic devices. It was found out that they use smaller set of epistemic devices than the American student writers do. Another striking finding is that this smaller set

of epistemic devices is used with higher frequency compared with the American students. This is obvious especially in the case of epistemic lexical verbs, where the Turkish student writers rely frequently on the *'I think'* expression. Concerning the distribution of epistemic devices across grammatical categories, it was observed that the Turkish student writers principally use lexical verbs and adverbs in their expression of epistemic modality, but the American student writers appear to prefer modal auxiliary verbs more frequently. The Turkish student writers' preferences of particular modal verbs are also different from those of the American student writers. The Turkish students use *will* in relatively higher frequencies than *would*, but the American students use *would* more frequently than *will*. Furthermore, the Turkish student writers prefer a more personal style of argumentation than the American student writers. In view of the high frequency of expressions such as *I think (that)* and the frequent use of *of course* and *maybe*, it might be assumed that the Turkish student writers exhibit a more personal and straightforward writing style. Another interesting finding concerns the use of epistemic adverbs *'perhaps'* and *'certainly'.* These adverbs are not detected in the AELT database by the Turkish student writers while they are frequently used by the American student writers in the US-ARG database. Lastly, it has been observed that the American student writers prefer to use more number of epistemic devices indicating medium and weak level of epistemic strength, while the Turkish students in both databases tend to prefer more number of epistemic devices expressing strong level of epistemic commitment.

Keywords: Epistemic modality, Epistemic devices, Argumentative writing, Epistemic strength, Degrees of commitment/ strength.

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To my family…

ETİK İLKE VE KURALLARA UYGUNLUK BEYANNAMESİ

Bu tezin bana ait, özgün bir çalışma olduğunu; çalışmamın hazırlık, veri toplama, analiz ve bilgilerin sunumu olmak üzere tüm aşamalarında bilimsel etik ilke ve kurallara uygun davrandığımı; bu çalışma kapsamında elde edilmeyen tüm veri ve bilgiler için kaynak gösterdiğimi ve bu kaynaklara kaynakçada yer verdiğimi; bu çalışmanın Anadolu Üniversitesi tarafından kullanılan "bilimsel intihal tespit programı" yla tarandığını ve hiçbir şekilde "intihal içermediğini" beyan ederim. Herhangi bir zamanda, çalışmamla ilgili yaptığım bu beyana aykırı bir durumun saptanması durumunda, ortaya çıkacak tüm ahlaki ve hukuki sonuçlara razı olduğumu bildiririm.

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LIST OF ABBREVIATIONS

EADJ	:	Epistemic Adjective
AELT	:	Anadolu English Language Teaching
EADV	:	Epistemic Adverb
ED	:	Epistemic Device
EFL	:	English as a Foreign Language
ELT	:	English Language Teaching
ELV	:	Epistemic Lexical Verb
EM	:	Epistemic Marker
EMV	:	Epistemic Modal Verb
EN	:	Epistemic Noun
ESL	:	English as a Second Language
ICLE	:	International Corpus of Learner English
L2	:	Second or Foreign Language
LL	:	Log Likelihood
LOCNESS	:	Louvain Corpus of Native English Essays
NNS	:	Non-Native Speaker
NS	:	Native Speaker
TR-ICLE	:	Turkish component of ICLE
US-ARG	:	American university students' argumentative essays

CHAPTER 1
INTRODUCTION

Understanding the features of argumentative writing is an important skill in academic context. In argumentative type of essays, the writer is expected to make his or her own claims and then discuss these claims. Attitudes and opinions of the writer are greatly involved in this process. These attitudinal, or non-factual expressions in language fall under the concept of *'modality'.* In broad terms, modality can be described as an aspect of language through which we can express possibilities, or "the area of meaning that lies between yes and no (Halliday, 1985, p. 335)".

Modality is a relatively complicated aspect of language, because "writer commitment can be expressed in an enormous variety of ways and these expressions can convey a wide range of meanings (Hyland and Milton, 1997, p. 184)". It has been claimed that "native speakers of a language have an early acquisition of these modal meanings (Papafragou, 1998, p. 375)". In view of this claim, and since modal meanings are expressed in different ways by different languages, second/ foreign language learners face considerable challenges in their expression of modality (Hyland and Milton, 1997).

Epistemic modality, in more specific terms, is related to the judgment of the truth in propositions. According to Nuyts (2000), epistemic modality is related with the speaker's or writer's evaluation of the likelihood of a certain proposition being made. It has been suggested that "epistemic modality markers are linguistic expressions that qualify the truth value of a propositional content (Vold, 2006, p. 65)". In linguistic terms, they can be expressed in a number of ways. In English, these markers include among others modal auxiliary verbs (e.g. *may, might, will, could*), lexical verbs (e.g. *think, seem, believe, argue*), and adverbs (e.g. *definitely, perhaps, possibly*). All of them serve to modify propositions and to either strengthen or weaken the truth value of a proposition. Certain types of pronouns such as *'everybody, all, nothing'* may also serve as epistemic modality markers. Longer formulaic phrases or expressions, such as *'if you know what I mean'* (Hinkel, 2005), can also be employed as modality expressions. The scope of analysis in this study, however, will be limited to the five grammatical categories of epistemic devices and they are modal verbs, lexical verbs, adjectives, adverbs and nouns, respectively. Corpus methodology will be adopted in the current study. Therefore, in the following part, information is provided regarding the contribution of corpus to English language teaching and learning.

In the context of EFL (English as a Foreign Language) teaching, the effective use of corpus has been extensively discussed in the literature (Simpson and Swales, 2001; Flowerdew and Tong, 1994; Aston, 2000; McCarthy, 1998; Granger, Hung and Petch-Tyson, 2002). According to Oh (2004), the use of corpus can contribute a lot to EFL teaching and learning. “Corpus-based studies on various aspects of English provides enhanced description of the English language which is much more accurate and detailed than what is suggested by the native speakers’ intuition, and can improve the content of English language teaching (Oh, 2007, p. 148)”. Analysis of corpora can also be adopted as a language teaching and learning methodology, thus it helps language learners to discover from authentic language data by themselves (Oh, 2007). This is called “data-driven learning by (Johns, 1991, p. 2)”. Lastly, “learner corpus can be collected and examined to provide information on the learners’ linguistic competence and the difficulties they experience (Oh, 2007, p. 148)”.

Learner corpora are made up of the “systematic computerized collections of texts written by language learners (Nesselhauf, 2004, p. 125)”. “Comparing the target language with the learner’s native language (*traditional contrastive analysis*) is not enough by itself to predict learners’ difficulties (Oh, 2007, p. 148)”. The language production of a particular group of learners can be compared with the target language through using learner corpora and it is also possible to compare it with the language production of other groups of learners from various L1 backgrounds. (Oh, 2007). This is a term called “*contrastive interlanguage analysis* by Granger (2002, p. 11)”. “By using learner corpora, learners’ errors can also be identified and classified by computer-aided technologies in more systematic ways than in the past. The information obtained from the analysis of learner corpora can be used to revise teaching materials and syllabi so that they can be adapted to meet the learners’ needs more effectively. Currently, there is an increasing number of learner corpora studies in diverse fields such as grammar, vocabulary, phraseology, and discourse (Oh, 2007, p. 148)”.

Epistemic modality refers to the writers or speakers’ evaluation of possibilities and the degree of commitment in their propositions (Coates, 1983). Making “statements with the precise degree of certainty or doubt is crucial for any effective writing (Oh, 2007, p. 148)”. Devices expressing epistemic modality are abound in contexts where the writers or speakers express their opinion, argue for or against contentious topics (Holmes, 1982). In some specific genres such as argumentative or persuasive essay writing, writers need to position themselves on a particular side and reveal their thoughts and opinions “on a continuum of commitment ranging from uncertain possibility to confident assurance” (Milton and Hyland, 1999, p. 147). For this reason, the

appropriate use of epistemic expressions is considered to be a crucial pragmatic skill for language learners so that they can produce successful written texts (Oh and Kang, 2013).

However, epistemic devices are stated to be challenging for language learners, because languages have various ways of expressing epistemic modality (Oh, 2007). Moreover, an appropriate degree of epistemic commitment for a particular situation tends to be different in different languages. Previous studies have highlighted the difficulties that second/foreign language learners of English face in this particular field (Aijmer, 2002; Hyland and Milton, 1997; McEnery and Kifle, 2002; Chen, 2010). It has been demonstrated in a series of previous studies that non-native speakers (NNS) of English find it difficult to use epistemic modality devices to express appropriate degrees of certainty or doubt in English (Gabrielatos & McEnery, 2005; Hinkel, 1999; Hyland & Milton, 1997; McEnery & Kifle, 2002; Milton & Hyland, 1999; Oh, 2007). This aspect of meaning is particularly problematic for NNS learners.

Holmes (1982) argues that language learners find epistemic modality difficult due to at least three reasons: the difficulty of determining the precise degree of commitment signaled by particular linguistic devices, the wide variety of epistemic devices in English, and the possibility for such devices to express various types of meaning depending on the context. The previous empirical studies generally have found that the epistemic expressions used by NNS tend to be limited in type and polarized intro two extremes in semantic terms. In order to see whether this finding holds true across different language proficiency levels, some studies have investigated whether and how nonnative learners' use of epistemic modality is affected by their English language proficiency level. For instance, Hyland & Milton (1997) examined the writing of Hong Kong learners of English across different language proficiency levels and found out that the higher-level learners performed more similarly to native speakers of English than did the lower-level students in their use of epistemic modality. This finding indicates that proficiency may interact with this particular pragmatic competence of epistemic modality.

Apart from the studies of epistemic modality across different language proficiency levels, there has been a gap in the literature concerning the use of epistemic modality by the upper intermediate and/or advanced language learners, basically the English Language Teaching (ELT) Department students. It is particularly important for the ELT Department students to use epistemic modality devices correctly and effectively in their English writing, because they will be English teachers or instructors in the future and they will possibly teach writing in their classes. The motivation behind this study has been the observation of the researcher herself and the writing instructors in the ELT department that the students cannot make effective argumentation in their second/foreign

language (L2) writing compared with native speakers. With this motivation in mind, this study aims to investigate how Turkish learners of English, mainly the ELT department students, convey epistemic modality in their argumentative writing in English, and in what ways they are similar to and/or different from the native speakers and the other groups of Turkish learners of English (the students studying at the ELT Departments of the three other universities in Turkey). By comparing and contrasting the use of epistemic modality devices by the Turkish ELT Department students studying at different universities in Turkey, another aim of this study is also to identify whether there are similar patterns of epistemic modality use among the Turkish learners of English and whether these patterns might be culture-bound.

1.1. Background to the Study

Many studies in the field of linguistics, applied linguistics, second and/or foreign language writing have all intended to understand the complexities and challenges language learners face in EFL writing (Lyons, 1977; Palmer, 1990; Coates, 1983; Holmes, 1983; Brown, 1992; Klinge, 1995; Stubbs, 1986; Turnbull and Saxton, 1997; Hyland, 1998a). Thus, all of this research has aimed to help language learners cope with these challenges they face in their endeavors to communicate in the target language either orally and/or verbally.

Regarding the non-native speakers' productive writing skills, Biber (2004) claims that linguists have become increasingly interested in the linguistic structures writers use to express their personal feelings and assessments. In this respect, the appropriate use of modality becomes very important in terms of pragmatic competence in written communication (Chen, 2010). The knowledge and appropriate use of modality in writing not only indicates the pragmatic aspects of writing but also helps writers achieve communicative competence in written discourse (Swales, 1990). The ability to appropriately use modality devices contributes significantly to pragmatic aspects of writing in English and this kind of ability reflects an advanced level of both linguistic and pragmatic competence in the written medium (Hyland, 1994; Myers, 1989; Chen, 2010).

Modality refers to the various modal meanings expressed by not only the modals but other non-verbal lexical carriers of modal meanings. However, since linguists focus on the modal verb system, modality is more commonly defined in terms of the meanings modals convey. In other words, the study of the modals is often regarded as synonymous with the study of modality "for the meanings expressed by the modal verbs in English represent, to a large degree, those that are to be included in a typological account of modality" (Palmer, 1990, p. 2).

Modality is one of the most complicated areas in language (Aijmer, 2002; Chen, 2010; Ruud, 2014). Regarding the semantics of the modals, linguists generally identify two broad categories of meaning: root (or non-epistemic) and epistemic. When used non-epistemically, modals indicate permission, obligation, and volition. Non-epistemic modals carry meanings that involve the human capacity to exercise control over events, and linguists call it as the deontic mode. When used epistemically, modals convey the meanings of possibility, necessity, and prediction. Epistemic modals indicate the speaker's relative state of knowledge about a situation and they also indicate the speaker's judgements about what is or what is not likely to happen (events outside of human control). Epistemic and deontic systems reflect a fundamental distinction in the way language is used: to initiate action (deontic mode) and to inform (epistemic mode).

Although the appropriate use of modality in writing is important, L2 learners often face difficulties interpreting and producing modality devices and thus experience pragmatic failure in L2 writing. One of these difficulties is because modality takes different forms, including modal verbs, modal adjectives, adverbs, formulaic phrases, etc. Moreover, each modality device has diverse semantic attributes covering different degrees of confidence and commitment in context (Palmer, 2001). In other words, these devices carry various semantic meanings and pragmatic interpretations. This further adds difficulty for L2 learners. Besides the complicated use of modality, guidance on the correct use of modality devices in writing classrooms is often not emphasized. Existing writing textbooks also contributes to L2 learners' difficulty in acquiring the modality aspect of pragmatic competence in writing (Holmes, 1988; Hinkel, 1997; Hyland, 1994; Milton and Hyland, 1999).

As mentioned above, there are two types of modality, i.e, epistemic and root modality (Quirk et al., 1985; Hyland, 1994, 2000; Leech and Svartvik, 1983; Holmes, 1988; Hoye, 1997; Lyons, 1977; Halliday, 1994). Epistemic modality refers to "the speaker's or writer's assumptions or assessment of possibilities and indicates confidence or lack of confidence in the truth of the proposition expressed (Coates, 1983, p. 18)". "By saying that "John must be in New York by now", for example, the speaker or writer is conveying his/her confidence in the proposition that John is currently in New York while the replacement of the modal verb "*must"* with "*may"* reduces such confidence significantly (Oh, 2007, p. 149)".

Root modality refers to the interactional meanings and not the logical possibilities (Celce-Murcia & Larsen-Freeman, 1999). Typical examples of root modality "include the meaning of obligation expressed by the modal verb *"must"* in the sentence "You must go out of this room now" or permission signaled by the modal verb *"may"* in "You may leave the room" (Oh, 2007, p.149)".

Expressions of modal meanings are difficult for second and/or foreign language learners because they can convey a variety of meanings (Hyland and Milton, 1997). “For example, *“could”* can express ability, permission, and possibility depending on the context of its use (Oh, 2007. p. 149).

Epistemic modality has traditionally been discussed only in terms of modal verbs such as *“may, might, must, should,* etc. (Coates, 1983; Palmer, 1979). However, other grammatical classes are also extensively used to express epistemic modality (Hyland and Milton, 1997; Holmes, 1988; McEnery and Kifle, 2002, etc.): “for example, lexical verbs (e.g., *think, know, believe*), adverbs (e.g., *indeed, probably, definitely*), nouns (e.g., *possibility, doubt, belief*), and adjectives (e.g., *clear, certain, probable*) (Oh, 2007, p. 149)”. According to Holmes (1988), “there are as many as 350 lexical devices in English that can be employed for epistemic function (p.27)”. “Epistemic modality is thus difficult for second/foreign language learners to acquire partly because it can be conveyed through a number of different means (Oh, 2007, p. 149-150)”.

Epistemic modality devices are placed along a continuum expressing different degrees of certainty and/or doubt by Hyland and Milton (1997). They have suggested the following five categories of epistemic commitment: “certainty, probability, possibility, usuality, and approximation (Hyland and Milton, 1997, p. 193)”. Some researchers claim that “this categorization is somewhat arbitrary and classifying each individual example into these categories is to some extent subjective (Oh, 2007, p. 150)”. “However, several other researches have used the same or similar semantic categories and found them useful (Oh, 2007, p. 150)”. It is important “for second/foreign language writers to learn and be aware of these categories of epistemic modality as well as be exposed to the extensive range of epistemic devices if they are to use the target language as native speakers do (Oh, 2007, p. 150)”.

Apart from indicating the degree of writer certainty or doubt, the use of epistemic devices by writers helps to connect with the reader (Hyland and Milton, 1997). Experienced writers are concerned with their intended audience and the responses they are likely to receive from this audience. (Oh, 2007). “In order to be accepted and approved by the reader, writers need to moderate the firmness of their assertions to some degree (Oh, 2007, p. 150)”. Strong assertions will possibly prevent the reader’s dialogue with the writer (Oh, 2007). With the help of relevant epistemic expressions expressing tentativeness, “writers display their willingness to consider and accept the potentially conflicting views of the audience and also avoid taking full responsibility for their assertions (Oh, 2007, p. 150)”.

1.2. Objectives and Research Questions

There is not much known yet, however, about how Turkish learners of English, mainly the ELT department students, convey epistemic modality in their argumentative writing in English, and in what ways they are similar to and/or different from the native speakers and the other groups of Turkish learners of English. In order to address this issue, this study aims to investigate how epistemic modality is conceptualized in Turkish learners' argumentative texts in English by comparing and contrasting the diversity and frequency distribution of epistemic devices that are utilized to convey epistemic strength or commitment. Argumentative writing is one of the important essay types in which students are required to think in a critical way, and are expected to present their opinions or ideas in an organized and persuasive way. When producing argumentative texts, students are also expected to provide justifications for their points of view. This requires successful interaction with the prospective readers. The justification of viewpoints or claims are often achieved by the effective use of epistemic modality devices. By identifying the difficulties of Turkish learners (ELT department students) in their use of epistemic modality in English, this study hopes to contribute to English language teaching and learning in this "important area of pragmatic competence" (Chen, 2010; Hyland and Milton, 1997). Hyland (2002) suggests that" a sound understanding of L2 writing and of the divergences between L2 and comparable L1 writers is necessary for teachers to assist students effectively (p. 178)". Findings of this descriptive study might be used to improve L2 writing instructional practices by offering necessary remedial work. Mainly the current study seeks to find answers to the following three research questions:

1. What is the relative frequency and diversity of epistemic devices (EDs) used by American student writers in US-ARG database and by the Turkish student writers in AELT and TR-ICLE databases?

    a. Is there a significant difference between the US-ARG and the AELT databases in terms of the frequency and diversity of epistemic devices (EDs)?
    b. Is there a significant difference between the US-ARG and the TR-ICLE databases in terms of the frequency and diversity of epistemic devices (EDs)?
    c. Is there a significant difference between the AELT and TR-ICLE databases in terms of the frequency and diversity of epistemic devices (EDs)?

2. What are the relative frequencies of the grammatical categories of epistemic modal verbs, lexical verbs, adjectives, adverbs and nouns in each database?

a. Is there a significant difference in terms of the frequencies of epistemic modal verbs (EMVs) between and among the US-ARG, AELT and TR-ICLE databases?
b. Is there a significant difference in terms of the frequencies of epistemic lexical verbs (ELVs) between and among the US-ARG, AELT and TR-ICLE databases?
c. Is there a significant difference in terms of the frequencies of epistemic adjectives (EADJs) between and among the US-ARG, AELT and TR-ICLE databases?
d. Is there a significant difference in terms of the frequencies of epistemic adverbs (EADVs) between and among the US-ARG, AELT and TR-ICLE databases?
e. Is there a significant difference in terms of the frequencies of epistemic nouns (ENs) between and among the US-ARG, AELT and TR-ICLE databases?

3. How do the degrees of epistemic strength differ (in terms of the weak, medium and strong categories) in each database?

a. How do the degrees of epistemic strength differ in terms of the weak, medium and strong categories of modal verbs (EMVs) in US-ARG, AELT and TR-ICLE databases?
b. How do the degrees of epistemic strength differ in terms of the weak, medium and strong categories of lexical verbs (ELVs) in US-ARG, AELT and TR-ICLE databases?
c. How do the degrees of epistemic strength differ in terms of the weak, medium and strong categories of adjectives (EADJs) in US-ARG, AELT and TR-ICLE databases?
d. How do the degrees of epistemic strength differ in terms of the weak, medium and strong categories of adverbs (EADVs) in US-ARG, AELT and TR-ICLE databases?
e. How do the degrees of epistemic strength differ in terms of the weak, medium and strong categories of nouns (ENs) in US-ARG, AELT and TR-ICLE databases?

1.3. Overall Structure of the Thesis

This thesis is organized into five (5) chapters. The current chapter (Chapter 1) provides a general introduction and background along with the definition of the goals and motivations of the study in line with the research questions. Chapter 2 examines the relevant literature on modality in general, epistemic modality and corpus linguistics methodology in particular. Previous studies of epistemic modality have also been briefly summarized in Chapter 2. Chapter 3 is related with the methods and procedures that were followed during the collection and analysis of the databases used in this study. Results and findings of the study are presented and discussed in Chapter 4. In order to

effectively address the research questions, the results section is organized mainly around the five grammatical categories of epistemic devices: epistemic modal verbs, lexical verbs, adjectives, adverbs and nouns. However, these are all preceded by the explanation of the overall quantitative findings. The most notable epistemic features occurring in each of the three databases have also been mentioned in this section. Lastly, in Chapter 5, concluding remarks are presented along with the implications and suggestions for further studies.

CHAPTER 2
LITERATURE REVIEW

2.1. Modality as an Umbrella Term

"Modality is the umbrella term used to describe degrees of probability and certainty (correspond to epistemic modality) while *modulation* refers to degrees of obligation and inclination (corresponds to deontic modality) (Halliday and Matthiessen, 2004, p. 147)."

Traditional linguistic studies classify modality into two types: *epistemic* and *deontic*, and these studies discuss the two in terms of *possibility* and *necessity* (Ngula, 2015). "Epistemic is derived from the Greek for 'knowledge': this kind of modality involves qualifications concerning the speaker's knowledge". On the other hand, "Deontic is derived from the Greek for 'binding', so that here it is a matter of imposing obligation or prohibition, granting permission and the like (Huddleston and Pullum, 2002, p. 178)".

Table 2.1 summarizes the epistemic and deontic modalities. The sentential examples are taken from Huddleston (1984, p. 166).

Table 2.1. *Epistemic and Deontic Modality as the Expression of Possibility and Necessity*

	Epistemic	Deontic
Possibility	You **may** be under a misapprehension	You **may** take as many as you like
Necessity	You **must** be out of your mind	You **must** work harder

Apart from the epistemic and deontic modalities, there is also *dynamic* modality. In his classification of modality types, Palmer (1979) classifies modality into three types: epistemic, deontic and dynamic modality. Dynamic modality is different from the other two types of modalities because it is subject-oriented and it is about the "ability or volition of the subject of the sentence, rather than the opinions (epistemic) or attitudes (deontic) of the speaker (and addressee) (Palmer, 1990, p. 36)".

Researchers such as (Kratzer, 1981; Coates, 1983 Coates and Leech, 1980), however, have found this three-way classification quite fuzzy, since ambiguous cases are detected within the deontic and the dynamic modalities. Therefore, many researchers in the field prefer a two-way classification of *epistemic* and *root* (non-epistemic) modalities (Ngula, 2015). Some researchers use different terms instead of epistemic and root modalities. For instance, Quirk *et al.* (1985) identifies *extrinsic* and *intrinsic* modalities. "This two-way

classification brings all non-epistemic uses under the broad category of root modality so that the fuzzy and indeterminate cases often resulting from the distinction made between deontic and dynamic modalities can be reduced (Ngula, 2015, p. 31)". Compared with the other types of modality, epistemic modality "has maintained a certain level of stability and it is less fuzzy and controversial. It is this category that seems to pose the least problems and instances of epistemic use, because they are quite straightforward to characterize in language (Ngula, 2015, p.31)". Coates (1983) view epistemic modality as one of the most important modality types in everyday language use.

2.1.1. Epistemic modality as a semantic category

"Epistemic modality allows a speaker or writer to make a statement with varying degrees and levels of commitment. What is known to the speaker or writer about the statement does not warrant absolute certainty (Ngula, 2015, p.31)". Epistemic modality is "concerned with the speaker's assumptions or assessment of possibilities and, in most cases, it indicates the speaker's confidence (or lack of confidence) in the truth of the proposition expressed (Coates, 1983, p. 18)". It is suggested that "epistemic modality concerns the reliability of the information conveyed, and epistemic modality markers can be defined as linguistic expressions that explicitly qualify the truth value of a propositional content (Vold, 2006, p. 226)". Therefore, in "epistemic modality, the evidence available to the speaker or writer determines the level of confidence and force that supports a statement or a proposition (Ngula, 2015, p. 32)". Linguistic expressions that are used to mark epistemic modality represent varying degrees of epistemic commitment on the continuum. One end of the continuum indicates *doubt* and/or *doubtfulness* and the other end indicates *certainty* and/or *confidence* (McEnery and Kifle, 2002; Holmes, 1988).

Among the available linguistic devices to express epistemic modality, "it seems well-established that the modal verbs *(e.g., may, would, could, must)* are best known for this purpose" (Ngula, 2015, p. 32). However, there are other lexical devices apart from the modal verbs that are also used in the expression of epistemic modality. These devices consist of "adjectives such as *possible, likely, probable*; adverbs such as *perhaps, maybe, possibly*; lexical verbs like *seem, appear, guess* and nouns such as *hope, possibility, assumption* (Holmes, 1988; Hoye, 1997; Ngula, 2015, p. 32)".

2.1.2. Epistemic modality as an interpersonal meta-function

Halliday (1994) states in Systemic Functional Linguistic (SFL) model of language that language is a social process and it is shaped by different situational contexts. Halliday and Matthiessen (2004) argue that the meaning carried by language is closely related with the situational context. “Halliday identifies *field* (what is said/written), *tenor* (the relationship between participants) and *mode* (expectations of how what is said/written is organized) as the three main contextual dimensions in a register. He also shows how these dimensions respectively correspond to the three functional components of human language *(ideational, interpersonal, textual)* (Ngula, 2015, p. 33)”. These three components are referred to in SFL as *meta-functions.*

Hyland (2005, p. 26) summarizes the purpose of each item within the meta-function framework. The first one is *the ideational function* which refers to the use of language to express ideas and/or experiences. This function is also called ‘propositional content’ and it is about our own perceptions and consciousness of the world. The second one is *the interpersonal function* of language. This function refers to the use of language to engage and interact with others, it also allows us to express our feelings and/or evaluations and also to understand other peoples’ feelings. Finally, the third function refers to *the textual function* of language. The textual function is about the use of language in an organized way, such as relating what is expressed to the readers in a coherent way (Hyland, 2005).

2.1.3. Epistemic modality as an interpersonal feature

Interpersonal rhetorical features are important in writing, and researchers have investigated how writers use these features in order to persuade their readers and gain acceptance from them. Researchers have classified these interpersonal features in academic writing under the broad term *“meta discourse”* (Hyland, 2005, 2013; Hyland and Tse, 2004), and another term *“stance”* (Biber, 2006; Biber and Finegan, 1989).

Although there is a great deal of overlap with regard to the linguistic items included within these broad terms, most of the categories “adequately fall within the scope of epistemic modality (Ngula, 2015, p.35)”. The perspective of meta-discourse has been widely studied by Hyland and his taxonomy of meta-discourse features include the categories of doubt and certainty expressions. Meta-discourse refers to “the self-reflective expressions used to negotiate interactional meanings in a text, assisting the writer to express a viewpoint

and engage with readers as members of a particular community (Hyland, 2013, p. 67-68)". Meta-discourse has three basic principles (Hyland, 2013; Hyland and Tse, 2004). First, it "is distinct from propositional aspects of discourse"; second, it "refers to aspects of the text that embody writer-reader interactions", and third, it "refers only to relations which are internal to the discourse (Ngula, 2015, p. 36)".

Hyland's interpersonal taxonomy of meta-discourse is based on the above-stated principles. Table 2.2 below is adopted from Hyland (2013, p. 77). In this framework, the linguistic forms that are utilized to express epistemic modality fall under the *interactional* subcategory including hedges and boosters. Hedges and boosters indicate the writer's degree of confidence or commitment to their propositions (Ngula, 2015). "Hedges and boosters are communicative strategies for increasing or reducing the force of statements (Hyland, 1998, p. 1)". Boosters "allow writers to express conviction and assert a proposition with confidence, representing a strong claim about a state of affairs (Hyland, 1998, p. 1)". Hedges such as *perhaps, possible* and *might* "represent a weakening of a claim through an explicit qualification of the writer's commitment (Hyland, 1998, p. 1)".

There is also another broad term that indicates writer attitude towards the text and the audience. It is called *stance* in the modality literature. The term *stance* covers many features beyond epistemic modality. (Ngula, 2015). For instance, Biber (2006) uses the term *'stance'* when talking about how writers express their personal feelings or assessments. Markers of stance "convey many different kinds of personal feelings and assessments, including attitudes that a speaker has about certain information, how certain they are about its veracity, how they obtained access to the information, and what perspectives they are taking (Biber et al, 1999 and Biber, 2006, p. 99)". In accordance with this explanation, the semantic aspects of stance not only include epistemic devices but also stylistic and attitudinal features as well (Biber et al, 1999; Ngula, 2015). Epistemic modality constitutes a subpart of stance, and according to Myers (2013), *epistemic* stance is one type of stance markers and the others are *attitudinal* and *stylistic* stance markers, respectively.

Table 2.2. *Interpersonal Model of Meta-Discourse in Hyland (2013)*

Category	Function	Examples
Interactive	**Help to guide reader through the text**	**Resources**
Transitions	express relations between main clauses	in addition/but/thus/and
Frame markers	refer to discourse acts, sequences, or stages	finally/to conclude/my purpose is
Endophoric markers	refer to information in other parts of the text	noted above/see Figure/in section 2
Evidentials	refer to information from other texts	according to X/Z states
Code glosses	elaborate propositional meanings	namely/e.g./such as/in other words
Interactional	**Involve the reader in the text**	**Resources**
Hedges	withhold commitment and open dialogue	might/perhaps/possible/about
Boosters	emphasize certainty or close dialogue	in fact/definitely/it is clear that
Attitude markers	express writer's attitude to proposition	unfortunately/agree/surprisingly
Engagement markers	explicitly build relationship with reader	consider/note/you can see that
Self-mentions	explicit reference to author(s)	I/we/my/me/our

However these features will not be the concern of the current study. Biber (2006) analyzed stance in university registers and this analysis include epistemic, attitude and style/perspective features. He examined stance adverbs as linguistic items in his study and he provides examples of these features. Stance adverbs indicating epistemic certainty are the ones such as *in fact, actually,* and *certainly*. Stance adverbs indicating epistemic likelihood are the ones such as *apparently, possibly,* and *perhaps.* Stance adverbs expressing attitude are the ones such as *importantly, surprisingly,* and *amazingly.* Lastly, the stance adverbs expressing style or perspective are the ones such as *according to, typically,* and *generally* (Biber, 2006, p. 101).

2.2. Epistemic Modality

Epistemic modality refers to “the writer’s assumptions or assessment of possibilities and indicates confidence or lack of confidence in the truth of the proposition expressed (Coates, 1983, p. 18).” In other words, writers or speakers express their evaluation of possibilities and the degree of commitment in their propositions through epistemic modality (Coates, 1983). Various grammatical classes are commonly employed to convey epistemic meanings. Thus, several studies have included modal verbs, lexical verbs, adverbs, nouns and adjectives in their classification of epistemic devices in English (such as Oh, 2007; Hyland and Milton, 1997 McEnery and Kifle, 2002; Holmes, 1988). Additionally, epistemic modality is often expressed in the form of multi-word units (e.g., *it could also be argued that…, it would be difficult to…*) or epistemic clusters (e.g., *it might be possible to…*) (Aijmer, 2002; Hyland and Milton, 1997). There are a variety of epistemic devices in English and this variety makes it difficult for language learners to comprehend and effectively use these devices in their own writing. Furthermore, different languages have different ways of realizing epistemic modality and the appropriate degree of commitment towards propositions may also differ across languages. Such diversity of epistemic function may partly explain the challenging aspect of epistemic modality for second/foreign language learners.

The various epistemic devices can also be categorized in terms of the strength of epistemic commitment that they signal. Epistemic commitment is the degree of the speaker/ writer’s certainty or doubt. Researchers have established separate semantic categories into which different epistemic items are classified. For example; certainty, probability, and possibility categories were established by Holmes (1988) and McEnery and Kifle (2002). To the categories of certainty, probability, and possibility, Hyland and Milton (1997) have added approximation (e.g., *about, approximately, almost*) and usuality (e.g., *always, often, usually)* categories. Although the classification of epistemic devices into such kind of categories runs the risk of subjectivity and arbitrariness, it has still been useful for identifying and comparing the epistemic expressions of writers/speakers (Halliday, 1994; Holmes, 1988; McEnery and Kifle, 2002; Oh, 2007).

2.2.1. Properties of epistemic modality devices in English

The inherent properties of English epistemic devices have been discussed by Hyland and Milton (1997) in terms of semantic and pragmatic complexity: 1) Many epistemic devices can simultaneously convey a range of different meanings; 2) Epistemic devices not only

convey the writer's confidence in the truth of referential information, but also help contribute to a relationship with the reader; and 3) Epistemic meanings can be signaled in many different ways.

In addition to the semantic and pragmatic complexity mentioned by Hyland and Milton, there are also some other properties. For instance, form complexity is an important factor to determine which item learners prefer. The complex forms require more effort to use. Thus when two forms compete for the same or similar function, the shorter and easier one gains the priority of use. For instance, the easier pronunciation of "maybe" makes it more preferred in spoken discourse, and learners are likely to transfer it habitually in writing if they are unaware that "maybe" is rarely used in English written discourse.

Frequency and saliency are also important properties that affect L2 acquisition and use of epistemic devices. Some epistemic devices are more frequent and salient than others, and these items are normally noticeable to learners. Saliency is also related to frequency. The frequent form is normally easily noticed by learners, thus salient. However, frequency cannot guarantee saliency. For instance, "might" in the normal speech is of low saliency in the language stream, since it is usually pronounced very fast by the native speakers. On the other hand, it is much easier for learners to notice "maybe", because it is normally used in the initial position. Many modal adverbials such as "in my opinion" and "from my perspective" often appear in initial position. Although they are infrequent, they are quite salient for L2 learners, and are most likely to be frequently used by language learners (Hu and Li, 2015).

2.2.2. Epistemic modality and truth conditions

Epistemic modality expresses a comment on the proposition expressed by the rest of the utterance:

"*(Epistemic modality)… is the speaker's assessment of probability and predictability. It is external to the content, being a part of the attitude taken up by the speaker: his attitude, in this case, towards his own speech role as 'declarer'.* (Halliday, 1970, p. 349)".

"(Epistemic modality indicates)… the status of the proposition in terms of the speaker's commitment to it. (Palmer, 1986, p. 54-55)".

"Epistemics are clausal-scope indicators of a speaker's commitment to the truth of a proposition. (Bybee and Fleischman, 1995, p. 6)".

"Epistemic modals must be analyzed as evidential markers. As such they are part of the extra propositional layer of clause structure and take scope over all propositional operators (Drubig, 2001, p. 44)".

The intuition underlying this view is that epistemic modality in natural language marks the degree and/or source of the speaker's commitment to the embedded proposition.

2.2.3. The distinction between subjective and objective epistemic modality

Epistemic modality is also classified in the literature (Lyons, 1977; Thompson, 1996) under the two sub-headings: subjective and objective epistemic modality. The distinction between the two is formally captured in scopal terms in Lyons' system. It is assumed that subjective epistemic interpretations are illocutionary force indicators and have higher scope than objective epistemic interpretations. Lyons further suggests that the majority of epistemic interpretations of modal expressions in natural language are subjective and that these interpretations are more 'basic' than objective ones.

Orientation reveals the source of modality (i.e., either directly the speaker or indirectly someone whose views are being reported by the speaker) (Thompson, 1996). The orientation of modality is subjective when the addresser is showing or indicating that s/he is the source of modality and the orientation is objective when the addresser is trying to suggest that something is possible such as an objective event and s/he just tells this fact to the addressee instead of being the source of modality. The speaker can convey subjectivity or objectivity either implicitly when "modality is expressed in the same clause as the main proposition" or explicitly when "modality is expressed in a separate clause" (Thompson, 1996; p. 62).

The main difference between subjective and objective epistemic modality is that the subjective epistemic modality is *indexical.* This means that the possible worlds in the conversational background are restricted to what the current speaker knows *at the time of the utterance.* However, in the case of objective epistemic modality, possible worlds in the conversational background include what is generally known to some community, or, in other words, what the publicly available evidence is.

Subjective epistemic modality is time-dependent even though there is no temporal argument in epistemic modals themselves. By contrast, objective epistemic modality is not tied to the here-and-now of the talk exchange, and can be used for discussing future and past possibilities:

- *Until Copernicus, it was certain that the Earth was the center of the universe.*
- *Yesterday it was possible that the stock market would go up today.*

The indexicality analysis can also explain the common observation that subjective epistemics bear certain similarities to performatives. According to Lyons (1977, p. 805), the function of subjective epistemic modality is to express different degrees of commitment to factuality; and in this respect it qualifies the illocutionary act in much the same way that a performative verb parenthetically qualifies, or modulates, the utterance.

- *This must be Emma's sister.*
- *I conclude that this is Emma's sister.*
- *This is Emma's sister, I conclude.*

2.2.4. Importance of study on epistemic modality

The appropriate expression of epistemic modality in English is considered to be crucial for successful interaction between the writer and the reader. Epistemic modality can be used by writers to realize diverse social and pragmatic functions (Holmes, 1982; Coates, 1990; Nikula, 1996). However, due to the great complexity of the epistemic devices available, even native speakers (NS) may face great challenges when choosing an appropriate epistemic device to use. Hyland and Milton (1997) identified several reasons why students' manipulation of epistemic devices are so problematic, and these reasons include: 1) the poly pragmatic nature of modal expressions; 2) double functions of epistemic modality as both conveying the writer's commitment to the statements and negotiating relationship with readers; 3) epistemic meanings can be expressed in many ways. For English language learners and novice writers in particular, conveying a proper degree of confidence in the truth of the statements can be even greater (Chen, 2012). Therefore, it is very important for language teachers to understand the problems of students with epistemic use in their L2 writing, and address these problems accordingly in order to help them improve their writing skills in English.

2.2.5. Previous studies of epistemic modality in L2 writing

In the previous studies of epistemic modality, non-native user performance is usually measured against the native speaker user performance, and novice academic writers' performance is measured against the performance of experienced writers in corpora of published papers. Most research on non- native use of epistemic modality has focused on written language and the use of epistemic devices in academic essays (e.g.Hyland & Milton, 1997), in master and doctoral theses (e.g. Gabrielatos & McEnery, 2005), and in research articles written by native and non-native authors (e.g. Ngula, 2015). In other words, most of the studies on the use of epistemic modality were conducted in the area of academic writing.

Some studies focused on the use of epistemic modality across different disciplines (Rizomilioti, 2006), while others investigated the use of epistemic modality across different languages (Bester-Dilger, Drobnjaković and Hansen, 2007; Recky, 2006). Although research on epistemic modality was closely related with written language, some studies (Carretero, 2002; Kärkkäinen, 2003; Recsky, 2006) have investigated epistemic devices in spoken language as well.

Many researchers have conducted comparative studies on the expression of epistemic modality between NS (native speakers) and NNS (non-native speakers) writers. For example, Hyland and Milton (1997) examined the argumentative texts of NS and NNS Hong Kong high school leavers. Results of their study revealed that L2 writers relied on a limited range of epistemic items, made stronger assertions and experienced greater problems in qualifying their statements. Milton and Hyland (1999) extended their study to compare the use of lexical phrases between the NS and NNS Chinese students. Findings of this study suggested that the NNS students employed a limited number of multi-word hedging and boosting expressions. It was also found that the students tend to approximate native-like usage in tentative expressions as their English language proficiency improves. Chen (2010) explored the difference in the use of nine epistemic words between NS and NNS Chinese students and found that the NS writers used significantly more epistemic devices than the NNS writers; however, it appears that the NNS students experience a progress in intercultural pragmatic competence with the increase in their English language proficiency. Many other researchers have revealed in their studies that native Arabic L2 writers, French and Dutch L2 writers experienced similar problems in expressing modality with appropriate level of commitment (Scarcella and Brunak, 1981; Dudley-Evans, 1992).

Previous studies have generally demonstrated that the manipulation of epistemic modality in the target language is quite challenging for second and/or foreign language writers (Milton and Hyland, 1999; Hyland and Milton, 1997; Flowerdue, 2000; Allison, 1995; Skelton, 1988, Silva, 1993, etc.). Findings of these work indicated that it is hard for non-native writers to make their statements with the appropriate degree of commitment or doubt compared with the standards of native speakers. Therefore, results of the previous studies indicated that the writings of the students learning English as a Foreign Language (EFL) and as a Second Language (ESL) are direct and categorical compared with the writings of the native speaker (NS) students.

Some studies focused on the pedagogical materials to find out whether epistemic modality is adequately represented in them. For instance, Holmes (1988) compared the native-speaker corpora with ESL textbooks and found out that the textbooks mostly focus on modal auxiliary verbs only and ignore the other grammatical categories which are also equally important and frequent in the expression of epistemic modality. According to Aijmer (2002), textbooks seem to be the reason for the overuse of modal auxiliary verbs by some L2 learners. In a similar vein, Hyland (1994) emphasizes that English for Academic Purposes (EAP) textbooks are inadequate for the teaching of hedging in academic writing. However, McEnery and Kifle (2002) states that the teaching materials of the participants of their study emphasized the use of epistemic modality devices and therefore the performance of the participants were high in their study. To sum up, one of the serious concerns relating to the teaching and learning of epistemic modality seems to be the fact that instructional materials and textbooks do not deal with it adequately.

2.2.6. Insights from studies on the use of epistemic modality

Studies of epistemic modality have offered useful insights into the NNS learners' distinctive use of epistemic modality in comparison with NS writers and their potential causes. Findings of these studies overall offer an explanation for the divergence of use between native and non-native speakers. The differences in the degree of commitment when expressing epistemic modality are mostly attributed to cultural factors, non-native speakers/writers' limited use of epistemic devices and problems in conveying a precise degree of commitment due to limited proficiency in L2. Many studies have reported that second/foreign language learners lack the ability to express in their L2 writing the appropriate degree of assurance or uncertainty from the native speakers' point of view

(Hyland and Milton, 1997; Milton and Hyland, 1999; Oh, 2007; Kim, 2011). For example, it was observed that Chinese and Hong Kong writers tend to make more direct and explicit arguments compared with native English writers by using strong modals (e.g., *will, should, must*) and adverbs (e.g. *totally, always, never*) (Hyland and Milton, 1997). It was also found that Hong Kong writers rely on a limited range of epistemic words and fixed phrases and that some of the epistemic expressions they used are not appropriate for the given academic genre (Hyland and Milton, 1997; Milton and Hyland, 1999). These characteristics have been found to be commonly shared by Korean learners of English as well (Kim, 2011; Oh, 2007). One group that exhibited the opposite tendency is Eritrean learners, who made more tentative claims than did the native English writers. This finding was presumably due to the influence of the teaching materials (McEnery and Kifle, 2002). The reasons for the differences between the learners and native speakers regarding their use of epistemic modality have been traced to various factors such as the effect of instruction or textbooks (Holmes, 1988; McEnery and Kifle, 2002), learners' transfer of spoken features to writing (Gilquin and Paquot, 2008; Kim, 2011; Oh, 2007), the effect of essay topics (Hinkel, 2009), the L2 writers' socio-pragmatic violations (Hyland and Milton, 1997) and the cultural differences (Oh, 2007).

2.2.7. Using corpus in the teaching and learning of English

The use of corpus in the teaching and learning of English has been extensively discussed by many researchers (such as Hung and Petch-Tyson, 2002; Granger, 2002; Aston, 2000). The effective use of corpus in EFL contexts have been discussed by several researchers in the field. According to Oh (2004), corpus can be used in at least three ways in the context of EFL teaching.

First of all, corpus-based research provides more accurate description of the various aspects of the target language. The information it provides is generally more reliable than the intuition of native speakers, therefore it may improve the English language teaching in many aspects (Oh, 2007).

Secondly, analysis of corpus can be used as a methodology of language teaching and learning. This may provide learners with the authentic uses of the target language and thus discover some of the features of the language by themselves. This is called *"data-driven learning"* by (Johns, 1991). Lastly, learner corpora can be collected and analyzed in order to identify learners' language competence and the challenges they are facing (Oh, 2007).

Learner corpora are defined as the “systematic computerized collections of texts produced by language learners (Nesselhauf, 2004, p.125)”.

The comparison of the target language with the learner’s first language is called traditional contrastive analysis and by itself it is not enough in the prediction of difficulties of language learners. Learner corpora can also be used in the comparison of the language production of a particular group of learners with the target language, and with the language production of the other groups of learners from different first language backgrounds. This is called the “*contrastive interlanguage analysis*” by (Granger, 2002). Thanks to learner corpora, errors of learners can also be easily identified and systematically categorized by computer-aided technologies than it was in the past (Oh, 2007). Analysis of learner corpora can also be used to provide information on the revision of syllabus and instructional materials so that the learners’ needs are met more effectively (Granger, 1999; Aijmer, 2002).

2.2.7.1. Contrastive interlanguage analysis (CIA)

Granger (1998) suggested the term *Contrastive Interlanguage Analysis (CIA)* and this analysis involves two kinds of comparison. The first one involves the comparison of the target language with the interlanguage. The second one involves the comparison of different types of interlanguages with each other.

The aim of the first type of comparison is to identify distinctive features of a specific interlanguage. This approach makes it possible to investigate the overuse and underuse phenomenon rather than simply the misuse of linguistic items. The overuse and underuse phenomenon is likely to reveal different distributional patterns from the comparable native language. These different distributional patterns may explain why a written text creates the impression that it is not native-like although it contains no overt grammatical and/or lexical errors.

In the second type of comparison, different types of interlanguages are compared. This type of comparison makes it possible to identify common strategies shared by all learners or particular learner group(s). However, it is still not possible to arrive at hasty conclusions about the universality of learner strategies depending on the evidence of one corpus analysis. Findings need to be tested with different types of data and learners before making strong claims.

Contrastive interlanguage analysis (CIA) helps us understand what language learners do and "what native/expert speakers actually do rather than what reference books say they do (Hunston, 2002, p. 212)". Distinguishing features between NNS and NS can be identified and examined through conducting large-scale comparative analyses of the interlanguage development of different learner groups and native speaker groups, (Altenberg and Granger, 2001). By becoming aware of the distinguishing features of native speakers (NS), particularly advanced language learners are able to increase their metacognitive awareness of how NS produce linguistic items in certain contexts and to step themselves to the next level which is closer to the accepted NS standard norms. CIA also offers interlanguage (IL) researchers a perspective to investigate and identify learners' acquisition sequences through different stages of language learning and across different language proficiency levels (Cobb, 2003). The identification of learners' acquisition sequences in language learning contributes to our understanding of the nature of acquisition process. The descriptive findings of CIA may also contribute to curriculum design, the production of reference books and pedagogical materials (Meunier, 2002).

2.2.7.2. Interlanguage studies and corpora

Interlanguage studies before the age of computerized learner corpora were limited in both scale and range. With the introduction of technology, the way interlanguage studies were conducted has changed. Computerized corpora made it possible to increase not only the size of material available for research, but also the variety of texts available. This enabled researchers to adopt a more scientific and empirical approach, which researchers believed was previously lacking (Granger, 1996). The availability of computerized corpora allow new types of studies to be conducted, and new research methods to be used. In other words, "computer corpora give easier access to numbers such as frequency of occurrence and patterns of usage" (Hasselgård and Johansson, 2011, p. 37).

The popularity of computerized learner corpora, and the increased interest in them was developed through the 1990s by Sylviane Granger and her team at the Université Catholique de Louvain. Granger developed the widely used International Corpus of Learner English, or ICLE. ICLE contains argumentative essays written by higher intermediate to advanced learners of English. The corpus is divided into several comparable sub-corpora based on the writer's mother tongue back ground (Granger, 1996). Since these sub-corpora are all comparable, it is possible to study the relationships between and among

interlanguages in detail; for instance studying whether a specific feature of learner language only belongs to one mother tongue group, or whether it is commonly shared by learners in general, etc. This is quite useful for both teachers and students, because it could predict some of the universal features, and errors that are common to learner groups.

In addition to the computerized learner corpus, Granger also developed a framework for analyzing learner language. This is called Contrastive Interlanguage Analysis (CIA). CIA, contrary to the more traditional Contrastive Analysis, “does not establish comparisons between two different languages but between native and learner varieties of the same language (Granger, 1996, p. 43)”. Therefore, the comparable sub-corpora of ICLE are collected. However, a comparable corpus of native speaker texts is also needed in order to compare with native speakers. To this end, the Louvain Corpus of Native English Essays, LOCNESS, was compiled (Granger, 1995, p. 45). LOCNESS includes essays written by British A level pupils, British university students and American university students. LOCNESS exhibits minor differences from ICLE in terms of essay topics. Therefore, it remains the best comparable corpus available (Hasselgård and Johansson, 2011, p. 38).

CIA involves two types of comparisons (Granger, 1996, p. 44). The first one is comparing native language, NL, to interlanguage, IL. It is a comparison between texts that have been produced by native speakers with English as their mother tongue, L1, and the texts produced by learners with English as a second language, L2. The main purpose of it is to identify how L2 English differs from L1 English. In this regard, native speakers’ texts are used as a control corpus. The second type of comparison is between different interlanguages, IL versus IL. In other words, the different interlanguages of the L2 language, written by learner groups with different L1 backgrounds, are compared. Additionally, the language of native speakers can be compared to interlanguage, and the interlanguage produced by different learner groups can also be compared to the language of native speakers.

The advantages of having vast amounts of stored data are important for conducting CIA analysis. Granger (1996) maintains that what she calls ‘over- and underrepresentation’ has to be conducted by using a quantitative-contrastive approach, and this can only be possible by using significant and comparable sizes of corpora such as ICLE and LOCNESS. The terms ‘overuse’ and ‘underuse’ are today widely used when comparing interlanguage to native language. When a word or an expression has a much higher frequency in an

interlanguage than in the language of a native speaker, it is called overuse. When there is a much lower frequency in the interlanguage than in the native language, it is called underuse.

2.3. Evidentiality and Modality

2.3.1. Defining the concepts

One of the pioneers of investigation of evidentiality as a grammatical category is Alexandra Y. Aikhenvald. In her book *Evidentiality* (Aikhenvald, 2004), she gives the following definition:

"In about a quarter of the world's languages, every statement must specify the type of source on which it is based- for example, whether the speaker saw it, or heard it, or inferred it from indirect evidence, or learnt it from someone else. This grammatical category, whose primary meaning is information source, is called 'evidentiality' (Aikhenvald, 2004; p. 1)".

This definition deals with the conceptual notion of evidentiality. Aikhenvald states that the primary meaning of evidentials is the indication of the source of information on which a statement is based. This can be possible via visual, auditive, inferred, or hearsay evidence. According to Anderson (1986), evidentials give a justification for the factuality of a particular claim and this kind of evidence has to be the primary meaning of the evidential structure.

There is a consensus that "the basic characteristic of linguistic evidentiality is the explicit encoding of a source of information or knowledge (i.e. evidence) which the speaker claims to have made use of for producing the primary proposition of the utterance" (Diewald and Smirnova, 2010, p. 1). However, according to Willett (1988), this view corresponds to evidentiality in its narrow sense, because the explicit relationship between evidentiality and modality is denied.

There are various opinions regarding evidentiality in its broad sense. For example, according to the explanation of the concept of evidentiality by Boas, evidentiality not only refers to the source of knowledge, but also to the certainty of knowledge. This explanation of (un)certainty is generally referred to as epistemic modality. Dendale and Tasmowski (2001) state that "the forms marking the source of information also mark the speaker's attitude (p.343)". This explains the difficulty with the interface between evidentiality and modality.

As Dendale and Tasmowski (2001, p. 341) state, one of the main difficulties raised by researchers is “the question of the scope and definition of the terms *evidentiality* and *evidential* and their relation to the terms *epistemic modality* and *epistemic modal marker.”* In order to answer this question, they suggest three relations between evidentiality and modality: disjunction (where they are conceptually distinguished from each other), inclusion (where one is regarded as falling within the semantic scope of the other), and overlap (where they partly intersect) (Dendale and Tasmowski, 2001). Disjunction is considered as a characteristic of evidentiality in its narrow sense, while inclusion and overlap refer to a broader definition.

According to Diewald and Smirnova (2010, p. 2), “there has been growing acceptance of the assumption that evidentiality is a semantic-functional domain in its own right, and not a sub-division of epistemic modality”. This narrow view is typical of linguists who look at languages which encode evidential information in their inflectional morphology (Ifantidou, 2001). In other words, these linguists investigate evidentiality as a grammatical phenomenon. According to Willett (1988), on the other hand, the relation between evidentiality and modality is one of inclusion. He states “that evidential distinctions are part of the marking of epistemic modality, even though evidentials as such are seldom explicitly mentioned in theoretical treatments of modality” (Willett, 1988, p. 52).

Other broad views on the concept of evidentiality are proposed by Chafe and Mithun (1986). Chafe (1986), as can be seen in the title of the Berkeley edition *Evidentiality: Linguistic Coding of Epistemology,* considers evidentiality as an equivalent for epistemology. Chafe includes everything that involves attitudes towards knowledge. The diagram below explains his approach:

Source of knowledge	**Mode of knowing**		**Knowledge matched against**
		Reliable	
??? ---->	Belief	|	
Evidence --->	Induction	Knowledge	---> verbal resources
Language --->	Hearsay	|	---> expectations
Hypothesis --->	Deduction	|	
		Unreliable	

Source: *Chafe 1986, p. 263*.

In Chafe's analysis, evidentiality refers not only to the source of knowledge and the mode of knowing but also to the reliability of that knowledge matched against verbal resources and expectations. Thus, Chafe regards evidentiality as an indication of the source and reliability of a speaker's knowledge. Mithun (1986) shares the similar view. She indicates three ways to qualify the reliability of an utterance: specify the degree of precision or truth, specify the probability of its truth, or specify expectations concerning their probability. These broad views typically include both the grammatical and lexical encoding of evidentiality. Finally, when modality and evidentiality partly intersect, this is called the overlapping relation. This interface is expressed by evidential inference, which is claimed to be identical to the modal value of epistemic necessity (Dendale and Tasmowski, 2001, p. 342).

In order to create an appropriate evidentiality system for languages that lack grammatical evidentiality markers, it is easier to start from a broad point of view because in those languages "the reason for indicating a source of information is often to give the interlocutor an idea of the degree of certainty or reliability of a given piece of information (Boye and Harder, 2009; Van Bogaert and Dendale, 2013, p. 4). For example, when dealing with English, it is necessary to include non-grammatical forms of evidentiality because English hardly has any grammaticalized evidential markers.

Below stated the opinion of Van Bogaert and Dendale (2013, p. 24). They argue for a relativistic approach to the definition of evidentiality:

"For us, how one delineates evidentiality and whether one can assign evidential status to a given linguistic expression and designate it with the term evidential (instead of something like information source marker) is contingent on the aim of the study at hand and on the research paradigm in which it inscribes itself (Van Bogaert and Dendale, 2013; p. 24)".

2.3.2. The relation between epistemic modality and evidentiality

Evidentiality is the indication of the source of information upon which a proposition is based. Some linguists consider evidentiality to be a type of epistemic modality. However, other linguists think that evidentiality is distinct from and not necessarily related to modality. Some languages mark evidentiality separately from epistemic modality.

I doubt that it rained yesterday. (judgment epistemic: Judgement of information source)

I heard that it rained yesterday. (evidential: identification of information source)

The conceptual domain of epistemicity comprises the subdomains of epistemic modality and evidentiality (Boye, 2012). Epistemic modals refer to the reality status of events. They involve the conceptualizer's striving for control of relations at the level of reality and of control of conceptions of reality (Langacker, 2009, 2013). Modals invoke different degrees of epistemic support regarding the realization of the event designated in a proposition. Evidentials indicate the source of evidence (Aikhenvald, 2004) and the epistemic justification on the basis of which the speaker/writer feels entitled to express a proposition (Boye, 2012). There are various parameters of evidentiality. They are speaker's involvement, modes of access to the information, domains and sources of evidence. These parameters of evidentiality also yield different values of reliability of the evidence, and of hearers/readers' potential acceptance of the validity of the information (Marin-Arrese, 2011, 2013).

2.3.2.1. What is Evidentiality?

Evidentiality is a linguistic phenomenon acknowledged in the 20th century. Evidentiality as a term appears for the first time in Boas' posthumously published *Kwakiutl Grammar* (1947), in which he recognizes "a small group of suffixes which expresses source and certainty of knowledge" (Boas et al. 1947 qtd. In Jakobson 1986, p. 4). Edward Sapir, Morris Swadesh, and Harry Hoijer, who are all Boas' students, also recognize the concept of evidentiality in their works on Indian languages, but it was a friend of Boas, Roman Jakobson, who made the basic definition of evidentiality. Jakobson (et al. 1984, p. 46) defines 'evidential' in 1957 as "a tentative label for the verbal category which takes into account three events- a narrated event, a speech event and a narrated speech event, namely the alleged source of information about the narrated event." Moreover, he suggests four possible sources of evidential information: someone else's report (quotative, hearsay evidence), a dream (relative evidence), a guess (presumptive evidence) or one's own previous experience (memory evidence) (Jakobson et al. 1984). This definition soon became widespread and introduced the concept of evidentiality in the field of linguistics. Twenty- four years after Jakobson's publication, in 1981, several linguists gathered at a symposium in Berkeley with the intention of comparing evidentiality in various languages

and exploring questions of how different languages provide evidential markings, the nature of such markings, and the ways in which they arise and spread (Chafe and Nichols, 1986). This conference resulted in an edited volume entitled *Evidentiality: the Linguistic Coding of Epistemology* (Chafe and Nichols, 1986). This collection of articles established the notion of evidentiality in linguistic circles, and soon put it at the center of various linguistic discussions. Evidentiality firstly became the topic of typological studies, then spread to grammaticalization, cognitive linguistics, syntax and pragmatics (Dendale and Tasmowski, 2001). Moreover, scholars have increasingly tried to identify the evidential systems of various languages, then evidentiality spread from American Indian to European languages as well.

2.3.2.2. Evidentiality in non-european languages

An evidential structure was first acknowledged in a study about the Kwakiutl language. It is not surprising that evidentiality was first brought to light in studies of American Indian languages, because in those languages "the marking of evidentiality through verb suffixes is widespread" (Chafe and Nichols, 1986). This explains why the first studies of evidentiality deal with it as a grammatical phenomenon and focus on languages spoken in various parts of North and South America. For the European languages, which generally lack evidential verb suffixes, defining evidentiality is a difficult task. In order to arrive at an appropriate overview of English evidentiality markers and a functional definition of English evidentiality, the grammatical evidentiality in non-European languages should firstly be explored.

Types of evidence

The basic semantic function of evidentials is the indication of the information source and this can be expressed in various ways. Researchers discovered different categories while studying American Indian languages. A frequently cited example of such a study is Barnes's (1984) work on Tuyuca. Barnes distinguishes five evidentiality types based on how the information is received. Examples are given for each evidential category below: 1. Visual evidence, 2. Non-visual evidence (to indicate any of the senses other than visual), 3. Apparent evidence, 4. Second-hand evidence and 5. Assumed evidence (Barnes, 1984, p. 257).

Another well-known classification is Willett's classification (1988) which is based on the study of several American Indian languages. The main parameter of his classification is

direct versus indirect evidence. Willett calls it direct or attested evidence when the speaker was a direct witness to the source of information. Attested evidence can be obtained by the visual sense, the auditory sense or one of the other three senses. Indirect evidence implies that the source of the speaker's information is of secondary nature and includes reported (evidence via verbal report) and inferring (based on inference) evidence. Reported evidence can be second-hand or third-hand. The second-hand denotes hearsay information received from a direct witness, while the third-hand represents hearsay information passed on from one person to another and finally to the speaker. Folklore, as an example of the third reported evidence, refers to information that is part of the oral literature, like myths and legends. Finally, the inferring evidence may involve results, i.e. observable evidence, or a mental construct, called reasoning (Willett, 1988).

A more recent model is the one proposed by Aikhenvald (2004), which is partially based on Willett's (1988) model:

1. VISUAL (SENSORY): information acquired through seeing
2. (NON-VISUAL) SENSORY: information acquired through other forms of sensory perception (smell, taste, touch)
3. INFERENCE: conclusion based on visual or tangible evidence
4. ASSUMPTION: based on indications other than visible evidence (logic, supposition, general knowledge), with a strong reasoning component
5. HEARSAY: reported information without making reference to the person from whom the information was acquired
6. QUOTATIVE: reported information with explicit mention of the source

(Aikhenvald, 2004; p. 63-64)

Categories 1 and 2 coincide with the direct evidence category of Willett. The others are part of indirect evidence. Aikenvald's term 'assumption' is comparable to Willett's 'reasoning'. The differences are the exclusion of the first-hand versus second-hand hearsay distinction, and the addition of a second type of reported evidence, i.e. quotative. The term 'quotative' is also mentioned by Anderson (1986). In the category of reported evidence, he distinguishes at least four subdivisions: a. hearsay, b. general reputation, c. myth and history (these three being evidentials), and d. quotative (marginally an evidential) (Anderson, 1986,

p. 289). Even though he calls the quotative evidence marginally an evidential, he follows Aikhenvald by saying that it stands for “This is what X said” (Anderson, 1986, p. 289). Other linguists use different terms. For instance, Chafe (1986) calls all reported evidence hearsay evidence and states that the construction used to cite a reference, i.e. quotative, is a “hearsay evidential expressed in its most precise and deliberate form (p. 269)”. The distinction is made between mentioning or not mentioning of the source. For instance, the sentence *“The Romans believed that Romulus and Remus founded Rome”,* refers to a myth and is analyzed as indicating quotative evidence, while the sentence *“Romulus and Remus are believed to have founded Rome”* denotes the same myth but refers to hearsay.

To summarize the evidential subcategories based on American Indian languages, the three taxonomies are combined in Table 2.3. below:

Table 2.3. *Combination of the Types of Evidence in Non-European Languages*

Types of evidence	**Direct**	**Attested**	**VISUAL**
			NON-VISUAL
	Indirect	**Reported**	**HEARSAY**
			QUOTATIVE
		Inferring	**INFERENCE**
			ASSUMPTION

2.3.3. Evidentiality in English

Many studies on evidentiality have assumed that European languages lack “grammatical markers and grammatical systems of evidentiality” (Diewald and Smirnova, 2010, p. 2). Aikhenvald (2004) addressed this problem for English by stating that English does not have pure evidential markers and therefore compares evidentiality with other categories, like modality. Aikhenwald (2004) also makes a distinction between pure evidential markers, which are grammatical, and evidential strategies, which are lexical or pragmatic, and she concludes that in most European languages the evidential structures are merely evidential strategies. Although Aikhenvald states that some languages lack a specific evidential grammatical category, referring to the source of information is universal. Many linguists agree with this view and they apply it to evidentiality in English:

Although English does not have a specific grammatical category of evidentials, a variety of optional, non-propositional constructions can function as evidentials (Barton, 1993, p. 746).

The definition of evidentials in English thus has to be a functional one (Barton, 1993, p. 746).

English has a rich repertoire of evidential devices. It expresses evidentiality with modal auxiliaries, adverbs, and miscellaneous idiomatic phrases, although not, for example, with a coherent set of verb suffixes like those in some Californian Indian languages (Chafe, 1986, p. 261).

One undercover evidential in English is the inferential value of polysemous *must,* distinct from its obligational one, as shown by Chafe (1970, p. 179-84) and Jacobson (1986, p. 7).

There is general agreement that English does not have a well-defined grammatical system to express evidentiality. Therefore English evidentiality should be defined by using functional-lexical means. However, claiming that English does not have grammatical evidential markers needs some consideration because there is one case; the modal *"must".* The criteria to distinguish grammatical evidentials from lexical evidentials are not clear-cut. According to de Haan (2000), a grammaticalized evidential morpheme is characterized by the following criteria:

1. Evidentials are not themselves the main part of the clause.
2. Evidentials do not show agreement with the speaker.
3. The morphemes have the expression of evidentiality as their primary meaning.
4. Evidentials cannot be in the scope of a negative element.

(de Haan, 2000, p. 75-76)

The first and second criteria are responsible for the exclusion of sentences like *it is evident that* and *I see that* (de Haan, 2000). The third criterion is the reason why "*must"* is eliminated from the evidential system. Criterion 3 is "used to distinguish between true evidentials and those elements for which evidentiality is only inferentially present" (de Haan, 2000, p. 75). To illustrate these inferential evidentials, Anderson (1986, p. 275) gives four examples:

1. *The toast is burnt*
2. *The toast burned.*
3. *The toast has burned.*
4. *The toast must have burned.*

De Haan (2000) states that from the third statement *"the toast has burned",* the second *"the toast burned"* may be inferred. In that case "the perfect denotes, secondarily, the evidential notion of "evidence for an action", but cannot be considered an evidential itself (de Haan, 2000, p. 76). According to de Haan (2000), the modal *"must"* is a similar example. Anderson (1986, p. 275), by contrast, considered the fourth example as a true evidential because "when the present state is used as circumstantial evidence for inferring an unwitnessed past event, English normally adds the epistemic *'must'* of logical inference." The modal *"must"* indicates that there is evidence for the action expressed, for instance the smell of the burnt toast. De Haan argues that this is not enough proof for the verb *"must"* to be treated as a grammatical evidential, since the expression of evidentiality is not its primary meaning.

Furthermore, Ifanditou (2001) claims that sometimes a structure may function as an evidential without this information being linguistically encoded, which is called pragmatic inference. According to this view, the sentence *"John is feeling miserable today",* can be based on observation (the speaker has seen his miserable expression), hearsay (the speaker repeats what John told him), or inference (the speaker deduces the information from John's behavior) (Ifanditou, 2001).

2.3.3.1. Types of evidentiality in English

An overview of the lexical structures expressing English evidentiality is provided by Ifantidou (2001). According to Ifanditou (2001), the definition of an evidential is a functional one and the evidential categories are organized around the two main functions in a broad sense. The first function is the indication of source of knowledge. This can be obtained by observation (sensory/perceptual evidence), by hearsay (from other people), by inference and by memory. The observational evidence is mainly expressed by perception verbs such as *I see, I hear, I feel, it tastes,* or by verbs which are less reliable such as *looks like, sounds like, feels like, smells like.* Hearsay can be indicated by the expressions *tells me, I hear, people say, he is said, he is reputed, allegedly, reportedly.* Ifantidou also includes less direct hearsay devices which primarily perform other functions such as *it seems, it's supposed to, apparently.* The structures such as *presumably, consequently, seems to/must be, must have, I gather, I deduce,* are typical inferential evidence devices although they are not frequently treated as evidentials. The information source can also be one's own memory, which is expressed by *I remember, I recall, as I recollect* (Ifanditou, 2001, p. 5-7).

Ifantidou's system of evidentiality for English also includes the speaker's degree of certainty, characterized by propositional attitude and parenthetical expressions *(I think, I know, I suspect, I guess, I suppose),* adverbials *(probably, certainly, possibly, undoubtedly, surely, evidently, obviously)* and epistemic modals *(may, might, can, could, must, will, ought to /should)* (Ifantidou, 2001, p. 5-7). Ifantidou's categorization represents a broad view of evidentiality, based on the statement that "in its broadest sense, an utterance has an evidential function if and only if it overtly communicates evidential information, whether this information is linguistically encoded or pragmatically inferred" (Ifantidou, 2001, p. 161). This broad view also includes expressions which are not standardly treated as evidential. These are lexical expressions which are not included by the majority of the researchers, except for Ifantidou. Ifantidou takes into account the definition suggested by Jakobson and she includes memory as a possible evidential. She says that "since memory is variably reliable, such expressions have a claim to be considered as evidentials" (Ifantidou, 2001, p. 7). However, she leaves out Aikhenvald's 'quotative' and 'assumption' categories.

A scheme of the evidentiality types combined with the English lexical expressions proposed by Ifantidou is given in Table 2.4. This overview serves as a basis for the English evidentiality system being discussed.

Table 2.4. *Lexical Expressions of English Evidentiality*

A. INDICATION OF SOURCE OF KNOWLEDGE			
1. Direct evidence			
a. Visual		*I see, looks like*	I see him swimming
b. Non-visual		*I hear, I feel, it tastes, sounds like, feels like, smells like.*	I remember that he was an excellent professor.
c. Memory		*I remember, I recall, as I recollect*	I remember that he was an excellent professor.
2. Indirect evidence			
a. Reported	**Hearsay**	*I hear, he is said, he is reputed, allegedly, reportedly, it seems, it's supposed to, apparently*	Tom tells me John is the burglar.
	Quotative	*X tells me, people say, they suggest*	Tom tells me John is the burglar.
b. Inferring	**Inference**	*Presumably, seems to, must be/must have, I gather, guess, suppose, so, I deduce, consequently*	There is a car on the driveway. I gather that Tom is in town.
	Assumption	*Must, I assume*	I assume that Tom is on holiday.
B. SPEAKER'S DEGREE OF CERTAINTY			
a.Propositional attitude and parenthetical expressions		*I think, I know, I suspect, I guess, I suppose*	I think he is a very clever person.
b. Adverbials		*Probably, certainly, possibly, undoubtedly, surely, evidently, obviously.*	Obviously he did not kill the cat.
c. Epistemic modals		*may, might, can, could, must, will ought to/should*	It may be possible that he ran away.

2.3.4. Importance of evidentiality

The classification of the English evidentiality system is based on the main meanings of evidentiality: expressing the source of knowledge and the certainty of knowledge. Within this division, several functional motivations for evidentiality can be found, especially in scientific discourse.

2.3.4.1. Functional Motivations For Evidentiality

To mention direct evidence, the speaker is a witness of the actions described and therefore makes “him/herself into a reference point” (de Haan, 2001, p. 217). According to de Haan (2001), receiving information from a first-hand source implies higher reliability and responsibility. Reportives, on the other hand, remove the responsibility from the speaker. In other words, the speaker outsources the responsibility for the information expressed. By acknowledging that the statement is not witnessed by the speaker, he/she removes responsibility for a claim he/she does not agree with or is not certain of. In English, this can be expressed by *it is said, people think,* etc. This is a useful way of assigning authority to the statement. The statement can be considered more valuable and truthful when a second convincing party, like experts in the field, are added into the statement (de Haan, 2001).

Another way of reinforcing authority is to support the argument with clear evidence. For example, in scientific or academic writing, it is frequently asked how one has obtained particular information or whether there exists proof for a certain statement being made. These kind of questions can be answered by reportive markers or by inferential evidentials. According to De Haan (2001, p. 193), inference is “the grammaticalized way of showing that the speaker makes his/her statement based on a deduction from facts, and not on a direct observation of the action itself.”

The significance of evidentials is that they permit the speaker to acknowledge or deny responsibility for a statement, and they assign authority to the statement in order to make it more reliable. Assigning authority to the statement can be realized by adding a second persuasive source or evidence from which the information is inferred. Moreover, when dealing with evidentiality in English, the function of expressing (un)certainty towards an utterance via epistemic modals, adverbials or parenthetical expressions should also be included. All of these functional motivations are very important in academic writing.

2.3.4.2. Evidentiality in academic discourse

Academic language is accurate and precise. It aims at informing about a certain topic and what particular approach is adopted to investigate that topic. In academic language, there should be an objective interpretation of facts and findings. Findings need external and experimental evidence to consolidate their validity. In academic texts, authors have to signal

credibility, reliability, objectivity and *authority* to their readers and the research community (Ahmad, 2012).

Despite the evaluative and informative nature of academic writing, the application of evidential markers in academic discourse is problematic. One concept which is closely related to evidentiality is 'hedging'. Hedging, as an expression of tentativeness and possibility, is one of the most important features of academic English. Ahmad (2012, p. 52) lists hedging devices such as epistemic main verbs *(to indicate, to suggest, to propose, to tend, to seem, to appear)*, epistemic modal auxiliaries *(may, might, can, could)* and epistemic adverbials such as *(hypothetically, probably, likely).* In view of the close connection between the epistemic hedging expressions and the English evidential expressions, it can be deduced that evidentiality is an important feature of academic writing.

The authors use hedges in order to distance themselves from their statements and thus to reduce the risk of opposition and minimize the face-threatening issues (Fratila, 2007). According to Fratila (2007), hedges are useful techniques to express mitigation of responsibility and uncertainty towards a proposition. The effective use of hedging devices protect the authors, in case other people have different opinions about the same issue and to negotiate some degree of flexibility for their claims. The distancing from a statement is one of the functional motivations of evidentiality. Hedges can also be considered as a way of politeness strategy since they soften strong statements and opinions by reducing possible disagreements. The adoption of a polite attitude towards other people is important to maintain a good relationship between the other colleagues within the academic community. However, it is impossible to detach the author and his/her personal opinion from his/her writing (Fratila, 2007). To conclude, hedges can be evaluated as one kind of evidentials and the functional motivations for evidentiality which are applicable to and meaningful in academic writing.

2.3.5. The relationship between epistemic modality and evidentiality

There is a close connection between epistemic modality and evidentiality. Evidentiality refers to the coding of the information source, while, epistemic modality refers to the degree of confidence on the part of the writer or speaker to his or her proposition. It is often assumed in the literature on modality that evidentiality is a type of epistemic modality, but in fact they are two different notions and therefore they should be distinguished. With regard to their semantics, epistemic modality and evidentiality are two different concepts. The function of

evidentials is to assert the evidence for the information in a particular proposition. The function of epistemic modality devices, on the other hand, is to evaluate the writer and/or speaker commitment towards propositions. To summarize, evidentiality refers to the information source for the speaker's or writer's statement while epistemic modality refers to the the degree of commitment of the speaker and/or writer for his or her statement. Many researchers agree on the link between epistemic modality and evidentiality.

In terms of the grammaticalization of evidentiality, it is not in the exact same way across different languages. The development path is also not common across the languages of the world. Grammaticalization studies such as (Bybee et al., 1994; Hopper and Traugott, 1993) have shown that any given construction may have various origins. The most detailed descriptions of evidentials are concerned with the languages of the Americas; however, evidentiality is indeed present in many languages of the world. As the boundaries of evidentiality is not clear-cut, it mostly goes unnoticed.

There is not yet a common and coherent interpretation of evidentiality in the modality literature and the boundaries between epistemic modality and evidentiality are too vague or almost do not exist. According to De Haan, these two notions should be distinguished due to syntactic and semantic reasons. In terms of syntactic reasons, evidentials that are fully grammaticalized behave differently with regard to negation. Such kind of evidentials are not like epistemic modals and they cannot occur within the negation scope. Evidential morphemes may also have different origins compared with the epistemic modal elements. In semantic terms, on the other hand, there is a difference between marking of the information source, which is called *evidential,* and the degree of commitment on the part of a writer/speaker towards his or her utterance, which is called *epistemic.*

To sum up, epistemic modality and evidentiality are both concerned with evidence, however they are different in terms of what they do with the evidence. Evidence is evaluated through the use of epistemic modality and this evaluation assigns a degree of confidence to the writer's or speaker's utterance. Epistemic modality devices are used to express this degree of commitment or confidence on the part of the writer/speaker. However, evidentials assert that there is available evidence for the writer's/ speaker's utterance but they do not interpret this evidence.

2.3.6. Claims in the literature on the connection between evidentiality and epistemic modality

Most of the researchers have dealt with the connection between evidentiality and epistemic modality, and they have stated that these two terms are closely related with each other. Though, the differences between evidentiality and epistemic modality are little discussed in the literature. According to Palmer (1986), evidentiality is part of the system of epistemic modality. Palmer (1986) asserts that evidentiality and epistemic modality are both concerned with the degree of commitment on the part of the speaker or writer to the statement. In Palmer's (1986) view, evidentiality is an *irrealis category.* The speaker or writer indicates that s/he is not presenting his/her utterance as a fact by at least four ways. These four ways are that either 1. s/he is making a speculation about it, or 2. deduction about it, or 3. s/he has been told about it or 4. it might be a matter of appearance which depends on the evidence of possible cases. "All these four types show the speaker's lack of commitment to the truth of the proposition being expressed. (Palmer, 1986, p. 51)". In accordance with these definitions of Palmer (1986), the first one is related with epistemic modality, however (2) through (4) are related with evidentiality. They are called inference, hearsay, and sensory evidence, respectively. However, Palmer (1986) asserts that it becomes sometimes so hard to try to decide whether a particular system in some cases is evidential or a judgment modality. Frajzyngier (1987) adopts a similar view to Palmer's viewpoint. Frajzyngier (1987) asserts that there is a direct correspondence between the two terms: epistemic modality and evidentiality. In Frajzyngier's view, direct evidence includes visual and auditory evidence. It is more believable than the indirect evidence which includes inference and hearsay evidence. Indirect evidentials indicate that the speaker or writer has indirect knowledge about the asserted statement. This implies that the speaker or writer is not fully committed to the truth value of his/her statement, which indicates *epistemic value* (Bybee and Perkins, 1994).

According to Willett (1988), it is true that evidential distinctions are parts of the marking of epistemic modality, though evidentials are not much explicitly stated in the theoretical treatments of epistemic modality.

To sum up, evidentials assert that there is evidence to support the speaker's or writer's proposition. Regarding the relationship between epistemic modality and evidentiality, they encode the source of information and attitude towards that information, respectively.

Epistemic modality and evidentiality overlap in some languages, but this is not something universal.

2.4. Conclusion

While the literature on evidentiality and epistemic modality states that the two terms are closely related, there are still doubt on this view. For instance, according to de Haan, evidentiality is not a subcategory of epistemic modality. Evidentiality and epistemic modality are two distinct categories: evidentiality dealing with the *evidence* the speaker has for his or her statement, while epistemic modality *evaluating* the speaker's assessment and assigns it a commitment value. This evaluation is done on the basis of evidence which may or may not be explicitly expressed by means of evidentials. However, there is nothing inherent in evidentials compelling us to assign an *a priori* epistemic commitment to the evidence. For all of these reasons, the exact placement of boundaries is an absolute necessity for the study of evidentiality and for modality as a whole. This doesn't mean there cannot be some overlap on certain occasions. The overlap between evidentiality and epistemic modality should not invalidate the separate status of the two categories.

CHAPTER 3
METHOD

3.1. Justification of the Focus on Epistemic Modality

This study will investigate into the use of epistemic modality, because it is a common and important linguistic unit for making effective argumentation in English writing. Epistemic modality has also been demonstrated to be a rather difficult linguistic unit to acquire and utilize by especially non-native learners of English (McEnery and Kifle, 2002; Holmes, 1988).

Epistemic modality devices are used in interpersonal terms to strengthen and moderate propositions in English writing. The significance of epistemic modality as a rhetorical feature has been widely acknowledged and stated in the literature on modality (Ngula, 2015). It has been maintained that "epistemic modality is of central importance to the formation of argument" and it "helps writers to negotiate views and ideas and qualify claims at an appropriate level of commitment (McEnery and Kifle, 2002, p. 183-184)". Meyer (1997) also states that the appropriate degrees of commitment to propositions by writers help them present their arguments effectively.

To summarize, using epistemic modality devices effectively increases the credibility of the writer in written communication. The crucial function of epistemic modality devices in English writing makes it a popular topic for further investigation.

3.2. Epistemic Modality as Used in This Study

- This study will be a descriptive one taking a broad view of epistemic modality expressions beyond the use of just modal auxiliary verbs (covering modal verbs, lexical verbs, adverbs, adjectives, and nouns as well.)
- The interpersonal function of epistemic modality will be investigated in this research.It has been noted that, "The interpersonal function is concerned with the writer's attitude to the message and is typically realized through modal verbs (e.g. *should, may*) and various types of modal adjuncts (e.g. *probably, obviously*) Flowerdue (1998, p. 543)".
- The term 'epistemic modality' will be used in this study to represent the different levels of commitment in an utterance and similar categorizations by Hyland and Milton (1997), Hyland (2001), Vold (2006), McEnery and Kifle (2002), and Holmes (1988) will be followed.

- Epistemic modality will be used in this study to also discuss the different levels of commitment assigned by the student writers in their propositions.
- Hedges and boosters are the linguistic expressions that fall within the continuum of probability, however epistemic modality in this research will include other epistemic devices on the continuum as well. In other words, beyond the use of hedges and boosters, this study will also examine the epistemic items that can be placed in between hedges and boosters on the continuum.
- The classifications of epistemic modality as identified by Hyland and Milton (1997), Ngula (2015) and McEnery & Kifle (2002) are the *certainty* (highest probability), *probability* (medial probability), and *possibility (*low probability), respectively. This classification will also be adopted in this corpus-based research.

3.3. Selection of Epistemic Devices

In the selection of epistemic devices, this study refers to Hyland and Milton's (1997) study. Hyland and Milton's (1997) study of epistemic expressions cover epistemic items from five grammatical categories: modal auxiliary verbs, lexical verbs, adjectives, adverbs and nouns, respectively. Within these grammatical categories, they also presented a list of the most frequently used epistemic devices in academic writing (Hyland and Milton, 1997, p. 205). This list was used as the basis in the selection of epistemic devices in this study. However, the list has been updated with more epistemic items extracted from the previous studies in the literature (Ngula, 2015; Rizomilioti, 2006).

3.4. Recording of Epistemic Devices

Many of the epistemic devices are polysemous. In other words, they have different meanings attached to them (Vold, 2006). Therefore, it was necessary to distinguish the epistemic uses from the non-epistemic ones in this study. In most of the cases, this process turned out to be quite a lot challenging. For this reason, a set of criteria for the classification of epistemic devices was developed by drawing on several theories and ideas.

The computer program AntConc was used to count instances of epistemic expressions in the data. Specifically, a concordance function of the program was used to search for each item separately and then see all of the occurrences in sentential or larger context if needed. Inflected verb forms such as *"knows", "argued"*, contractions and negations of modal verbs

such as "*couldn't", "won't"*, as well as some detected misspellings were also included in the analysis.

3.5. Development of the Criteria For Epistemic Classification

Various theories and viewpoints exist for interpreting epistemic modality devices. Below is a short review of a few concerns regarding the epistemic classification.

3.5.1. Some aspects regarding modal verbs

It has been maintained by Hyland (1998) that modal auxiliary verbs may either have epistemic or root meaning. Root meanings of modal verbs include "the will, ability, permission or obligation to perform some action or bring about some state of affairs (Hyland, 1998, p. 105)". Among the root meanings, the most commonly referred one is the deontic meaning. Hoye (1997, p. 46) points out that deontic modality refers to an action or event rather than a claim about things, and that the "point of issue is not whether something is true but whether something is going to be done by others, or by the speaker". Classifying modal verbs as either epistemic or deontic is problematic, because "sentences are often ambiguous between the two readings" (Barbier, 2002, p. 11). An example sentence of this type is presented below from Ericsson (2008, p. 7):

- You *should* be there by 4 o'clock.

This sentence can either be interpreted as "it is likely that you will be there by 4 o'clock" or it can be interpreted as "you are obliged to be there by 4 o'clock". Distinguishing between such instances in a written text is not an easy task, because it requires knowledge of the writer's intention, which may not always be clear in the text.

The modal auxiliary verb *"will"* may have epistemic meaning, but it can also be used to mark future tense. Hyland (1998) states that "it is extremely difficult to distinguish an epistemic from a future interpretation where *'will'* refers to a future action, as reference to the future inevitably involves some uncertainty or doubt (p.116)". In such ambiguous cases, strategies used by Vold (2006) were applied. These strategies involve either substituting the modal in question with a different one, or adding a new epistemic expression to the sentence. The idea here is to see if it is possible to find overlapping expressions that gives the sentence epistemic meaning without changing the basic meaning of it. To illustrate this, example sentences from Ericsson's (2008) corpora are provided below:

- This *will* bring them the same problems with garbage that we are struggling with in the western world today. (epistemic, expressing possibility/probability)
- This short essay *will* analyze the question in both contexts. (non-epistemic, denoting intention)

3.5.2. Some aspects regarding lexical verbs

Lexical verbs such as *'think, believe, appear'* can be used to express epistemic modality. However, lexical verbs may also have other meanings other than epistemic. For instance, *'appear'* conveys both epistemic and non-epistemic meanings depending on the context. Example sentences from Ericsson (2008) are presented below:

- It *appears* that all students passed the exam. (epistemic)
- Suddenly he *appeared* on stage. (non-epistemic)

Crompton (1997) refers to "the issue of responsibility for utterance" in epistemic classification of some lexical verbs. According to him, the lexical verbs *'claim, suggest, believe'* are epistemic only when writers use them in reporting their own propositions. Crompton (1997, p. 283) provides the following examples, and maintains that the first sentence is epistemic, while the second is not:

- I *suggest* that pigs fly. (epistemic)
- *Smith suggests* that pigs fly. (non-epistemic)

Crompton's view, however, is not shared by all researchers. For instance, Hyland and Milton (1997), maintain that the writer can use the opinion of another person as a "means of disguising the epistemic source (p. 283)". In this study, Hyland and Milton's view is adopted.

3.5.3. Some aspects concerning adverbs

One of the difficulties in the epistemic classification of adverbs is due to the different functions of adverbs, based on their placement in the clause. They can be the so called sentence adverbs, which modify the whole clause or sentence, or they can be word or word-group modifiers, which modify only some part of the sentence (Hoye, 1997). Lyons (1977) maintains that sentence adverbs "are used by the speaker in order to express, parenthetically, his opinion or attitude towards the proposition that the sentence expresses

or the situation that the proposition describes (p. 452)". Below are the example sentences from Ericsson's corpora (2008, p. 9) concerning epistemic adverbs:

- *Clearly,* wealthy countries have greater financial and research resources to use in environmental protection projects.
- *Of course* it is true that the poor countries have lots of other primary problems to think about, like hunger, diseases and poorness.

Some sentence adverbs may sometimes function as word modifiers, and vice versa, and therefore it is often difficult to distinguish when these devices are used to modify only a part of the sentence or the whole proposition (Quirk et al, 1972, p. 440). One of the examples given by Quirk et al is as follows:

- I can't *really* believe him.

In the above example, the adverb *'really'* can be interpreted as modifying the modal negation, the main verb, or even the whole clause. Regarding this issue, there are researchers who argue that epistemic interpretation only occurs with sentence adverbs (such as Drubig, 2001), and others who maintain that word or word-group modifiers can also convey epistemic meaning (such as Hyland, 1998). In this study, Hyland's understanding of the category of adverbs is adopted.

3.5.4. Adopted criteria for epistemic classification

The following criteria of Ericsson (2008, p. 10) is adopted in the classification of epistemic devices in this study. These principles were not selected by Ericsson (2008) randomly. An effort was made to draw as much as possible on the views of Hyland and Milton (1997), and Aijmer (2001, 2002).

- For a device to be classified as epistemic, it has to either strengthen or weaken the truth value of a proposition (Vold, 2006).
- Devices are excluded if they unambiguously convey deontic or any other meaning other than epistemic.
- In ambiguous cases, where an epistemic reading is possible, but not entirely clear-cut, the device is still recorded as epistemic.

- In the case of lexical verbs, devices are counted as epistemic if they add to the proposition an attitude or opinion by the writer either explicitly, such as *I believe that*…, or implicitly, such as *some people argue*…
- Adverbs are recorded as epistemic both in cases where they modify a whole sentence or clause, as well as only part of a sentence or clause.
- Epistemic modality devices occurring in questions are not recorded as epistemic. It could be argued that tag-questions and rhetorical questions may convey epistemic meaning. However, Halliday (1985, p. 86) asserts that "in a statement the modality is an expression of the speaker's opinion… whereas in a question it is a request for the listener's opinion". For this reason, all kinds of questions are excluded from the count.

3.6. Participants of the Study

Participants of this study consist of three groups of students. The first group is the American university students (native speakers- NS) studying at a number of different universities in the United States. These students are English native speakers studying at different universities: University of Michigan, Presbyterian College, Marquette University, Indiana University, South Carolina, University of South Carolina. The second group consists of the 312 Turkish university students majoring in their first year at Anadolu University – a state university in Turkey. These students take the Academic Writing and Report Writing course in English Language Teaching (ELT) in their first year and they are taught to write in different genres including argumentative type of essays. The course is 3 hours a week taken in both fall and spring semesters. The students are given a pack as course material in this course and they receive instruction on writing in various genres. They also learn a number of linguistic cues specific to each genre.The third group consists of the other Turkish university students studying at the English Language Teaching (ELT) Department of the three different universities in Turkey: the University of Çukurova, the University of Mustafa Kemal and Mersin University.

3.7. Data

Three sets of corpora- a native speaker database (NS), a learner database (TR-ICLE), and one database of collected argumentative essays from the ELT Department students – (AELT) are used in this research. AELT stands for Anadolu English Language Teaching.

The Louvain Corpus of Native English Essays (LOCNESS) serves as the native speaker corpus. In other words, LOCNESS is used as a reference native-speaker corpus in this study. It is a corpus of native English essays written by British pupils and university students and American university students. It was compiled and has been extensively used by the researchers working with the International Corpus of Learner English (ICLE). ICLE is the learner corpora which was collected under the initiative of Sylviane Granger in the 1990s. The ICLE includes 500-word argumentative essays produced by advanced learners of English from various first language (L1) backgrounds. In this study, The Turkish sub-corpus of ICLE was used. It is called TR-ICLE and it consists exclusively of argumentative essays collected from three institutions: the University of Çukurova, the University of Mustafa Kemal and Mersin University. The Turkish sub-corpus comprises 280 essays for a total number of 199,532 words. The LOCNESS includes mostly argumentative with some expository and literary essays produced by native speaker (NS) students. The topics covered in the LOCNESS are various and typically controversial, including euthanasia, capital punishment, surrogate motherhood, abortion, gun control, animal testing, to name a few. Both ICLE and LOCNESS are similar in that they all contain student essays. Therefore, LOCNESS seems to be a good option for comparing the written English of learners and those of native speakers. Essays written by the Turkish ELT Department students also consist of the same two topics in both US-ARG and TR-ICLE databases.

3.8. Data Collection

The data are collected from three databases: 1 NS database (LOCNESS-USARG component) and 2 Turkish NNS databases (AELT and ICLE-TRICLE component). Corpus as a term has been defined in different ways for different purposes in the literature. However, in this study, the following definition is adopted: corpus is a principled collection of electronic texts usually stored on a computer' (O'Keeffe, McCarthy Carter, 2007). Different researchers have also emphasized the characteristics of a corpus-based linguistic analysis. According to Hunston (2006) corpus linguistics means "looking at naturally occurring language; looking at relatively large amounts of such language; observing relative frequencies, either in raw form or mediated through statistical operations; observing patterns of association, either between a feature and a text type or between groups of words (p. 244)".

In terms of the corpus based analysis, Biber et al. (1998) argues that a corpus-based analysis is empirical, it analyzes the genuine patterns of language use as they occur in

natural texts; it uses a wide and principled compilation of natural texts, which is called corpus as the source for analysis; it utilizes computers extensively for analysis, using both quantitative and qualitative examination techniques.

Based on the aforementioned definitions, the data for this study is collected from the three groups that consist of the argumentative essays of the American students and Turkish students. In order to compare the three groups of student essays, the Louvain Corpus of Native English Essays – LOCNESS is used. LOCNESS was collected at the Université Catholique de Louvain. It includes essays of 288,177 words produced by native speakers of English. LOCNESS has been used in various studies, which examine different kinds of linguistic expressions. LOCNESS serves as the control data in comparing the writings of native and non-native learners. As a reference corpus, LOCNESS is both a commonly used and reliable corpus (Granger and Tyson, 1996, Hatzitheodorou and Mattheoudakis, 2007). Thus, in this study, the essays written by the American students in LOCNESS are used to compare with the essays by the Turkish students in both AELT and TR-ICLE databases. LOCNESS-USARG database involves 150,591 words of argumentative essays written by American university students:

- 18,826 literary mixed essays written by American university students
- 59,568 by argumentative and literary essays by British university students
- 60,209 British A level argumentative essays.

150,591 words of argumentative essays written by American native students were extracted from LOCNESS corpus and saved as a file on the computer. The literary essays in LOCNESS are not included in this study. The essays written by the Turkish students consist of the 312 essays written in the Academic Writing and Report Writing Course at the beginning of the 2015-2016 Spring Term. (Topics of the essays collected during the formation of the AELT database and the applied procedures in terms of date and duration are provided in Appendix A and Appendix B). These essays were then saved as another file on the computer. The citations used by the students are extracted from the essays. The argumentative essays in the LOCNESS-USARG section are written by American university students and the topics of these essays are as follows:

- Abortion
- Adoption/biological parents
- Prayer in schools
- Pride or segregation

- AIDS	- Professors that don‘t speak shouldn‘t teach English speaking students
- Animal testing	- Profit: good or evil
- Capital punishment	- Prozac: the wonder drug
- Controversy in the classroom	- Racism
- Corporal punishment/paddle	- Recycling
- Crime	- Rules and regulations
- Death penalty	- Salary caps
- Divorce	- Sex equality
- Drinking age	- Sex in schools
- Ethics	- Sex in the media
- Euthanasia	- Suicide
- Feminism	- Surrogate motherhood
- Football	- Teachers deserve recognition and reward
- Freedom of the press	- Teenagers
- Gender roles	- The confederate flag
- Great inventions and discoveries of 20th century and their impact on people‘s lives (one per interview- computer, television, nuclear power, etc.)	-The welfare system
- Gun control	- US government
- Homelessness	- Violence on television
- Journalists should not reveal their sources	- Water pollution
- Legalization of marijuana	- Would anyone care for a drink
- Orphanages	-Talk shows and homosexuality on television
- Portrayal of women in fashion magazines	

Table 3.1 below shows the data collection stages at the ELT Department of Anadolu University.

Table 3.1. *Data Collection Stages in the ELT Department*

Stage	Number of Essays	Number of words			
		Min	Max	Mean	Std. Dev.
I	165	182	268	240	29
II	147	167	283	248	35
Overall	312	167	283	244	31

The data were collected in two stages from the Anadolu University ELT Department first-year students in the 2015-2016 Spring Term (8 classes from A- H). Before the data collection process, consent forms were prepared and the students who wanted to participate in the

study signed these forms. Topics of the essays were determined through consulting two professors from the department and also by asking the opinions of the writing instructors teaching in the participants' classes. The topics were selected in parallel with the ones in both LOCNESS and ICLE.

In Stage I, students were required to write a well-developed argumentative essay on the topic "Technology and Imagination" (See Appendix-A). They were given 60 minutes to complete their essays in the classroom. 165 essays were collected in Stage 1 of the data collection process. Since the number of essays collected in Stage 1 was not enough to form a database, students were required to write another argumentative essay on another topic. Three weeks later, in Stage II, students were required to write a well-developed argumentative essay on the topic "People claim that money is the root of all evil. Discuss your opinion about this statement" (See Appendix-B). They were given 60 minutes again to complete their essays in the classroom. In Stage II, 147 essays were collected. Overall, the collected number of essays is 312. The minimum number of words is 167, and the maximum is 283; forming a mean of 244 words.

The students' essays had to be collected as hard documents since there was almost no opportunity to obtain them in electronic format. The collection and processing of students' writings proved quite difficult. In order to conduct an analysis on AntConc, 312 essays were coded and written on computer without correcting any grammatical or spelling mistakes.

3.8.1. Methodological challenges

I faced a few challenges in the collection of the argumentative essays from the ELT Department students and the building of the AELT database. The students' essays had to be collected as hard documents since there was almost no opportunity to obtain them in electronic format. The collection and processing of students' writings proved quite difficult.

3.9. Data Analysis

Corpus software tools are used to conduct corpus based studies and analyze large amounts of linguistic data. They enable complex search of a corpus including concordance, key words, collocations, etc. Concordance tools are computer programs designed to detect and read specific language features from the language included in the corpus. Data are presented in the form of concordance lines (Morgan, 2011). This enables the researcher to observe specific language features as well as the framework of norms that are defined by the community in which the communication is taking place. There are tools which can be utilized regardless of the type of corpora and tools which are specially designed for one

specific type of corpus. AntConc - the corpus software tool used in this study- can be utilized for analyzing any type of corpora. Corpus software tools enable the researchers to examine various linguistic features and large amounts of data easily. According to Hunston (2006), “corpus software searches the corpus for a given target item, counts the number of instances of the target item in the corpus and calculates relative frequencies, displays instances of the target item so that the corpus user can carry out further investigations (p. 234)”.

In the present study, the data were analyzed using Ant.Conc 3.3.4. Ant.Conc is a text and concordance tool (http://www.antlab.sci.waseda.ac.jp/software.html) which provides the researchers with various functions such as Concordance/KWIC lines, Concordance Plot, File View, Clusters, N-Grams (part of clusters) collocates, Word List, Keyword List).

3.10. Procedure

3.10.1. Preparation of the list of epistemic devices

Firstly, a prelist of linguistic items that are used as epistemic devices was identified. However, in order to prepare a more comprehensive list of epistemic devices, several previous studies were consulted (such as Hyland and Milton, 1997; Rizomilioti, 2006; Ngula, 2015; McEnery and Kifle, 2002; Holmes, 1988). Following this consultation process, an initial list of 96 epistemic devices was prepared and grouped under grammatical categories such as modal verbs, lexical verbs, adverbs, adjectives and nouns. The prelist of epistemic devices was then validated in order to make sure that most of the frequently occurring epistemic devices was retrieved in LOCNESS/ US-ARG section, AELT and TR-ICLE databases. Then the epistemic items that were not covered in my initial pre-list of 96 epistemic items were identified. These extra epistemic items were listed and a new list of epistemic devices was re-formed; these are the 10 modal verbs, 52 lexical verbs, 23 adjectives, 58 adverbs and 40 nouns. Finally, an ultimate list of 183 epistemic devices classified under five grammatical categories was obtained.

It is crucial to emphasize that the modal *can* is not included in my list of epistemic modal verbs because *can* is not used in epistemic sense and thus it has not been previously identified as an epistemic device (see the studies such as, Hyland and Milton, 1997; Ngula, 2015; Holmes, 1988; Coates, 1983). The negative forms *can’t* and *cannot* rarely occur in epistemic forms especially in spoken discourse (Collins, 2009) and this is not the concern of the present study. Table 3.2 demonstrates the full list of epistemic devices utilized in the present study:

Table 3.2. *Epistemic Devices Used in This Study*

Epistemic Modal verbs	E. Adverbs (continued)	Epistemic Nouns	E. Lexical verbs (continued)
could	obviously	argument	claim
may	ostensibly	assumption	conclude
might	of course	belief	consider
must	often	certainty	convince
should	perhaps	chance	confirm
will	possibly	claim	demonstrate
would	presumably	conclusion	deduce
couldn't	probably	confirmation	describe (as)
shouldn't	quite	danger	doubt
wouldn't	really	discovery	emphasize
Epistemic Adverbs	relatively	finding	establish
about	recognizably	knowledge	estimate
actually	seemingly	realization	expect
admittedly	supposedly	recognition	feel
allegedly	sometimes	doubt	guess
apparently	surely	estimate	highlight
approximately	undeniably	estimation	hope
around	unquestionably	evidence	know/n
arguably	undoubtedly	explanation	look as if
unarguably	usually	fact	look (like)
beyond doubt	(very) likely	fear	identify
conceivably	no doubt	expectation	indicate
ostensibly	**Epistemic Adjectives**	hypothesis	interpret
actually	apparent (that)	hope	judge
almost	certain	idea	point out
always	a certain extent	impression	prove
certainly	clear	indication	realize
clearly	conceivable	interpretation	recognize
decidedly	convincing	likelihood	reveal
distinctly	doubtful	opinion	seem
definitely	evident	notion	show
doubtless	hypothetical	possibility	speculate
essentially	improbable	probability	stress
evidently	indicative	proposal	presume
frequently	inevitable	speculation	propose
generally	likely	suggestion	reckon
in fact	obvious	tendency	regard
in reality	possible	suspicion	guess
inevitably	probable	view	know
indeed	true	theory	seem
largely	questionable	**Epistemic Lexical verbs**	suggest
likely	speculative	appear	suspect
maybe	suggestive	argue	suppose
necessarily	sure	attest	tend
naturally	unlikely	assume	think
noticeably	well known	assure	infer
never		believe	

3.10.2. Classification of epistemic devices based on their expression of epistemic strength or commitment

Epistemic devices can be categorized in terms their strength of epistemic commitment, that is the degree of the speaker/writer's certainty or doubt. Researchers have established separate semantic categories, such as the following three categories (Holmes, 1988; McEnery and Kifle, 2002) into which different epistemic items are classified:

1. Certainty: the speaker asserts with certainty that the proposition is true.
    a. Certainly we need to learn from the past.
    b. Michael will succeed in all his endeavors.
    c. The author argues that the world is coming to an end in 2020.
2. Probability: the speaker asserts that the proposition is probably true.
    a. It appears that the house is broken.
    b. We guessed that it would cost about 100,000 dollars.
    c. The probability is that prices will rise rapidly.
3. Possibility: the speaker asserts that the proposition is possibly true.
    a. They might reveal the secret.
    b. There's a slight chance that he'll pass the exam.
    c. He can possibly finish the work by the deadline.

Below are the examples from (Thompson, 1996, p. 60):

a. He must have inspected the cottage. (high value)
b. They should be back by now. (median value)
c. He may be ill. (low value)

The value of epistemic modality indicates different degrees of certainty at three levels, and shows the distinction between certainty and uncertainty.

To the categories of certainty, probability, and possibility, Hyland and Milton (1997) have added two more categories: approximation (e.g., *about, approximately, almost)* and usuality (e.g., *always, often, usually*). The classification of the epistemic devices into these categories runs the risk of subjectivity and arbitrariness; however, it has still been useful for identifying, analyzing and comparing the epistemic commitment of writers and/or speakers (Halliday, 1994; Holmes, 1988; McEnery and Kifle, 2002; Oh, 2007).

The list of epistemic devices was then categorized within a continuum indicating their degrees of probability so that the differences along the degrees of epistemic commitment can be identified. Before this categorization process, previous degrees of epistemic probability continuums were evaluated and various categorizations of epistemic items were assessed. Various types of classifications were identified: such as the two-way classification (such as, downtoners and boosters by Rizomilioti, 2006; doubt and certainty by Biber et al., 1999; hedges and boosters by Hyland,1998); then a three-way classification: weak/low, medium/moderate and strong/high (by Hyland and Milton, 1997; McEnery and Kifle, 2002; Holmes, 1988; Halliday, 1994, 2004) ; a four way classification: strong, quasi-strong, medium, weak (by Huddleston and Pullum, 2002); and lastly a five-way classification: absolute certainty, high certainty, moderate certainty, low certainty and uncertainty (by Rubin, 2010).

A three-way classification is preferred in this study. Epistemic devices were classified in either of the strong, medium or weak categories based on their expression of the degrees of probability. Three-way "classification seems to be the most ideal scheme applied in many previous studies and it provides a much neater and a less fuzzy approach to the grouping of epistemic markers according to their epistemic strength (Ngula, 2015; p. 117)".

Some of the epistemic devices cannot be classified effectively in the two-way classification. Regarding the four-way classification by Huddleston and Pullum (2002), it is effective with adverbials, but it is not as effective with the other grammatical categories such as modal auxiliary verbs (Ngula, 2015). The five-way classification by Rubin's (2010) identifies the strongest category as *absolute certainty,* but epistemic modality is viewed as an expression of the degrees of probability on a continuum. In other words, it is a continuum expressing different levels of certainty and doubt. Absolute certainty indicates 100% certainty and this would "suggest that there is no epistemic modality at all (Ngula, 2015, p. 118).

To summarize, the three-way classification appears to be the most suitable type of framework for the present study. Thus the epistemic devices were classified into *strong, medium* and *weak* categories based on their degrees of probability on the continuum. For example, the verbs *suggest, indicate* and *show* are classified as expressing weak, medium and strong degrees of probability, respectively by (Biber, Conrad and Leech, 2002, p. 316).

Nuyts (2001, p. 22) emphasizes the point further by using *might, probably* and *will* in the following instances:

"-Tony *might* be in his office by now. (weak)

-Tony is *probably* in his office by now. (medium)

-Tony *will* be in his office by now. (strong), (Nuyts, 2001, p.22)"

Table 3. 3 demonstrates the classification of the complete list of epistemic devices (EDs) according to their expression of epistemic strength or commitment.

Table 3.3 shows the list of epistemic devices classified according to their epistemic strength.

Table 3.3. Epistemic Devices Grouped According to Their Degrees of Epistemic Strength/Commitment

Strong		**Medium**		**Weak**	
actually	inevitable	about	indicate	appear	opinion
assure	inevitably	a certain extent	indication	could	perhaps
attest	in fact	actually	infer	couldn't	possible
beyond doubt	in reality	almost	largely	danger	possibility
certain	know	apparent	likelihood	doubt (verb)	possibly
certainly	must	apparently	likely	doubt (noun)	propose
claim	necessarily	approximately	naturally	generally	seem
clear	obvious	argue	ostensibly	guess	speculate
clearly	obviously	arguably	presumably	hope	speculation
convince	of course	around	presume	look (as if)	speculative
convincing	show	assume	probable	look (as if)	suggest
definitely	sure	assumption	probability	look (like)	suggestion
doubtless	surely	belief	probably	may	suggestive
evidence	theory	believe	reckon	maybe	usually
evident	true	chance	should	might	view
evidently	unarguably	consider	shouldn't		
fact	undeniably	essentially	suppose		
frequently	unquestionably	estimate	tend		
idea	well-known	estimation	tendency		
indeed	will	expect	think		
	no doubt	explanation	unlikely		
	won't	fear	would		
		feel	wouldn't		
		improbable			

(adopted from Ngula, 2015)

The epistemic devices categorized under each degree of probability may not carry the exact same epistemic force; however it can safely be assumed that they are related in epistemic terms of indicating strong, medium and weak degrees of probability (Ngula, 2015).

3.10.3. The extraction and examination of epistemic devices in the databases

In order to extract epistemic uses in US-ARG, AELT and TR-ICLE databases, concordance search tool of the Ant Conc Program 3.5.0 was used. The concordance features of each epistemic device within the five grammatical categories (modal verbs, lexical verbs, adjectives, adverbs and nouns) were examined. Most of these linguistic devices in their contexts were identified to be carrying some other functions apart from epistemic meanings. For this reason, each concordance line were closely examined in each essay in order to distinguish epistemic uses from non-epistemic uses. The researcher eliminated the true epistemic occurrences from the non-epistemic ones in the argumentative essays in each of the three databases; however, another American rater- a native speaker- specializing in the field of linguistics, also evaluated the essays for a more reliable analysis. To this end, 20% percent of the data was analyzed by the second rater in order to detect true epistemic instances. Cohen's Kappa statistical method was used in this process. Cohen's kappa coefficient (κ) is a statistic that is used to measure inter-rater reliability for qualitative items. It is thought to be a more robust measure than simple percent agreement calculation, because κ takes into account the possibility of the agreement occurring by chance (Rubin, 2010).

Results of the analysis are summarized in Appendix F. R1 in Appendix F demonstrates the researcher's own evaluations and R2 shows the second rater's (American native speaker) evaluations of the epistemic occurrences. In the last columns of Appendix F, the Cohen's Kappa value between the R1 and R2 is given. As can be observed from Appendix F, the Cohen's Kappa values for US-ARG, AELT and TR-ICLE are 0.953, 0.924 and 0.942, respectively. This shows the high compatibility between the R1 and R2 evaluations. The lowest Cohen's Kappa values for the US-ARG, AELT and TR-ICLE are 0.8, 0.667 and 0.75, respectively. These values were generally obtained for the items occurring with lower frequencies. However, the Cohens' Kappa for even these items is higher than 0.70. This shows that there is a good agreement between the evaluations of R1 and R2 for these items.

Extracts (1) and (2) from the databases respectively indicate the epistemic and non-epistemic uses of the modal verb *could:*

1. Only our dreams *could* make this world better than ever. (AELT)

2. Before the invention of money people had been doing trading. For example a producer *could* trade his product with another product which be needed. (AELT)

According to Coates (1983), *could* in (1) indicates epistemic possibility meaning however in (2) it carries the root (non-epistemic) meaning of ability. Another modal verb expressing examples of of epistemic and non-epistemic meaning is *will.* In its epistemic meaning, *will* indicates prediction, however it is also used in the databases to demonstrate the writer's intention, which is non-epistemic. Extracts (3) and (4) exemplify the epistemic and non-epistemic meanings of the modal verb *will:*

3. If they, use most of it, they *will* probably create more excellent things. (AELT)

4. In this paper, we *will* discuss not only money is a good thing also it's a bad thing. (AELT)

Beyond the modal auxiliary verbs, similar cases were also observed with the other grammatical categories. For example, the lexical verbs were found to show several examples of non-epistemic cases. The lexical verb *appear,* in the extracts (5) and (6) show its epistemic and non-epistemic meanings in the databases:

5. The fears that many people, duped into believing they had a realistic chance of a large win, would spend more than they could afford, *appear* to be groundless. (NS)

6. Another supporters are adults who is think about our country going to bad situation cause of our enemies going to *appear*, so there can be a war in close time. (AELT)

Modal verbs seem to exhibit the most extensive range of non-epistemic meanings in the databases such as, ability, intention, obligation, root possibility and tentative wish, etc. The concordance outputs were also examined so that the striking co-occurrence patterns of epistemic items could be identified. It might be qualitatively interesting to report epistemic clustering, phraseological patterns and preferred lexical co-occurrences produced by both the native and non-native writers of English

3.10.4. Raw and normalized frequencies identified across the three databases

One of the crucial aims of this study is to identify the frequency distribution of epistemic cases. For this reason, the raw frequencies of epistemic cases in the essays written by the three groups of students were recorded. However, the databases used in this study were

not of the same size and length, therefore normed frequency counts were calculated instead of the raw frequencies. It has been explained by McEnery and Hardie (2012) that “a normed frequency helps us know how many times a word occurs per X words of running texts which represents the base of normalization. In order to derive normed frequencies, the raw frequency of a word in the corpus is taken and divided by the size of the corpus, and then the result is multiplied by the base of normalization (Ngula, 2015, p. 123)”.

Researchers analyzing “very large corpora such as the BNC, whose size is approximately a 100 million words, often set the base of normalization to per 1 million words of running texts, while those working with very small corpora of far less than a million words usually set it to per 1,000 words of running texts (Ngula, 2015, p. 124)” . Since the overall size of my database was 76,163 words, the base of normalization was set to per 10,000 words. Thus the normed frequencies of epistemic devices in my database were determined by using this formula. In the quantitative analysis conducted in this research, both the raw and normed frequencies of epistemic devices were reported.

CHAPTER 4

RESULTS AND DISCUSSION

4.1. Introduction

This chapter presents the results of the quantitative analyses. As can be seen in Figure 4.1 below, number of words in the US-ARG sub-corpus of LOCNESS was 150.591 (35%), the number of words in the database of Turkish students (AELT) was 76.163 words (18%), and the number of words in the Turkish component of ICLE (TR-ICLE) was 203.745 (47%) . AELT stands for the Anadolu English Language Teaching database. Since the three data sources were different in terms of size, it was statistically impossible to compare raw numbers. For this reason, the number of occurrences per 10.000 words were calculated. Findings of the study are presented in terms of normalized frequencies for each category and item.

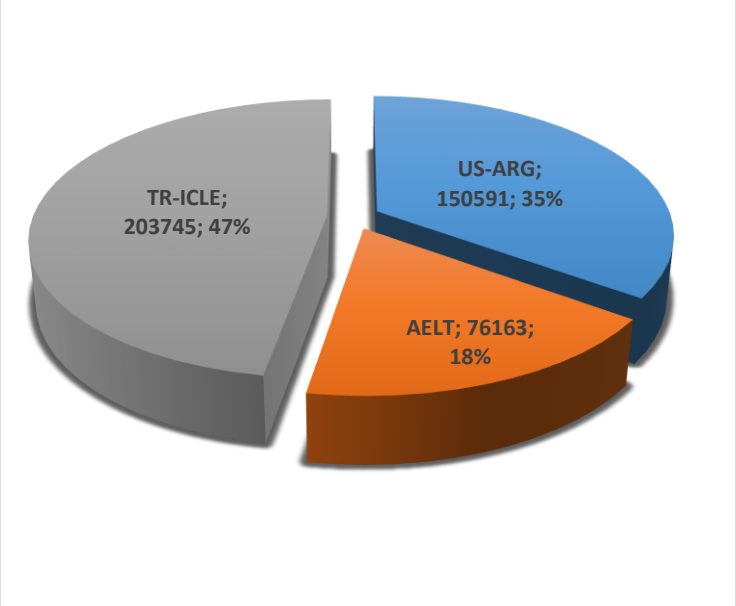


Figure 4.1. *Comparison of databases according to the number of words*

4.1.1. Overall frequency of grammatical categories

Overall, 183 distinct devices are included in this analysis (for a complete list of epistemic devices in terms of grammatical categories, see Appendix C and Appendix D). Occurrences of these markers have been counted in the US-ARG section of LOCNESS, the database of Turkish ELT students' argumentative essays (AELT), and the database of other Turkish students' argumentative essays in English (TR-ICLE). Results of these counts across the five

grammatical categories are presented in Table 4.1 below. Due to the fact that the three data sources differ in size, it is not statistically possible to compare raw numbers. Therefore, the number of occurrences per 10,000 words is given in Table 4.1 below:

Table 4.1. *Frequency Distribution of Epistemic Devices across Grammatical Categories (per 10,000 words)*

Categories of Items	US-ARG	AELT	TR-ICLE
Modal Verbs	98.08	57.25	61.11
Lexical Verbs	54.32	62.37	40.05
Adverbs	32.67	31.91	31.26
Nouns	32.34	17.33	21.60
Adjectives	17.13	10.11	10.41
Total	234.54	178.96	164.42

According to Table 4.1, epistemic devices regardless of their categories, occur 234.54 times per 10,000 words in the LOCNESS-USARG database (by the American students); 178.96 times in the AELT database (by the Turkish ELT Department students); and 164.42 times in the TR-ICLE database (by the other Turkish students). This reveals that the Turkish students in both AELT and TR-ICLE databases use less number of epistemic devices compared to the American students in the LOCNESS-USARG database. If we compare the AELT and TR-ICLE databases, students in the AELT database use slightly more number of epistemic devices in total than their counterparts in the TR-ICLE database. When we look at the categories of items, modal verbs are the most commonly utilized epistemic devices by the American students with a frequency of 98.08 per 10.000 words. Lexical verbs are the most preferred epistemic devices by the Turkish students in the AELT database, with a frequency of 62.37 per 10.000 words. Modal verbs are again the most frequently used category by the Turkish students in the TR-ICLE database, with a frequency of 61.11 per 10.000 words. Modal verbs are the most frequently employed epistemic devices by the US-ARG and TR-ICLE students in their expression of epistemic modality. Lexical verbs, on the other hand, are the most preferred epistemic devices by the Turkish students in the AELT database. While the Turkish students in the AELT database use lexical verbs with a frequency of 62.37 per 10.000 words, their American counterparts use them with a frequency of 54.32 and the other Turkish students in TR-ICLE use epistemic lexical verbs with a frequency of 40.05 per 10.000 words. Significant difference is observed among the three groups in terms of their use of lexical verbs as epistemic devices. As for the use of adverbs as epistemic devices, the American students (US-ARG) utilize adverbs more frequently as epistemic devices compared to the Turkish students in both AELT and TR-ICLE databases. The frequency of epistemic adverbs in US-ARG is 30.68 per 10.000 words; 31.26 in TR-ICLE; and 31.91 in the AELT database. We can observe that the Turkish students are similar in terms of their frequency of use of adverbs as epistemic

devices, but the American students use more number of adverbs as epistemic devices compared to their Turkish counterparts. As for the use of nouns as epistemic devices, US-ARG has (32.34); AELT (17.33) and the TR-ICLE (21.60) frequency per 10,000 words. While the Turkish students are similar in their use of nouns as epistemic devices, the American students use more number of nouns as epistemic devices in their argumentative writing. In terms of their use of adjectives as epistemic devices, the American students use more number of epistemic adjectives with a frequency of 17.13 per 10.000 words compared to their Turkish counterparts, with 10.11 in the AELT and 10.41 in the TR-ICLE database.

Figure 4.2 shows the frequency distribution of epistemic items across the five grammatical categories among the American native and Turkish non-native students. Figure 4.2 summarizes the results presented in Table 4.1.

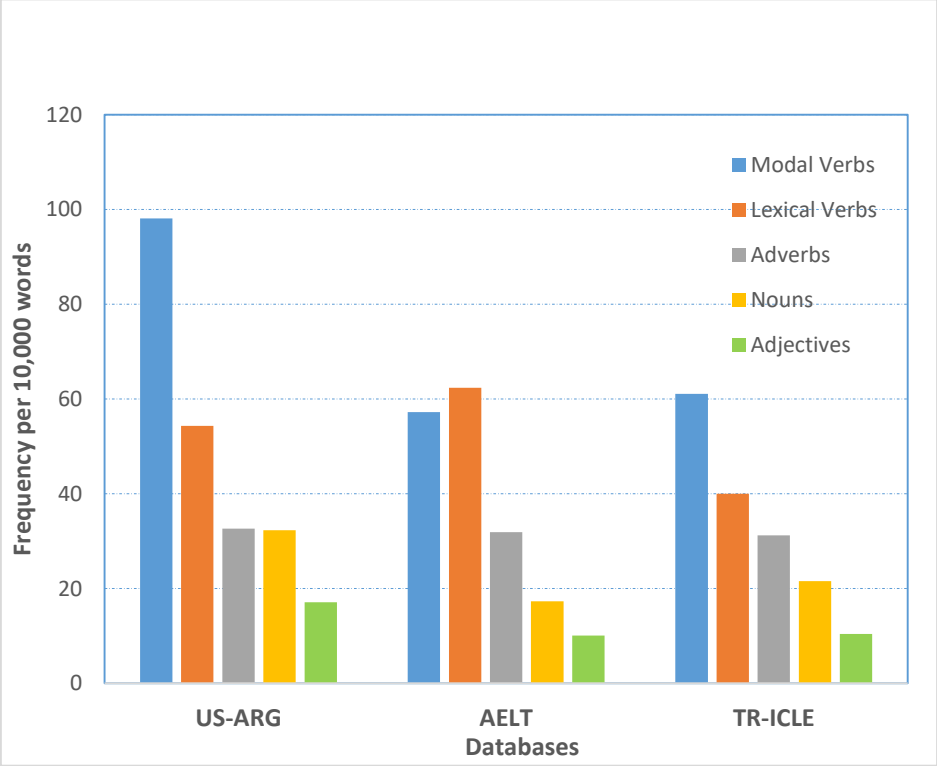


Figure 4.2. *Frequency Distribution of Epistemic Items Across the Grammatical Categories*

According to the Figure 4.2, the more frequent use of modal verbs as epistemic devices by the American students compared to the Turkish students is striking. It is also striking that the Turkish students in the AELT database used epistemic lexical verbs most frequently among all the other grammatical categories. In terms of the use of adverbs, nouns and adjectives, the AELT and the TR-ICLE databases are similar in terms of frequency. However, these three grammatical categories are more frequently used in the US-ARG database by the American students compared to the AELT and the TR-ICLE databases by the Turkish students.

4.1.2. Log-likelihood tests

So far, the similarities and differences of epistemic devices between and among the three groups were examined in terms of frequencies. The frequencies of each item were calculated and interpreted through the analysis of occurrences per 10,000 words for standardization.

In addition, Log-likelihood calculator (http://ucrel.lancs.ac.uk/llwizard.html) was used in order to compare the relative frequencies between and among the three groups of students and to find out whether there is significant difference in their use of these epistemic devices.

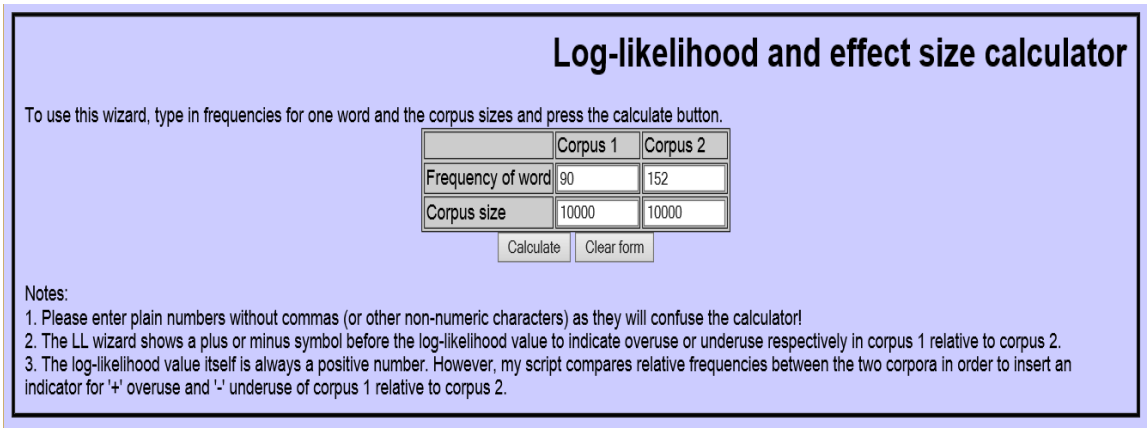


Figure 4.3. *Screenshot of Log-likelihood Calculator Home Screen*

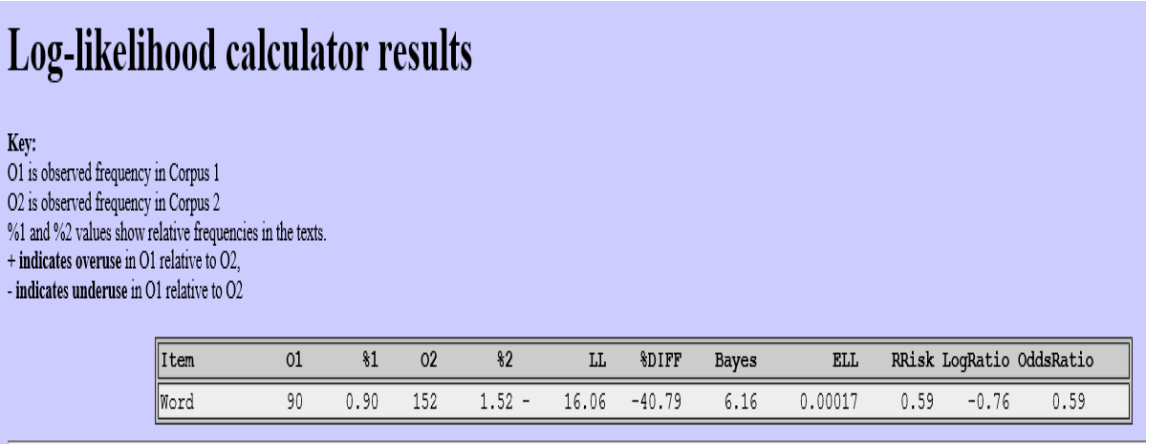


Figure 4.4. *Log-Likelihood Calculator Results*

Results of the Log-likelihood tests are presented in Tables 4.2-4.4. Table 4.2 shows the comparable log-likelihood results for the AELT and US-ARG databases in terms of the categories of epistemic devices.

Table 4.2. *Comparable Log-likelihood Calculator Results for AELT and US-ARG databases*

Categories of Items	AELT	US-ARG	Log-likelihood	Sig.		
Modal Verbs	57.25	98.08	**10.86**	**0.0010**	***	-
Lexical Verbs	62.37	54.32	0.56	0.456		+
Adverbs	31.91	32.67	0.01	0.924		-
Nouns	17.33	32.34	**4.61**	**0.032**	*	-
Adjectives	10.11	17.13	1.83	0.176		-
Overall	178.96	234.54	**7.49**	0.006	**	-

As can be observed from Table 4.2, there is a significant difference between the AELT and US-ARG databases in their frequency of use of modal verbs as epistemic devices. Modal verbs occur 57.25 times per 10.000 words in the AELT database; whereas they occur 98.08 times in the US-ARG by American students, a difference which is statistically significant (LL=10.86) at the $p<0.001$ level. This shows an obvious underuse of modal verbs as epistemic devices by the Turkish students in the AELT database. Another significant difference is observed in the case of nouns. Nouns as epistemic devices (EDs) occur 17.33 times per 10.000 words in AELT; whereas they occur 32.34 times in the US-ARG database, a difference which is statistically significant (LL=4.61) at the $p<0.05$ level. This also shows a significant underuse of nouns as epistemic devices by the Turkish students in the AELT database. Nouns as epistemic devices are significantly more frequent in the US-ARG database compared to their frequency of occurrence in AELT by the Turkish ELT department students. Concerning the grammatical categories of lexical verbs, adverbs and adjectives, statistically no significant difference is found between the two databases.

Table 4.3 shows the comparable log-likelihood results for the AELT and TR-ICLE databases in terms of the categories of epistemic devices.

Table 4.3. *Comparable Log-likelihood Calculator Results for AELT and TR-ICLE databases*

Categories of Items	AELT	TR-ICLE	Log-likelihood	Sig.		
Modal Verbs	57.25	61.11	0.13	0.7227		-
Lexical Verbs	62.37	40.05	**4.90**	**0.027**	*	+
Adverbs	31.91	31.26	0.01	0.936		+
Nouns	17.33	21.60	0.47	0.494		-
Adjectives	10.11	10.41	0.00	0.948		-
Overall	178.96	164.42	0.62	0.433		+

As can be observed from Table 4.3, there is a significant difference between the AELT and TR-ICLE databases in their frequency of use of lexical verbs as epistemic devices. Lexical verbs occur 62.37 times per 10.000 words in the AELT database; whereas they occur 40.05 times in TR-ICLE by the other Turkish students, a difference which is statistically significant (LL= 4.90) at the $p<0.05$ level. This shows a clear underuse of epistemic lexical verbs by the Turkish students in the TR-ICLE database. Thus, the frequency of lexical verbs as epistemic devices are significantly higher in the AELT database compared to their frequency in TR-ICLE. Concerning the other grammatical categories -modal verbs, adverbs, nouns and adjectives- statistically no significant difference is found between the two databases. This might indicate that the Turkish students in both AELT and TR-ICLE databases are similar in terms of their frequency of use of modal verbs, adverbs, nouns and adjectives as epistemic devices.

Table 4.4 shows the comparable log-likelihood results for the TR-ICLE and US-ARG databases in terms of the categories of epistemic devices.

Table 4.4. *Comparable Log-likelihood Calculator Results for TR-ICLE and US-ARG Databases*

Categories of Items		**TR-ICLE**	**US-ARG**	**Log-likelihood**	**Sig.**	
Modal Verbs	61.11	98.08	**8.67**	**0.0032**	**	-
Lexical Verbs	40.05	54.32	2.17	0.141		-
Adverbs	31.26	32.67	0.03	0.860		-
Nouns	21.60	32.34	2.15	0.142		-
Adjectives	10.41	17.13	1.66	0.198		-
Total	164.42	234.54	**12.39**	**0.000**	***	-

Table 4.4 indicates that there is a significant difference between the TR-ICLE and US-ARG databases in their frequency of use of modal verbs as epistemic devices. Modal verbs occur 61.11 times per 10.000 words in the TR-ICLE database; whereas they occur 98.08 times in US-ARG by the American students, a difference which is statistically significant (LL= 8.67) at the $p<0.01$ level. This shows a significant underuse of epistemic modals by the Turkish students in the TR-ICLE database. In other words, modal verbs as epistemic devices are significantly more frequent in the US-ARG database compared to their frequency in TR-ICLE. Concerning the other grammatical categories- lexical verbs, adverbs, nouns and adjectives- statistically no significant difference is found in terms of frequency between the two databases. To sum up, the log-likelihood tests indicate that there is a significant difference between the Turkish students (in both AELT and TR-ICLE databases) and the American students in US-ARG in terms of their frequency of use of modal verbs as epistemic devices in their argumentative writing. The American students seem to use modal verbs as EDs significantly more frequently than the Turkish students.

4.1.3. Top 15 epistemic devices for the three databases

Table 4.5 presents the top 15 epistemic devices (EDs) regardless of their grammatical categories in each of the three databases. *(No)* refers to *number of occurrence* of each item again*:*

Table 4.5. *Top 15 Epistemic Devices for the three databases*

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	would	38.51	580	think	39.91	304	will	33.67	686
2	will	26.30	396	will	23.11	176	may	13.06	266
3	think	15.67	236	know	11.82	90	think	12.81	261
4	could	14.61	220	may	11.16	85	of course	6.72	137
5	may	11.16	168	would	8.67	66	know	6.58	134
6	seem	6.24	94	opinion	7.75	59	believe	5.55	113
7	evidence	5.25	79	of course	6.17	47	would	5.06	103
8	believe	5.11	77	wouldn't	6.04	46	in fact	4.17	85
9	fact	5.11	77	almost	4.99	38	maybe	3.83	78
10	feel	4.98	75	actually	4.73	36	idea	3.73	76
11	argue	4.45	67	maybe	4.73	36	view	3.73	76
12	consider	4.45	67	could	4.60	35	seem	3.44	70
13	claim	4.32	65	true	4.60	35	fact	3.44	70
14	idea	4.12	62	believe	4.20	32	opinion	3.44	70
15	certain	4.12	62	idea	3.15	24	almost	2.65	54

As we can observe from Table 4.5, *would* occurs the most frequent epistemic item in US-ARG, ranking on top with a frequency of 38.51 per 10.000 words. *Think* occurs on top in AELT with a frequency of 39.91 per 10.000 and *will* comes on top in TR-ICLE, occurring 33.67 times per 10.000 words. Strikingly, *think* is among the top three epistemic items in the three databases. The case of *know* seems interesting, because it is the third most frequent item in the AELT database and the fifth most frequent one in TR-ICLE. However, it is not listed among the top 15 epistemic devices in the US-ARG database. The case of *feel* is interesting again. *Feel* occurs 4.98 times per 10.000 words in the US-ARG, however it is not listed among the top 15 epistemic devices in both AELT and TR-ICLE. The epistemic adjective *certain* occurs 4.12 times per 10.000 in US-ARG; however it is also not listed among the top 15 EDs in both AELT and TR-ICLE. The epistemic adverb *maybe* is among the top 15 EDs in both AELT and TR-ICLE, however it is not found among the top 15 EDs in US-ARG by American students. In the case of the epistemic adjective (EADJ) *true,* it occurs among the top 15 EDs in both AELT and TR-ICLE, however it is also not detected among the top 15 EDs in the US-ARG database. Another interesting finding concerns the epistemic lexical verbs (ELVs) *argue, consider* and *claim.* These lexical verbs are among the top 15 EDs in the US-ARG database; however they

are not listed among the top 15 EDs in both AELT and TR-ICLE. In the case of the epistemic noun (EN) *fact,* it is among the top 15 EDs in both US-ARG and TR-ICLE but it is not detected among the top 15 EDs in the AELT database. In the case of the EN *opinion*, on the other hand, it is found among the top 15 EDs in both AELT and TR-ICLE by Turkish students, but it is not detected among the top 15 EDs in the US-ARG database by American students. Another striking finding concerns the EN *evidence.* Though *evidence* is listed among the top 15 EDs in US-ARG, it is not found among the top 15 EDs in both AELT and TR-ICLE.

As for the most frequent epistemic devices (EDs) in each database, the top five epistemic devices in US-ARG are *would, will, think, could* and *may*, respectively. Out of these five most frequent epistemic devices, four of them are the modal verbs and only one of them is a lexical verb. This shows that the American students prefer to use modal verbs in their argumentative writing more frequently than the all other grammatical categories. When we observe the five most frequent devices in AELT, they are *think, will, know, may* and *would,* respectively. Out of these five most frequent epistemic devices, two of them are lexical verbs and three of them are modal verbs. As for the five most frequent epistemic devices in TR-ICLE, they are *will, may, think, of course* and *know.* Out of these five most frequent epistemic items, two of them are modals, the other two are lexical verbs, and one is an adverb.

4.1.4. Overall: Variation in terms of epistemic strength

This study also analyses the degrees of epistemic strength/commitment in terms of *strong, medium* and *weak* categories as another dimension across the three databases. Specifically, this study investigates how the various degrees of epistemic strength are realized through the five grammatical categories. First, the overall picture and the frequency distribution pattern across the three databases are presented. *Strong* epistemic devices refer to items such as *certainly, obviously, fact, will*, *of course,* etc. *Strong* epistemic devices indicare a high degree of commitment in the truth value of the proposition made by the writers. These devices are called in the modality literature as ‘boosters’ (Rizomilioti, 2006; Hyland, 1998). *Weak* epistemic devices consist of items such as *may, might, possibly* and *perhaps.* These devices are used to reduce the degree of confidence assigned to a particular proposition. The term ‘hedges’ is given to weak epistemic devices (Hyland, 1998; Salager-Meyer, 1994). The *medium* category of epistemic devices, on the other hand, refer to the ones lying somewhere between *strong* and *weak.* Instances of such devices include *would, probably* and *tendency,* etc.

The analysis carried out for this study in the three databases reveal some patterns of epistemic uses according to epistemic strength Figure 4.5 and Table 4.6 present the frequency of the levels of epistemic strength per 10.000 words in the three databases (See Appendix E for the results of the epistemic strength analyses in detail).

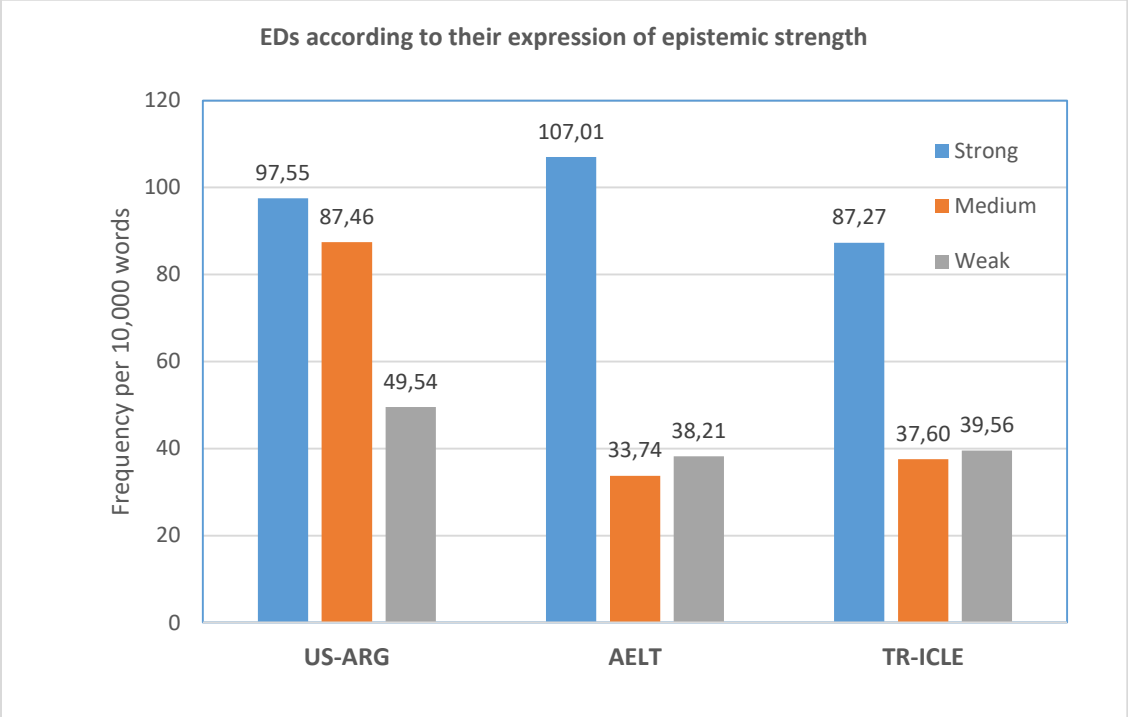


Figure 4.5. *Frequency Distribution of the Three Levels of EDs per 10,000 Words across the Three Databases*

Table 4.6. *Frequency Distribution of the Three Levels of EDs per 10,000 Words across the Three Databases*

Strength of EDs	US-ARG	AELT	TR-ICLE
		f/10,000	
Strong	97.55	107.01	87.27
Medium	87.46	33.74	37.60
Weak	49.54	38.21	39.56
Total	234.54	178.96	164.42

According to *Figure 4.*5 and *Table 4.*6, students in all three databases have the tendency to utilize more number of strong epistemic items than they use medium and weak epistemic ones. The Turkish ELT Department students in the AELT database tend to utilize strong epistemic forms in higher frequency than the other two databases. Strong epistemic forms occur 107.01 times in AELT, 97.55 times in US-ARG and 82.27 times in the TR-ICLE database. When we look at the frequency distribution of medium epistemic forms, these forms are utilized in higher frequency by the American students in the US-ARG database than in AELT and TR-ICLE. Medium epistemic forms occur 87.46 times in US-ARG, 37.60 times in TR-ICLE and 33.74 times in the AELT database. In the frequency distribution of medium epistemic forms per 10.000 words, it is striking that the American students utilize these forms in significantly

higher frequency than the Turkish students in both AELT and TR-ICLE databases. The frequency distribution of medium epistemic forms are similar in AELT (33.74) and TR-ICLE (37.60), though they occur in slightly higher frequency in the TR-ICLE database. Lastly, when we look at the overall frequency distribution of weak epistemic devices, we can observe that the American students in US-ARG utilize these forms in higher frequency than the Turkish students in both AELT and TR-ICLE databases. Weak epistemic devices occur 49.54 times in US-ARG, 38.21 in AELT and 39.56 in the TR-ICLE database. This shows that the Turkish students are similar in terms of their frequency of use of weak epistemic devices However, the American students use weak forms more frequently in their argumentative writing compared to the Turkish students in both databases.

In order to find out whether statistically significant differences are observed between and among the three databases in terms of the epistemic strength of the devices that are utilized, the Log-likelihood tests are carried out. Table 4.7 below demonstrates the log-likelihood results for the epistemic strength of the devices regardless of their grammatical categories for the AELT and US-ARG databases being compared.

Table 4. 7. *Strength of Epistemic Devices (Regardless of Grammatical Categories) per 10.000 Words for AELT and US-ARG Databases*

Strength of EDs	AELT	US-ARG	Log-likelihood	Sig.		
Strong	107.01	97.55	0.44	0.5083		+
Medium	33.74	87.46	**24.65**	**0.000**	***	-
Weak	38.21	49.54	1.47	0.226		-

According to Table 4.7, a statistically significant difference is observed between AELT and US-ARG in terms of their use of medium level EDs. The medium level EDs occur 33.74 times in AELT; whereas they occur 87.46 times in US-ARG, a difference which is statistically significant (LL =24.65) at the $p < 0.001$ level. This indicates that the American students in US-ARG utilize medium level EDs with statistically higher frequency than the Turkish students in the AELT database. In terms of the use of strong level EDs, statistically no significant difference is found between the two databases, though the strong level EDs are utilized with slightly higher frequency in AELT (107.01) than in US-ARG (97.55). Lastly, as for the use of weak level EDs, there is again statistically no significant difference between the two groups, though the weak level EDs occur with higher frequency in US-ARG (49.54) than in the AELT database (38.21). Table 4.8 below shows the log-likelihood results for the epistemic strength of the devices (regardless of their grammatical categories) for the AELT and TR-ICLE databases being compared.

Table 4. 8. *Strength of Epistemic Devices (Regardless of Grammatical Categories) Per 10.000 Words for AELT and TR-ICLE Databases*

Strength of EDs	AELT	TR-ICLE	Log-likelihood	Sig.	
Strong	107.01	87.27	2.01	0.1563	+
Medium	33.74	37.60	0.21	0.648	-
Weak	38.21	39.56	0.02	0.878	-

As we can observe from Table 4.8, there is statistically no significant difference between the two groups in terms of their use of the three level of EDs. This indicates that the Turkish students in both databases are similar in terms of their use of strong, medium and weak level EDs. However, there are still some slight differences between the two groups. For instance, the strong level EDs occur with higher frequency in AELT (107.01) than in TR-ICLE (87.27). Medium level EDs, on the other hand, occur with slightly higher frequency in TR-ICLE (37.60) than in AELT (33.74). Lastly, in terms of their frequency of use of weak level EDs, both groups seem to be very similar. EDs expressing weak level of epistemic strength occur 38.21 times per 10.000 words in AELT; whereas they occur 39.56 times in TR-ICLE. Table 4.9 below shows the log-likelihood results for the epistemic strength of the devices (regardless of their grammatical categories) for the TR-ICLE and US-ARG databases being compared.

Table 4. 9. *Strength of Epistemic Devices (Regardless of Grammatical Categories) Per 10.000 Words for TR-ICLE and US-ARG Databases*

Strength of EDs	TR-ICLE	US-ARG	Log-likelihood	Sig.		
Strong	87.27	97.55	0.57	0.4493		-
Medium	37.60	87.46	**20.44**	**0.000**	***	-
Weak	39.56	49.54	1.12	0.290		-

Table 4.9 shows that there is statistically significant difference between TR-ICLE and US-ARG in terms of their use of medium level EDs. The medium level EDs occur 37.60 times in TR-ICLE; whereas they occur 87.46 times in US-ARG, a difference that is statistically significant (LL=20.44) at the $p < 0.001$ level. This indicates that the American students in US-ARG utilize medium level EDs with statistically higher frequency than the Turkish students in the TR-ICLE database. In terms of the use of strong level EDs, there is statistically no significant difference between the two databases, though the strong level EDs are utilized with slightly higher frequency in US-ARG (97.55) than in TR-ICLE (87.27). Lastly, as for the use of weak level EDs, there is again statistically no significant difference between the two groups, though the weak level EDs occur with higher frequency in US-ARG (49.54) than in the TR-ICLE database (39.56).

4.1.5. The epistemic devices that are used and not used in the three databases

Table 4.10 demonstrates the EDs that occur and do not occur in the three databases, and the ones that occur in one database but do not occur in the other two, and also the ones that occur in the two databases but do not occur in one of them. To mention in detail, in the first column of Table 4.6 below, the EDs used in neither of the three databases are listed. In the second column, EDs that are used in US-ARG but not used in AELT are demonstrated. In the third column of the list, EDs that are used in US-ARG but not used in either TR-ICLE or AELT are demonstrated. Lastly, in the fourth column, EDs that are used in TR-ICLE and AELT but not used in US-ARG are listed. These EDs are all taken from the list (consisting of 183 epistemic items) created for this study.

Table 4.10. *The Epistemic Devices that are used and not used in the three databases*

EDs used in neither of the three databases	EDs used in US-ARG but not used in AELT	EDs used in TR-ICLE but not used in AELT	EDs used in US- ARG but not used in either TR-ICLE or AELT	EDs used in TR-ICLE and AELT but not used in US-ARG
apparent	apparently	assumption	apparently	doubtless
attest	arguably	certainly	arguably	largely
estimate	assumption	convince	assure	probability
estimation	assure	convincing	evidently	quite
improbable	certainly	evident	indication	speculate
ostensibly	convince	fear	obviously	speculative
presumably	convincing	frequently	surely	suppose
presume	evident	indicate	unlikely	
propose	evidently	infer	well known	
reckon	fear	largely		
speculation	frequently	likelihood		
suggestive	indicate	perhaps		
unarguably	indication	possibility		
undeniably	infer	possibly		
unlikely	likelihood	probability		
unquestionably	obviously	probably		
	perhaps	quite		
	possibly	speculate		
	suggestion	speculative		
	surely	suggestion		
	tendency	suppose		
	unlikely	tendency		
	well known			

4.2. Epistemic Devices: Modal Verbs

4.2.1. Frequency of epistemic modal verbs

In Table 4.11 below, the most frequently occurring epistemic modal verbs (EMVs) are presented:

Table 4.11. *Top 10 Epistemic Modal Verbs (EMVs) for the three databases*

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	would	38.51	580	will	23.11	176	will	33.67	686
2	will	26.30	396	may	11.16	85	may	13.06	266
3	could	14.61	220	would	8.67	66	would	5.06	103
4	may	11.16	168	wouldn't	6.04	46	might	2.40	49
5	wouldn't	3.19	48	could	4.60	35	wouldn't	2.16	44
6	might	2.46	37	couldn't	1.84	14	could	2.06	42
7	should	0.86	13	might	1.18	9	should	1.37	28
8	must	0.73	11	must	0.26	2	must	0.93	19
9	shouldn't	0.13	2	should	0.26	2	couldn't	0.34	7
10	couldn't	0.13	2	shouldn't	0.13	1	shouldn't	0.05	1

As for the frequency distribution of modal verbs (per 10.000 words) among the three groups, Table 4.11 above summarizes the top 10 EMVs used in the three databases. According to Table 4.8, *'would'* is the most frequently utilized modal verb by the American students. *Would* occurs 38.51 times per 10.000 words in the US-ARG database. (No) refers to the number of epistemic occurrence of each item and it presents the raw frequencies. For instance, *would* in total is used in 580 epistemic occurrences in the US-ARG. It seems remarkable that *will* is the most frequently utilized modal verb in both TR-ICLE (33.67) and AELT (23.11). However, in the US-ARG, *will* is the second most frequent item occurring 26.30 times per 10.000. As for the epistemic modal verb *may,* it is the second most frequent item in both TR-ICLE (13.06) and AELT (11.16). It is remarkable that the top three epistemic modal verbs are *will, may* and *would*, respectively in both TR-ICLE and AELT databases, whereas *would, will* and *could* are the most preferred modals, respectively by the American students in the US-ARG database. As for the modal verb *could,* it is more frequently used in its epistemic sense by the American students compared to the use of *could* by the Turkish students. Results of the qualitative analysis show that the Turkish group used *could* more frequently in its dynamic, ability meaning rather than the epistemic meaning. Another interesting finding concerns the use of *'might'* in terms of its frequency of use. *Might* is the sixth most frequent item in US-ARG, occurring 2.46 times per 10,000 words; similarly, it is the seventh most frequent item in AELT with a frequency of 1.18 per 10.000. However, it is the fourth most frequent item in TR-ICLE with a frequency

of 2.40 per 10.000 words. The Turkish students in the TR-ICLE database seem to use *might* more frequently than the students in both US-ARG (American students) and the AELT (Turkish ELT students studying at Anadolu University). As for the negative forms of the modals such as *wouldn't, couldn't* and *shouldn't,* they are used in lower frequencies in the three databases.

Another remarkable finding concerns the use of *'should'* and *'must'* by the three groups of students. Both the American students and the Turkish students mostly preferred to use *'must'* with its deontic rather than epistemic meaning. *Must* is the eighth most commonly used modal verb in its epistemic meaning by the three groups. The same tendency is observed with the modal verb *'should'.* That is, both the American students and the Turkish students used *'should'* more frequently with its deontic rather than epistemic meaning. See the extracts below:

- Norms are usually classified as a standard of conduct or behavior that *should* or *must* be followed. ***(deontic)*** *(NS)*
- When thinking about the selfishness of suicide, often the person really *must* be selfish to receive attention ***(epistemic)*** *(NS)*
- If a criminal is well educated and could function in one of the professions, then his crimes *must* earn more. ***(epistemic)*** *(NS)*
- Of course we must spend time and take responsibility to achieve anything in life but, we need to know how to balance work and enjoy. ***(deontic)*** *(NNS)*
- Children *should* educated by their parents for using both the technology and imagination in balance. ***(deontic)*** *(NNS)*
- The people *must* understand that money can cause great damage. ***(deontic)*** (*NNS)*
- If you think money is so important, then it *should* be serving you. ***(epistemic)*** *(NNS)*

4.2.2. The commonly used epistemic modal verbs

Figure 4.6 shows the frequencies of the top 5 epistemic modal verbs (EMVs) used by the American students in the US-ARG database of the LOCNESS corpus.

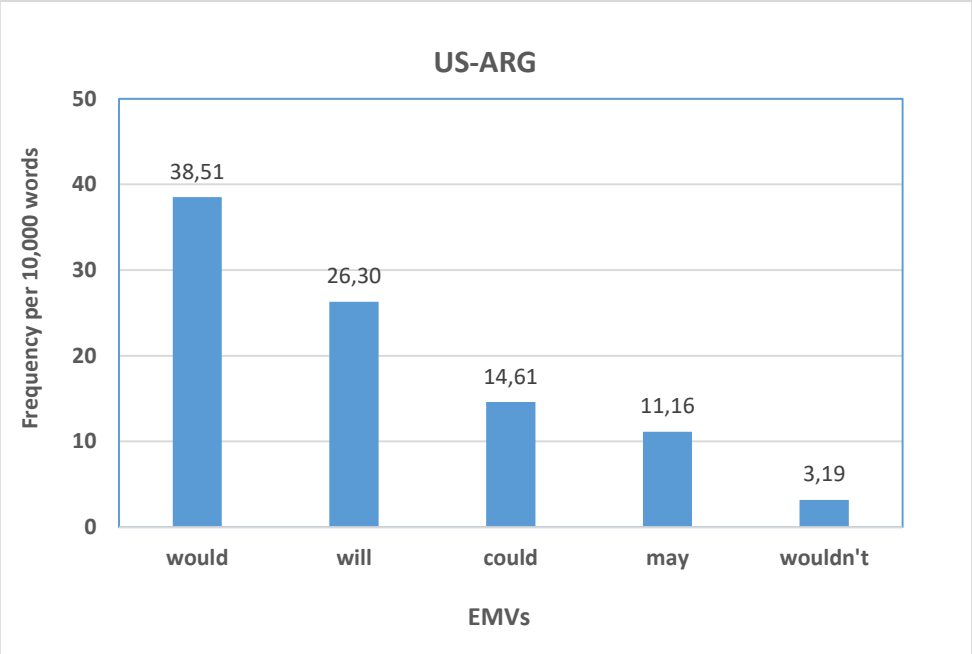


Figure 4. 6. *Top Five EMVs in US-ARG*

According to Figure 4. 6, the most frequent 5 epistemic modals (per 10.000 words) in US-ARG are *would, will, could, may* and *wouldn't*, respectively. Figure 4. 7 shows the frequencies of the top 5 epistemic modal verbs used by the Turkish English Language Teaching (ELT) Department students in the AELT database.

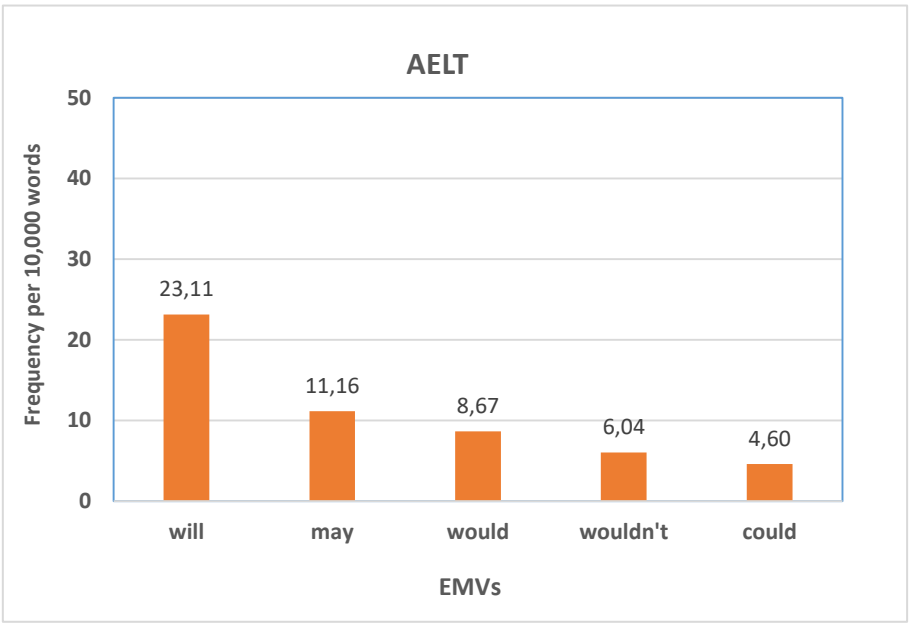


Figure 4. 7. *Top five EMVs in AELT*

According to Figure 4. 7, the most frequent 5 epistemic modals (per 10.000 words) in the AELT database are *will, may, would, wouldn't* and *could,* respectively. Figure 4. 8 shows the frequencies of the top 5 epistemic modal verbs used by the Turkish students in the TR-ICLE component of the ICLE corpus.

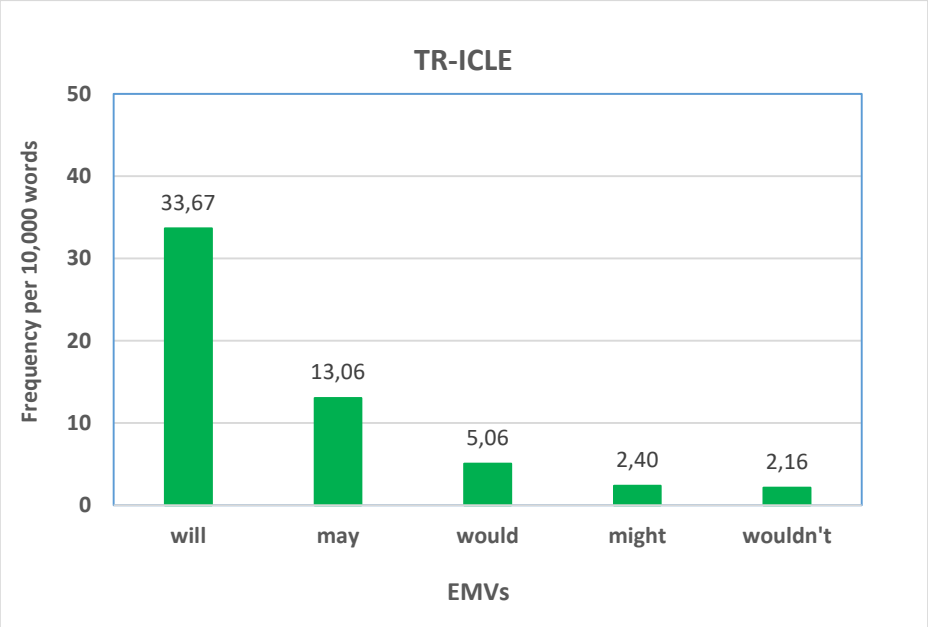


Figure 4. 8. *Top five EMVs in TR-ICLE*

According to Figure 4.8, the most frequent 5 epistemic modals (per 10.000 words) in TR-ICLE are *will, may, would, might* and *wouldn't*, respectively.

4.2.3. The elimination of true epistemic devices from the non-epistemic ones

In order to isolate true EDs from the non-epistemic ones, the concordance output was subjected to a qualitative analysis such as *will* as in 1) which is used as a noun instead of a modal, or *could* in 2) which expresses ability instead of epistemic meaning, or *must* in 3) which is used as a noun instead of a modal verb:

1. Second fundemental of dreaming and imagination; we need to be secure and healthy. We can not expect someone to have a *will*, or any for that matter, imagination if they are strugling to stay alive. (AELT)

2. Women have no importance in some countries. For instance, until a few years ago, a father of a girls let a man get married with his daughter if the *could* pay the money that the father wanted. (TR-ICLE)

3. To begin, people shouldn't let science and technology get in the way of their lives. Of course technology is a *must* in the century we live in, but too much of it can be harmful in several ways. (AELT)

After the elimination of the true EDs from the non-epistemic ones, it is noticeable that many of the modals show a high degree of epistemic use in each of the three databases. Such is the case of *could, may, might, will* and *would,* as illustrated in the following extracts:

4. All of the things presented here *could* make for an effective argument against continuing genetic research. It *would* show how genetic research and its application has been harmful in the past, how it *could* have harmful consequences if it continued, and it refutes arguments for genetic research. (USARG)
5. Even if we are religious people, and believe in life after death, we prefer not to take unnecessary risks, and *would* probably give everything for a few more moments in this world. But sometimes extreme situations could make us long for death. (TR-ICLE)
6. This artificial world *may* provide all of us a very easy and comfortable life being created by science, technology and industrialization. (AELT)
7. Improvement of technology science and industrialization *might* seem as a good thing but it leads us be less creative and imaginative. (AELT)
8. The learning of the computers begin at a very early ages. Even the pre-school children begin to learn how to use it. It is seen that this learning process *will* continue in all our lives as the computers are developed day by day. (TR-ICLE)

According to Collins (2009, p. 107), the epistemic use of the modal *could* can be described as in the following: "*could* appears to be undergoing a similar semantic development, with a weak epistemic use evolving from the unreal use via bleaching of irrealis meaning, and subsequent shedding of its tentativeness marking". Thus, *could* in (4) indicates the potential dangers of genetic research. In this case, *could* also indicates a hypothetical situation providing the conditions stated later, i.e *"if it continued,…"*

4.2.4. Typical cases of epistemic modal verbs in the three databases

In this section, the qualitative analysis of the epistemic modal verbs occurring in the three databases are examined. The notable uses, different combinations and patterns of these epistemic modal verbs are analyzed with the extracts taken from each of the three databases. Then the similarities and differences of use of these items are discussed. The epistemic functions of modal verbs are discussed by several researchers within the domain of modality literature. For instance, Quirk et al. (1985) defines the epistemic meaning of modal auxiliaries are as in the following:

- **Must:** expresses a conclusion on the basis of available evidence.
- **May/Might:** denotes the possibility of a proposition being or becoming true, indicates actual possibility.
- **Could:** expresses the potential possibility.
- **Should:** the epistemic meaning of *should* is prediction.
- **Will/Would:** denotes a high degree of confidence in what we guess to be true.

4.2.4.1. The case of 'may' and 'might'

Writers seek to mitigate their propositions by the epistemic use of '*may'*. The use of '*may'* conveys lack of precision and a low degree of commitment towards the information being stated. It helps writers protect their image by reducing imposition on the readers or listeners. When the writers use it effectively, their statements are perceived as possible rather than factual. Similarly, epistemic *might* shows a lower degree of certainty compared to *may*. *Might* also indicates possibility, however "a little less certainty about the possibility". (Biber, 1999), (Palmer, 2001, p. 58). Mindt (1995) also states that *might* has only one modal meaning, which is possibility. Mindt's viewpoint is shared by Palmer (1990). According to Palmer (1990), *might* has the same functions as *may* in terms of epistemic modality, however *might* indicates a little less certainty about the possibility from the writer's or speaker's viewpoint. Collins (2009) states that *might* is far more commonly used in spoken rather than written language, while *may* is the most utilized modal for marking epistemic possibility in written language. The epistemic uses of *may* and *might* by the American native students in US-ARG and the Turkish non-native students in both AELT and TR-ICLE databases are presented as in the following.

The Use of 'May' by the American Native Students in US-ARG

Writers seek to mitigate their propositions by the epistemic use of '*may'*. The use of '*may'* conveys lack of precision and a low degree of commitment towards the information being stated. It helps writers protect their image by reducing imposition on the readers or listeners. When the writers use it effectively, their statements are perceived as possible rather than factual. Similarly, epistemic *might* shows a lower degree of certainty compared to *may*. *Might* also indicates possibility, however "a little less certainty about the possibility". (Biber, 1999), (Palmer, 2001, p. 58). Mindt (1995) also states that *might* has only one modal meaning, which is possibility. Mindt's viewpoint is shared by Palmer (1990). According to Palmer (1990), *might* has the same functions as *may* in terms of epistemic modality, however *might* indicates a little less certainty about the possibility from the writer's or speaker's viewpoint. Collins (2009) states that *might* is far more commonly used in spoken rather than written language, while *may* is the most utilized modal for marking epistemic possibility in written language. The epistemic uses of *may* and *might* by the American students in US-ARG and the Turkish students in both AELT and TR-ICLE databases are presented as in the following.

The Use of 'May' by the American Native Students in US-ARG

NS essays include high frequencies of possibility modals *may* and *might* with the pragmatic functions of hedging and vagueness. Similarly, many corpus-based studies of spoken and written English have shown that *may* is predominantly used as a marker of logical possibility and doubt as it is usually expected in formal prose (Biber et al., 2002). The American students in the US-ARG database of the LOCNESS corpus serve as the NS database in this study. The

qualitative uses of *may* in this database are discussed in detail below. Many of the occurrences in LOCNESS-USARG are what Huddleston & Pullum (2002, p. 182) refer to as 'concessive *may*'. Concessive *may* is used to reinforce the overall larger construction's concessive meaning. It involves pragmatic strengthening. In other words, the writer concedes the truth of the proposition, rather than expressing a lack of confidence in it (Collins, 2002). As demonstrated in the following extracts, concessive *may* is usually followed by *but, while* and *although*:

1. It *may* be a pessimistic view, *but* I feel a very real view, to say that we would become lazy and stagnate people. (US-ARG)

2. They want the audience to see this as an uncontrollable problem, *but* as any college student can tell you, *while* all these facts *may* be true, they are not uncontrollable. (US-ARG)

3. *Although* this *may* be a hypothetical situation, it shows the point that women athletes are still being treated as second class citizens in comparison with the men. (US-ARG)

Most of the instances of *may* in USARG are related to whether the proposition of the clause is true or not. *May* is mostly used as an objective epistemic modal, rather than a subjective one. The texts in the USARG do not usually have prominent writer visibility in terms of using the subject *I,* as also mentioned by Aİjmer (2002, p. 71), especially regarding the phrase *I think.* That is to say, only 1 instance of *may* is found subjective, but there are many instances of objective uses:

4. Along with achieving great athletic performance, athletes who use chemical substances *may also* impair their judgement and even shorten their lives. Athletes *may also* experience psychiatric symptoms ranging from grandiosity to euphoria to delusions and suicidal thoughts. (US-ARG)

5. In every facet of (almost) every country, there is some type of organized crime. I *know* this and the facts that I *may* use because of the Organized Crime & American Politics class that I am currently taking. (US-ARG)

Extract 4 can be interpreted as an instance of the objective usage, whereas extract 5 is interpreted as subjective. The objective use of *may* usually indicates that the judgement is that of public record, and not necessarily limited to the writer or speaker (Ruud, 2014). *May* is also used in combination with *also.* The use of *may* with *also* indicates a form of possibility as well as a suggestion (Ruud, 2014). Only 2 instances of *may also* are found in the LOCNESS-USARG database:

6. Along with achieving great athletic performance, athletes who use chemical substances *may also* impair their judgement and even shorten their lives. Athletes *may also* experience psychiatric symptoms ranging from grandiosity to euphoria to delusions and suicidal thoughts. (US-ARG)

The Use of 'May' by the Turkish Non-Native Students in the AELT Database

Epistemic *may* is one of the most commonly used modal among the Turkish students in the AELT database. Based on percentage, the distribution is similar to that of native speakers. In the AELT database, epistemic modality is often used to pass judgment on whether the proposition of the clause is true or not. The instances found usually involve objective uses with less speaker involvement, in many cases with *it, they* and *some people* as a subject:

7. *Some people* in our modern world *may* think technology, science and industrialization are trap for people. *They may* be right because in our modern world everything goes with technology and science. (AELT)

8. There are several reasons why people claim that money is the root of all evil. *It may* be true in current ways *but* it is not true for all conditions. (AELT) (*may* is interpreted concessively in here)

9. The extreme amount of money can also be a problem, *surely*, *it may* be another option, *but* it is not the real question. Money would be a good thing if it serve the people. But unfortunately people serve it. (AELT) (*may* is interpreted concessively in here.)

10. To sum up, technology aren't helpfull everytime. Sometimes *it may* be harmful. To develop your imagination you must spare time other activitiest. (AELT)

Concessive *may* in the AELT database is generally found to appear with *but.* The use of *may* in combination with strengthening adverbs such as *well* in neither found in the LOCNESS-USARG nor the AELT databases.

The Use of 'May' by the Other Turkish Students in the TR-ICLE Database

Epistemic *may* is one of the most commonly used modal among the Turkish students in the ICLE-TR database. Based on percentage, the distribution is similar to that of native speakers and the other Turkish students in the AELT database. In the TR-ICLE database, epistemic modality is often used to pass judgment on whether the proposition of the clause is true or not. The instances found here also involve objective uses with less speaker involvement, in many cases with *it* and *they* as a subject. Only one instance is found with the first person singular pronoun *I* and a few instances with the first person plural pronoun *we:*

11. *In fact* it is not right for me to say this, *I may* commit suicide one day; I hope I never feel the compulsory of it in me. (TR-ICLE)

12. *We may* classify the first group as "the inventions in medical science". (TR-ICLE)

13. To sum up, while we are deciding the euthanasia we are under the influence of our emotions we are not regarding the people who are in pain so *it may* be defined a kind of egoism. (TR-ICLE)

14. Because it is easy to say that this situation can effect this child's life in a bad way and it *may also* cause morale problems during his/her life. (TR-ICLE)

15. Abortion *may seem* to be the easiest way at the begining but I believe that it becomes a wound of conscience which leads till the end of life. (TR-ICLE)

16. *They may* have children but their children are generally ill or dead in the streets because of diseases, cold and famine. (TR-ICLE)

17. Another disadvantage and threat is hackers. *They may* break into our files and get any information they want. *They may* send some virus and lock down our computer. *They may* use our credit card number and buy things or subscribe to some sites. (TR-ICLE)

May in combination with *also* is found in only three instances in the TR-ICLE database, as can be observed in the following extracts. However, *may* in combination with *as well* is not found in the TR-ICLE database.

18. We should get rid of this dilemma made of glass which *may also* considered as theoretical information. (TR-ICLE)

19. In addition to the bad results of economic reasons, an abortion *may also* prevent the bad results, problems on both parents' and child's moral situation. (TR-ICLE)

20. Because it is easy to say that this situation can effect this child's life in a bad way and it *may also* cause morale problems during his/her life. (TR-ICLE)

Concessive *may* is mostly found in combination with *but* in TR-ICLE, as observed in the following extracts:

21. I know it means giving up most of the habbits and starting a new life *may* be with new people *but* it's better than to have a life with full of problems until the death. (TR-ICLE)

22. Abortion *may* seem to be the easiest way at the begining *but* I believe that it becomes a wound of conscience which leads till the end of life. (TR-ICLE)

The Use of 'Might' by the American Students in the US-ARG database

The number of epistemic occurrences (no) of *might* found in LOCNESS-USARG is 37, which is a smaller number compared to the epistemic occurrences of *may* (no: 168) in the same database. Occurrences of *might* are mostly instances in which epistemic possibility is expressed:

23. This is significant because no one likes to think that they are going to die, so extending one's life allows people time to simply enjoy what time they have left, or it *might* give them the hope that maybe there will be a cure before they die. (US-ARG)

In a few instances, *might* occurs as part of a fixed expression, such as *might as well.* Here the writer uses the whole phrase *might as well* to express a suggestion*:*

24. With all of the hassle students on campus deal with they *might as well* live at home. (US-ARG)

In a few instances again, *might* co-occurs with *also.* This usage could be interpreted as expressing suggestions, as can be seen in the extract below. Here the writer seems to present the content of the clause to the reader as a suggestion of what might happen. This is similar to the usage of *may also:*

25. An example of this is when a female wanted to go out on a date with a young man, she usually got grilled for information about his family, and so on. The young *might also* be chaperoned m her date. (US-ARG)

The Use of 'Might' by the Turkish Students in the AELT Database

Epistemic *might* occurs in only 9 instances in the AELT database, and it is widely used with both pronouns and existential *there,* as observed in the following extracts:

26. Firstly, in my opinion, money that we gain is our privacy. How much, when or how we gain is none of people's business. But when people wonder about it, there *might* be some problems. (AELT)

27. *They might* think 'if i have lots of money why shouldn't i spend it for my own amusement instead of charity', 'I deserve spent my money to whatever i want to'. (AELT)

28. On the one hand, these new things can make our lives more easier, but on the other hand, *we might* easily become addicted to them and let them become our iamginations. (AELT)

Just a few examples of concessive *might,* which is used in more or less the same way as concessive *may:*

29. Improvement of technology science and industrialization *might* seem as a good thing *but* it leads us be less creative and imaginative. (AELT)

Lastly, no instances of *might* co-occurring with *as well* or *also* were found in the AELT database*,* though this combination was found in US-ARG by the American students.

The Use of 'Might' by the other Turkish Students in the TR-ICLE Database

Epistemic *might* occurs in 49 instances in the ICLE-TR database. The cases where *might* is used as an epistemic modal are often instances in which personal pronouns are used as subjects. This is similar to the AELT database. There are also a few cases in which *might* is used with existential *there:*

30. Suppose that one of your relatives is ill and s/he is under control in the hospital. You'll stay with him. *S/He might* need something. (TR-ICLE)

31. I suppose we won't need the other electrical machines because the computer will charge for their duties and *they might also* control the world as it is happening in the films. (TR-ICLE) (In this extract, *might* co-occurs with *also.*)

32. We suffer; we *might even* get sick emotionally or physically. *We might* need to consider why things have turned out this way, if this was so wrong. (TR-ICLE) (In this extract, *might* co-occurs with *even.)*

33. I insistantly argue that it mustn't be legally banned as *it might* be the last hope for some couples especially for women. (TR-ICLE)

34. Because first of all they should consider that if a woman wants to end her pregnancy, *there might* be really important reasons which may solve all these problems. (TR-ICLE)

35. That's why *there might* be *possibility* of its correctness. (TR-ICLE)

Concessive use of *might* with *but* and *however* were also found in the TR-ICLE database:

36. Allright, the decision of euthanasia *might* be made by the patient himself/herself or by the relatives of the patient. *But* still the doctor has to think twice before he dares to do something like that. (TR-ICLE)

37. Now, I guess we have found the starting point. But, where is the remedy? An act taken in sex equivalence *might* get us somewhere, *but* I think we should start from our own daughters and sons. (TR-ICLE)

38. That *might* be true to some extent, *however* it should not be ignored that having no theoretical education what you do is useless and becomes bubbles of a soap. (TR-ICLE)

4.2.4.2. The Case of 'must' and 'should'

The modal verbs *must* and *should* were mostly used in their deontic meaning in each of the three databases. Therefore, such instances were eliminated manually in the quantitative analysis. After this elimination process, some of the identified epistemic occurrences are as follows:

39. I want to talk about the first step on to the moon in 1969. I think this was one of the great and effective beginnings for technological development about space searching. The duration of time divided two parts, before stepping and after stepping on to the moon. This event *should* have been a very encouragement event for the mankind to leave the earth and to be on to another earth. (TR-ICLE)

40. Many women became unhappy with their lives as a wife and mother and wondered if this was all that life had to offer. These women had always been taught that their distinct gender identity only included traits commonly found in a wife and mother; however, they were not fulfilled. These women were led to believe that if they were not happy fulfilling this role that something *must* be wrong with them. (US-ARG)

41. The washing machine, in those houses that own them, has almost become a necesity. *Should* there be a fire in the house, many people might be seen furiously running about in the streets, clutching the machine tightly to their chests. (US-ARG)

42. At best criminals learn to use the criminal justice system *should* they become arrested again and at worst they receive free room and board, medical care, higher education, and a chance to lift more weights while learning new ways to break the ever present laws. (US-ARG)

43. In recent centuries Africans were enslaved by the Americans for their economical purposes. In Africa, native people were captured and taken to America to make them work in agriculture. Americans established bazaars where slaves were sold, being sold in a bazaar like an animal *must* be the worst thing in life in view of honor. (TR-ICLE)

4.2.4.3. The case of 'will' and 'would'

Regarding the modal verbs *will* and *would,* they are quite commonly observed in English academic writing (Biber *et al.,* 1999). The overall frequencies of the two items in the present study indicate that the American student writers have a stronger preference for the tentative form *would* in their expression of epistemic modality than the stronger form *will.* Writers generally use the epistemic *would* in order to be more tactful or polite towards their propositions. The epistemic sense of *would* "is less assured and forthright" than *will* and it "is often used to reduce the writer's level of confidence in the truth of the proposition (Collins, 2009, p. 142)". Extracts below demonstrate the above-stated tentative use of *would* by the American native student writers in the US-ARG database and the Turkish NNS writers in the AELT and TR-ICLE databases. I should note that the Turkish NNS writers frequently use *would* with the *'if clause structure'* in almost all of the observed instances.

The Use of 'Would' by the American Students in the US-ARG Database

44. Yoga is a relaxation technique typically practiced by what some Westerners *would* classify as "new age" type people.
45. In today's society which stresses a safer and cleaner environment, this statement *would* sit very well with most people.
46. With so much evidence against the death penalty as a deterrent, one *would* think that states would either decrease its use or put a stop to it all together.

The Use of 'Would' by the Other Turkish Students in the AELT and TR-ICLE Databases

47. Firstly, we need money for medicine and treatment without medicine or treatment we *would* probably die from disease. (AELT)
48. Because they use money as a aim, not a tool. Moreover, they think that money *would* be always with them. (AELT)
49. The clue *would* be correct *only if* we assume that modern world that dominated by science, technology and industrialization restricts the place for dreaming and imagination. (AELT)
50. Even if we are religious people, and believe in life after death, we prefer not to take unnecessary risks, and *would probably* give everything for a few more moments in this world. (TR-ICLE)
51. *I think* the doctors can practice the euthanasia for the child, on the ground of the fact that, it *would* be better for her and for her family and for both of their future. (TR-ICLE)

Epistemic *will* "expresses a prediction that is strong and more direct, and is used where writers have enormous confidence in the evidence and knowledge that warrants their claim (Ngula, 2015; p. 147)".Typical examples of epistemic *will* by the American (NS) writers in US-ARG and the Turkish (NNS) student writers in both AELT and TR-ICLE databases:

The Use of 'Will' by the American Students in the US-ARG Database

52. If one life is taken, is it right to take another? This idea is based on the "two wrongs don't make a right" principle. Simply putting the murderer to death *will* not bring back his victim. (US-ARG)

53. Tests are constantly being performed to find the next medication that will control the ailment. Some skeptics, though, *will* not believe the true results these new drugs are showing. (US-ARG)

54. A second claim that is made by the proponents of returning prayer to school is that religion *will* help offset the moral degeneracy of society. (US-ARG)

The Use of 'Will' by the Other Turkish Non-Native Students in the AELT and TR-ICLE Databases

55. I think, there *will* be more technology in the future because there *will* be more people and more imagination. (AELT)

56. I think there *will* be a kind of gaget that *will* be integrated into human brain and people *will* not have the obligation of speaking to each other. They *will* communicate by using their power of minds and they *will* send some signals which can not be seen by our eyes to communicate. (AELT)

57. If we don't dream anything, the invention would stop and we *will* stuck in this era until the end of our lives. (AELT)

58. *Maybe* the animal *will* suffer or even die, but it has contributed to science. (TR-ICLE)

59. In spite of some common, wrong thoughts and approaches people *will* be aware of this reality: men and women are equal, none of them is stronger or bigger then the other one. (TR-ICLE)

4.2.4.4. The Case of "*Will probably*" instead of "*Likely*"

The American students used the pattern *"will probably"* more frequently compared with the Turkish students. In the AELT database, for example, *"will probably"* has only been found in 2 occurrences. Below are the uses of *will probably* in the extracts:

60. In order to do this program we *will probably* lose attendance, because people will not be able to afford tuition. (US-ARG)

61. These questions *will probably* never be answered to the satisfaction of all involved for, however… (US-ARG)

62. A person that committs a crime *will probably* reap the benefits of whatever it is that they have done, for example, *…(US-ARG)*

63. If they, use most of it, they *will probably* create more excellent things. (AELT)

64. And if the wife discover this *probably* their family *will* tear apart. (AELT)

4.2.5. Epistemic strength expressed by modal verbs

After summarizing the overall variation of epistemic devices (EDs) in terms of epistemic strength (regardless of grammatical categories) in the three databases, Figure 4.9 and Table 4.12 present the levels of epistemic strength with specific reference to modal verbs.

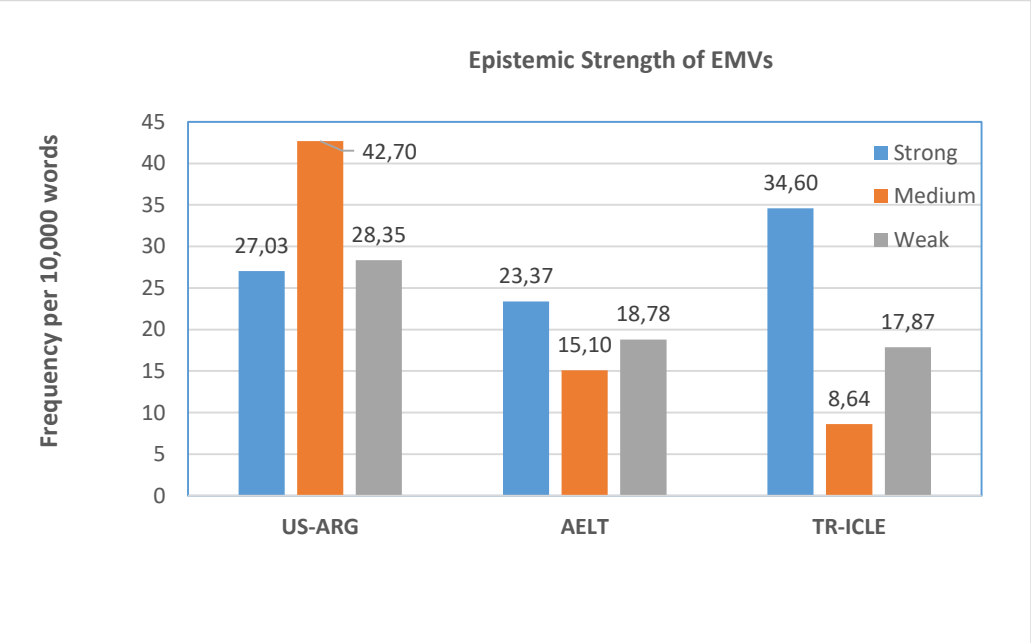


Figure 4.9. *Frequency Distribution of the Three Levels of EMVs per 10,000 Words across the Three Databases*

Table 4.12. *Frequency Distribution of the Three Levels of EMVs per 10,000 Words across the Three Databases*

Epistemic Strength of EMVs	US-ARG	AELT	TR-ICLE
Strong	27.03	23.37	34.60
Medium	42.70	15.10	8.64
Weak	28.35	18.78	17.87
Total	98.08	57.25	61.11

Figure 4.9 and Table 4.12 show that while the modal verbs expressing medium level of epistemic strength are used in significantly higher frequency by the American students in the US-ARG database (42.70), they are far less frequently utilized by the Turkish students in AELT (15.10) and TR-ICLE (8.64). When we look at the EMVs expressing strong level of epistemic strength, the Turkish students in the TR-ICLE database utilize them in higher frequency (34.60)

than the Turkish ELT Department students in AELT (23.37) and the American students in US-ARG (27.03). Lastly, in the case of weak EMVs, they occur (28.35) in US-ARG, (18.78) in AELT and (17.87) in the TR-ICLE database. This signals that the American students in US-ARG tend to use EMVs expressing weak level of epistemic strength in higher frequency than the Turkish students in both AELT and TR-ICLE. The Turkish students are similar in terms of their frequency of use of weak EMVs, with (18.78) frequency in AELT and (17.87) in TR-ICLE.

Table 4.13 below shows the log-likelihood results for the epistemic strength of the modal verbs for the AELT and US-ARG databases being compared.

Table 4.13. *Epistemic Strength of Modal Verbs in AELT and US-ARG Databases Per 10.000 Words*

Strength of EMVs	AELT	US-ARG	Log-likelihood	Sig.		
Strong	23.37	27.03	0.27	0.6064		-
Medium	15.10	42.70	**13.73**	**0.000**	***	-
Weak	18.78	28.35	1.96	0.161		-

According to Table 4.13, there is statistically significant difference between AELT and US-ARG in terms of their use of modal verbs expressing medium level of epistemic strength. The medium level modals occur 15.10 times in AELT; whereas they occur 42.70 times in US-ARG, a difference that is statistically significant (LL=13.73) at the $p < 0.001$ level. This indicates that the American students in US-ARG utilize medium level modals with statistically higher frequency than the Turkish students in the AELT database. In terms of the use of strong level modals, there is statistically no significant difference between the two databases, though the strong level modals are utilized with slightly higher frequency in US-ARG (27.03) than in AELT (23.37). Lastly, as for the use of weak level modals, there is again statistically no significant difference between the two groups, though the weak level modals occur with higher frequency in US-ARG (28.35) than in the AELT database (18.78).

Table 4.14 below shows the log-likelihood results for the epistemic strength of modal verbs for the AELT and TR-ICLE databases being compared.

Table 4.14. *Epistemic Strength of Modal Verbs in AELT and TR-ICLE Databases Per 10.000 Words*

Strength of EMVs	AELT	TR-ICLE	Log-likelihood	Sig.	
Strong	23.37	34.60	2.19	0.1389	-
Medium	15.10	8.64	1.78	0.182	+
Weak	18.78	17.87	0.02	0.880	+

As we can observe from Table 4.14, there is statistically no significant difference between the two groups in terms of their use of the three level of epistemic modal verbs. This indicates that the Turkish students in both databases are similar in terms of their use of strong, medium and weak level modals. However, there are still some slight differences between the two groups. For instance, the strong level modals occur with higher frequency in TR-ICLE (34.60) than in AELT (23.37). Medium level modals, on the other hand, occur with higher frequency in AELT (15.10) than in TR-ICLE (8.64). Lastly, in terms of their frequency of use of weak level modals, both groups appear to be similar. EMVs expressing weak level of epistemic strength occur 18.78 times per 10.000 words in AELT; whereas they occur 17.87 times in TR-ICLE.

Table 4.15 below shows the log-likelihood results for the epistemic strength of modal verbs for the TR-ICLE and US-ARG databases being compared.

Table 4.15. *Epistemic Strength of Modal Verbs in TR-ICLE and US-ARG Databases Per 10.000 Words*

Strength of EMVs	TR-ICLE	US-ARG	Log-likelihood	Sig.		
Strong	34.60	27.03	0.93	0.3340		+
Medium	8.64	42.70	**24.64**	**0.000**	***	-
Weak	17.87	28.35	2.40	0.121		-

Table 4.15 shows that there is statistically significant difference between TR-ICLE and US-ARG in terms of the modal verbs indicating medium level of epistemic strength. The medium level modals occur 8.64 times in TR-ICLE; whereas they occur 42.70 times in US-ARG, a difference that is statistically significant (LL=24.64) at the $p < 0.001$ level. This indicates that the American students in US-ARG utilize medium level modals with statistically higher frequency than the Turkish students in the TR-ICLE database. In terms of the use of strong level modals, there is statistically no significant difference between the two databases, though the strong level EMVs are utilized with higher frequency in TR-ICLE (34.60) than in US-ARG (27.03). Lastly, as for the use of weak level EMVs, there is again statistically no significant difference between the two groups, though the weak level EMVs occur with higher frequency in US-ARG (28.35) than in the TR-ICLE database (17.87).

4.3. Epistemic Devices: Lexical Verbs

4.3.1. Frequency of epistemic lexical verbs

Table 4.16 below demonstrates the top ten epistemic lexical verbs (ELVs) as used by the students in the three database.

Table 4.16. *Top 10 Epistemic Lexical Verbs (ELVs) For the Three Databases*

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	think	15.67	236	think	39.91	304	think	12.81	261
2	seem	6.24	94	know	11.82	90	know	6.58	134
3	believe	5.11	77	believe	4.20	32	believe	5.55	113
4	feel	4.98	75	consider	1.58	12	seem	3.44	70
5	argue	4.45	67	argue	1.18	9	consider	2.55	52
6	consider	4.45	67	show	1.05	8	expect	1.87	38
7	show	3.12	47	guess	0.92	7	show	1.72	35
8	know	2.52	38	tend	0.79	6	argue	1.52	31
9	expect	1.79	27	expect	0.26	2	suppose	1.18	24
10	tend	1.39	21	assume	0.26	2	tend	0.59	12

According to Table 4.16, the lexical verb think is the most frequently used epistemic verb by both the American and Turkish students. *Think* occurs 15.67 times per 10.000 words, with a raw frequency of 236 in the USARG, (39.91) in AELT and (12.81) in the TR-ICLE database. As for the epistemic lexical verb *know*, it is the ninth most frequent epistemic item in the US-ARG database with a frequency of 2.52; however, it is the second most frequent item in AELT (11.82), and the third most frequent in the TR-ICLE database (6.58). This is an interesting finding, because know expresses strong epistemic commitment in terms of epistemic strength. The Turkish students in both AELT and TR-ICLE used it more frequently in their argumentative writing than did the American students. The use of *believe* as an epistemic lexical verb, on the other hand, seems to be similar in terms of frequency in the three databases. It occurs 5.11 times per 10.000 words in US-ARG, (4.20) in AELT, and (5.55) in the TR-ICLE database. The epistemic lexical verb *argue* is more frequently used by the American students compared to the use of *argue* by the Turkish students. *Argue* occurs 4.45 times per 10.000 words in US-ARG, (1.18) in AELT and (1.52) in TR-ICLE. *Show* is another lexical verb which is more frequently used by the American students compared to the Turkish students. It occurs 3.12 times per 10.000 in US-ARG, (1.72) in TR-ICLE, and only (1.05) in AELT.

4.3.2. The commonly used epistemic lexical verbs

Figure 4.10 shows the frequencies of the top five epistemic lexical verbs (ELVs) used by the American students in the US-ARG section of LOCNESS.

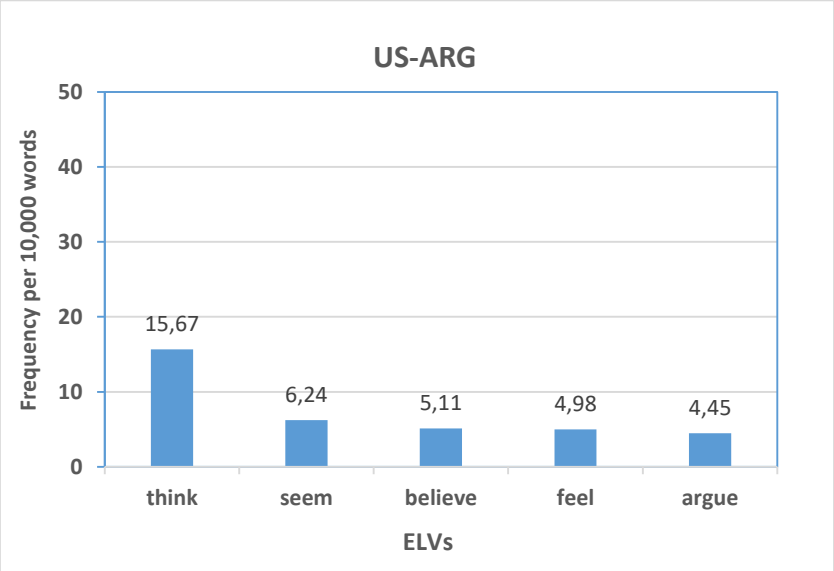


Figure 4.10. *Top five ELVs in US-ARG*

According to Figure 4.10, the most frequent five ELVs (per 10.000 words) in US-ARG are *think, seem, believe, feel* and *argue,* respectively. Figure 4. 9 shows the frequencies of the top five ELVs used by the Turkish English Language Teaching (ELT) Department students in the AELT database.

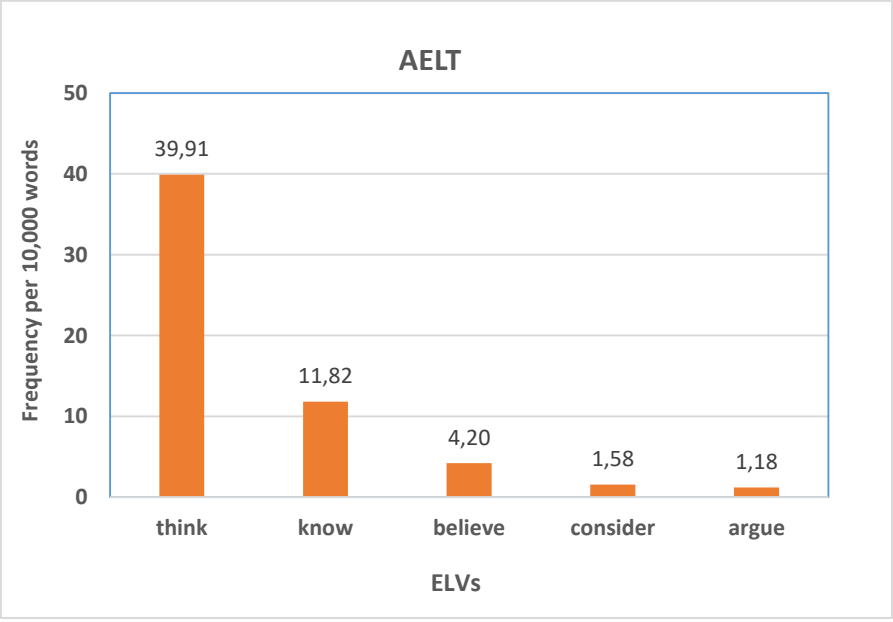


Figure 4.11. *Top five ELVs in AELT*

According to Figure 4.11, the most frequent five ELVs (per 10.000 words) in the AELT database are *think, know, believe, consider* and *argue*, respectively. Figure 4.12 shows the frequencies of the top five ELVs used by the Turkish students in the TR-ICLE component of the ICLE corpus.

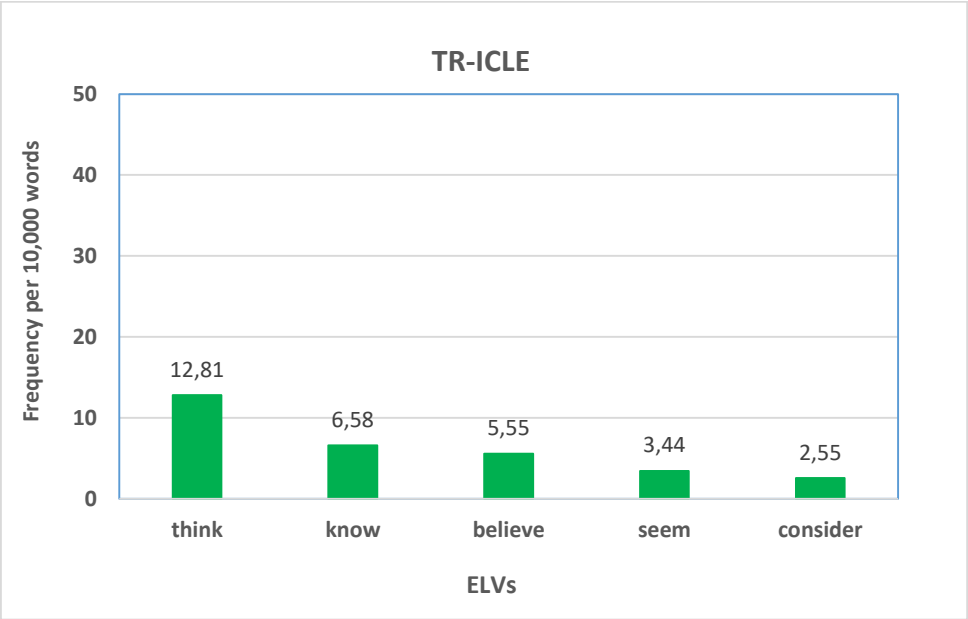


Figure 4.12. *Top five ELVs in TR-ICLE*

According to Figure 4.12, the most frequent five ELVs (per 10.000 words) in TR-ICLE are *think, know, believe, seem* and *consider,* respectively.

4.3.3. Typical cases of epistemic lexical verbs in the databases

In this section, the qualitative analysis of the epistemic nouns (ELVs) occurring in the three databases are examined. The notable uses, different combinations and patterns of these ELVs are analyzed with the extracts taken from each of the three databases. Then the similarities and differences of use of these items are discussed.

Lexical verbs offer a more overt and precise means of signaling the writer's commitment to a proposition than adverbs. They modify the strength of a particular proposition and they also provide justification in evidential terms by indicating whether the source of information is reliable or not (Hyland and Milton, 1997).

Lexical verbs indicate the writer's commitment to a particular proposition more precisely than adverbs do. They show the relative levels of confidence and doubt. Below are some examples of epistemic ELVs extracted from US-ARG (American Students-NS),

AELT (Turkish ELT Department students-NNS) and TR-ICLE (the other Turkish students- NNS) databases:

1. Besides these advantages I *think* the most important disadvantage of the computer and internet is that they make people anti-social. (TR-ICLE)

2. In both branches of study, either the philosopher or the theologian just claims without resorting to evidences, rather they *speculate* over the phonemona within their study-limitations. (TR-ICLE)

Hyland (1996) maintains that apart from their modification function of the strength of a particular claim, lexical verbs also demonstrate the level of commitment involved, provide justification in evidential terms by indicating the reliability of the information source:

3. In my country, men and women are not completely equal and I *believe that* men are more superior than women in most of the countries in the world. (TR-ICLE)

4. Animal researchers *believe that* the benefits of animal testing outweigh the harm and pass the research off as ethical. They *claim that* the amount of information found by testing animals could be discovered by no other method. (US-ARG)

5. In Turkiye the schools have very crowded classes as the payment given to the schools isn't enough to build additional classes. Cheating *seems* more likely to occur in crowded classes. (TR-ICLE)

According to Maynard (1993, p.52-53), lexical devices such as *"I think, I suppose, probably, possible"* have the discourse function of expressing "the lack of speaker's confidence in the truth of the relevant proposition" and differentiating between opinions and facts. The epistemic lexical verb *think* is almost exclusively found in the construction *I think (that)…* The following sentences are the typical examples extracted from the three databases:

6. *I,* also *think that* an individual should be allowed the freedom that God granted us with the gift of life itself. (US-ARG)

7. Cheating is the most important helper of the students and naturally it is a plague for the teachers. *I think that* there are not any students who have not cheated in the exams or if there are, they are too few that we can count them. (TR-ICLE)

8. Thanks to the revolutions and innovations about technology and industry, human-being got more modern creatures. Those improvements have made the world a possible place for everything. *I think* this process will be more useful for the new gens. (AELT)

Turkish student writers in both AELT and TR-ICLE databases relied heavily on the lexical verb *know,* as presented in the following extracts. They also used the phrase '*as we know', 'we all know (that)', 'I know (that)'*:

9. *As we know*, just one hundred year ago, people were weak and their sources were limited. For example, wars were different. Soldiers had to fight chest-to-chest. (AELT)

10. Somehow money can make us good individuals *as we know* it is only a tool to help people among a lot of tools just like a genuine warm smile. (AELT)

11. *I know that* money is the best invention for human being's history. But if we don't know how to use it, it doesn't mean anything. The important thing is that whether we can turn money from evil to an angel. (AELT)

12. *We all know that* we are created by god and we believe god. None of us can deny this truth. (TR-ICLE)

13. When a poor person is ill his only opportunity is to go to state hospitals and *as we know* there they act as if we are animals. Why? Because you don't pay so they don't care whether you are ill or not. (TR-ICLE)

14. *I know that* having a job is a part of the real life, but there should be some other things in the meaning of the university. (TR-ICLE)

Contextual information is important in distinguishing the epistemic and non-epistemic senses of particular lexical verbs (Holmes, 1988), as shown in the uses of *suggest* below:

15. Research *suggests* that involving the class in lively group discussion, group projects and the telling of stories and personal experiences is more effective than passive, non-social drill and practice activities. (TR-ICLE)

16. It is not the right of a doctor to decide to initiate or *suggest* euthanasia as an option, but it is one's option as a physician to cooperate with a patient's decision. (US-ARG)

In (15), *suggest* is utilized as a hedge and it expresses epistemic modality, but the same *suggest* in the context of (16) gives only propositional information and it expresses a non-epistemic meaning. By using hedges such as *suggest,* writers try to demonstrate that they avoid making strong generalizations. Thus, they indicate that they are aware of the possible alternative opinions by their readers (Hu and Cao, 2011).

17. Beside that, Fuhrman was vocal about his distaste for interracial marriage. one way the opposition tries to cause skepticism in Fuhrman's finding of the glove is *suggesting that* he planted the glove in O.J.'s home. (US-ARG)

By employing *show* as a booster, writers strengthen the relationship between the available evidence and their proposition. The use of *show* as a booster reflects the degree of confidence on the part of the writer, because the writer seems to arrive a firm conclusion and closes off possible points of view (Hu and Cao, 2011). *Show* is regarded as a reporting verb which is also called evidential by Pérez and Llantada (2010) and Hyland (1998). Epistemic lexical verbs such as *show* "indicate writers'

commitment on the basis of evidence or perceptions of unproven facts (Pérez and Llantada, 2010, p. 26)".The epistemic sense of *show* in the following examples boosts the commitment of the writer claim by giving it a factive meaning. The examples of *show* as indicating certainty in the essays are as follows:

18. They were "solid, irrefutable laws of the universe" until Albert Einstein discovered the infamous equation of $E=MC^2$, which *shows* that matter and energy can be transformed. Einstein studied and tested a very respectable, scientifically prestigious man's theory. (US-ARG)

19. That we can't doing anything without our cellphones *shows* that technology is a very big part of our daily lives. (AELT)

20. Secondly, I want to talk about the poor people. Some of them don't have any families, are living at the streets and they are mostly children. They search the ways of stealing money without being caught by the police officers for the sake of having money or they beg for money from the people at the streets by exploiting their emotions of pity and compassion. This *shows* that how money makes the people into a slave and how it leads to bad events which will destroy the peace and security in the society. (TR-ICLE)

21. Television is not an spare time activity anymore. TV determines your spare time. People goes toilet, speaks with each other, eats, during the break. It *shows* how TV controls people's life. (TR-ICLE)

22. There are two main *evidences* that *show* us the continuity of imagination. Firstly, dreaming exists from ancient times. It is one of the things that always exist for million years. (AELT)

23. The above quote *clearly* *shows* a consequence of the Teaching of New Age ideas. (US-ARG)

The ELVs *argue, seem* and *appear* are stated to be significant examples of evidential epistemic lexical verbs, however, *argue* is stronger in terms of epistemic value than *seem* and *appear* (Hyland, 1998; Pérez and Llantada, 2010). The ELVs *seem* and *appear* are often used to mark tentativeness and less committed attitude towards claims. states that writers use epistemic lexical verbs (ELVs) such *as think, believe, know* and *consider* etc. to "express opinions and mark the mode of knowing through confidence or degree of commitment (Pérez and Llantada, 2010, p. 26)". The instances of *argue, suggest* and *show* are provided as they occur in the three databases.

4.3.3.1. Grammatical subject + ELV argue + that + complement in the databases

Argue as an epistemic lexical verb is preferred by the Turkish student writers to state their personal opinions rather than a conclusion drawn from firm empirical evidence, as in the following examples. However, the native writers did not prefer to use *argue* with

the first person singular pronoun. Instead, they used it with the third person plural forms such as *'they argue (that), some argue (that)'*:

24. Therefore, I *argue that* the scientific, or, technological development actually lead to more imagination or dreaming. (AELT)

25. I *argue that* all humans have the same rights to live compared to other humans; whether rich, poor, majority or minority this being deserves the same chance we were all given. (TR-ICLE)

26. Some *argue that* the person's death process is being prolonged and society is going against his or her right to the pursuit of happiness. (US-ARG)

27. Animal researchers *argue that* it is necessary for the testing of animals to progress to insure that products and methods are safe for humans. (US-ARG)

28. I *argue that* all humans have the same rights to live compared to other humans; whether rich, poor, majority or minority this being deserves the same chance we were all given. (TR-ICLE)

29. One could *argue that* the world we live in today has limited our imagination, due to people heavenly dependence on technology. (AELT)

30. I would *argue that* the only inventions of the twentieth century that have significantly changed people's lives for the better are those that have occured in the medical field. (US-ARG)

31. In my article "Prolifers Say Cruzan Death a Signal of Things to Come", prolife activists *argue that* these cases. (US-ARG)

32. Therefore, I *argue that* the scientific, or, technological development actually lead to more imagination or dreaming. (AELT)

The strategic use of hedges such as may with the strong epistemic lexical verb *argue* communicates a tone of tentativeness. Such examples were found in both the NS and AELT databases, though they were just a few in terms of number of occurrence:

33. Some may *argue that* the women in the magazines are better to look at than those on the court. But players are not asking for a comparison of looks, but for a sense of respect as a women. (US-ARG)

34. Some may *argue for* it and some may argue against the idea in our advanced world, some say no room is left for dreaming. (AELT)

4.3.3.2. Grammatical subject + ELV suggest + that + complement in the databases

35. The Dann study also *suggests that*, <*>. This *would* support the *theory that suggests that* it does not act as a deterrent, but rather a catalyst, for violent crime. (US-ARG)

36. There are two main *views* arising one of which *suggests that* abortion is a kind of murder and also it isn't allowed in any religion, so it must be outlawed and

the other *view* is based on the *idea* that it is worse for a fetus to be born in an undesirable world full of unhapiness and problems. (TR-ICLE)

37. This situation *suggest that* our health problems, but there are not only bad things but also have good kinds of things. (AELT)

38. There are two main views arising one of which *suggests that* abortion is a kind of murder and also it isn't allowed in any religion, so it must be outlawed and the other view is based on the idea that it is worse for a fetus to be born in an undesirable world full of unhapiness and problems. (TR-ICLE)

39. Although the patients seem to have the right to end their own lives, I highly *suggest that* thinking should be thoroughly done before making any type of this kind of decision. (TR-ICLE)

40. Psychologists *suggest that* damage could still possibly show up after 5, 10, or even 20 years. (US-ARG)

4.3.3.3. Grammatical subject + ELV show + that + complement in the databases

41. All these examples clearly *show that* how money leads people badly both in its existence and abundance. (TR-ICLE)

42. These facts do not accurately *show that* prayer lead to moral virtue. (US-ARG)

43. It *shows that* money has created a big gap which will never be filled in the lives of today's people. (AELT)

44. Since it has been *shown that* both involve similar ethical and moral questions, then the consequences America is suffering because of abortion can be compared to what might happen if euthanasia is allowed to continue. (US-ARG)

Making use of an appropriate epistemic verb requires crucial tense, voice and lexical choices, because these choices may have important rhetorical effects. The selection of ELVs is important in expressing the writer's degree of confidence in the truth value of the statement. Selection of tenses also shows a stance by the manipulation of proximity and distance (Swales, 1990). Confronted with these challenges stated above, both the American and the Turkish student writers tend to mix formal written and informal spoken items, transferring spoken features to formal writing. Data in the current study is characterized by the extensive use of epistemic lexical verbs like *think, know*, and *believe*. The limited range of epistemic lexical verbs and the general tendency for speech forms reflect the novice writer characteristics.

4.3.4. Epistemic strength expressed by lexical verbs

Table 4.17 and Figure 4.13 demonstrate the levels of epistemic strength with specific reference to lexical verbs in the three databases.

Table 4.17. *Frequency of the three degrees of Epistemic Lexical Verbs (ELVs) per 10,000 words across the three databases*

Epistemic Strength of ELVs	US-ARG	AELT	TR-ICLE
Strong	21.91	52.78	21.30
Medium	29.88	8.40	17.87
Weak	2.52	1.18	0.88
Total	54.32	62.37	40.05

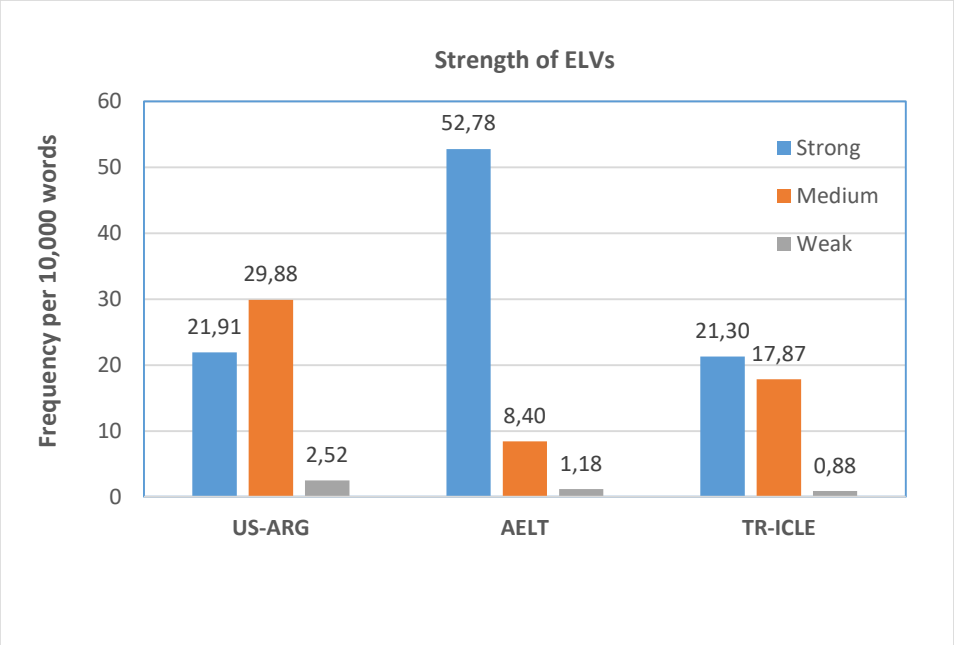


Figure 4.13. *Frequency Distribution of the three levels of ELVs per 10,000 words across the three databases*

Table 4.17 and Figure 4.13 reveal notable differences in the way the different degrees of epistemic strength in which epistemic lexical verbs are utilized in the three databases. The ELVs expressing strong epistemic strength are significantly higher in AELT (52.78) than in US-ARG (21.91) and TR-ICLE (21.30). Thus, the strong ELVs are used with almost exact same frequencies in US-ARG and TR-ICLE. When we look at the ELVs expressing medium level of epistemic strength, they occur in higher frequency in the US-ARG database (29.88) than in TR-ICLE (17.87) and AELT (8.40). This also signals that the ELVs expressing medium level of epistemic strength occur more frequently in TR-ICLE than in AELT. Lastly, as for the ELVs expressing weak level of epistemic strength, they occur with slightly higher frequency in US-ARG (2.52) than in AELT (1.18) and TR-ICLE (0.88) per 10.000 words. Table 4.18 below shows the log-likelihood results for the epistemic strength of the lexical verbs for the AELT and US-ARG databases being compared.

Table 4.18. *Epistemic Strength of Lexical Verbs in AELT and US-ARG Databases Per 10.000 Words*

Strength of ELVs	AELT	US-ARG	Log-likelihood	Sig.		
Strong	52.78	21.91	**13.15**	**0.0003**	***	+
Medium	8.40	29.88	**12.78**	**0.000**	***	-
Weak	1.18	2.52	0.50	0.481		-

According to Table 4.18, there is statistically significant difference between AELT and US-ARG in terms of their use of ELVs expressing strong and medium level of epistemic strength. The strong level ELVs occur 52.78 times in AELT; whereas they occur only 21.91 times in US-ARG, a difference which is statistically significant (LL= 13.15) at the $p < 0.001$ level. This indicates that the Turkish students in AELT utilize strong level ELVs with significantly higher frequency than the American students in the US-ARG database. As for the frequency of medium level ELVs, they occur 8.40 times in AELT; whereas 29.88 in US-ARG, a difference which is statistically significant (LL=12.78) at the $p < 0.001$ level. This finding indicates that the American students in US-ARG utilize the ELVs expressing medium level epistemic strength with significantly higher frequency than the Turkish students in the AELT database. Lastly, as for the use of weak level ELVs, there is statistically no significant difference between the two groups, though the weak level ELVs occur with slightly higher frequency in US-ARG (2.52) than in the AELT database (1.18). Table 4.19 below shows the log-likelihood results for the epistemic strength of ELVs for the AELT and TR-ICLE databases being compared.

Table 4.19. *Epistemic Strength of Lexical Verbs in AELT and TR-ICLE Databases Per 10.000 Words*

Strength of ELVs	AELT	TR-ICLE	Log-likelihood	Sig.		
Strong	52.78	21.30	**13.81**	**0.0002**	***	+
Medium	8.40	17.87	3.49	0.062		-
Weak	1.18	0.88	0.04	0.835		+

As we can observe from Table 4.19, there is statistically significant difference between the two groups in terms of their use of strong level ELVs. The ELVs expressing strong level of epistemic strength occur 52.78 times in AELT; whereas they occur only 21.30 times in TR-ICLE, a difference which is statistically significant (LL=13.81) at the $p < 0.001$ level. This indicates that the Turkish students in AELT use strong level ELVs with statistically higher frequency than the other Turkish students in the TR-ICLE database. Both groups are similar in terms of their use of medium and weak level ELVs. However, there are still some slight differences between the two groups. For instance, the medium level ELVs occur with higher

frequency in TR-ICLE (17.87) than in AELT (8.40). Weak level ELVs, on the other hand, occur with slightly higher frequency in AELT (1.18) compared with TR-ICLE (0.88).

Table 4.20 below shows the log-likelihood results for the epistemic strength of ELVs for the TR-ICLE and US-ARG databases being compared.

Table 4.20. *Epistemic Strength of ELVs in TR-ICLE and US-ARG Databases Per 10.000 Words*

Strength of ELVs	TR-ICLE	US-ARG	Log-likelihood	Sig.	
Strong	21.30	21.91	0.01	0.9258	-
Medium	17.87	29.88	3.06	0.080	-
Weak	0.88	2.52	0.82	0.364	-

As we can observe from Table 4.20, there is statistically no significant difference between the two groups in terms of their use of the three level of ELVs. This indicates that the Turkish students in TR-ICLE and the American students in US-ARG are similar in terms of their use of strong, medium and weak level ELVs. For instance, the strong level ELVs occur with almost the same frequencies in both US-ARG (21.91) and in TR-ICLE (21.30). However, there are some slight differences in terms of the frequencies of medium and weak level ELVs. Medium level ELVs occur with higher frequency in US-ARG (29.88) than in TR-ICLE (17.87). Weak level ELVs, on the other hand, occur 2.52 times per 10.000 words in US-ARG; whereas only 0.88 times in TR-ICLE.

4.3.5. Positioning in clause structure of lexical verbs

Table 4.21 shows the frequency distribution of clause types for *argue* (per 10.000 words) in each of the three databases. They are the Human NP subject, Non-human NP subject and *It* with passive, respectively.

Table 4.21. *Frequency Distribution of Clause Types For the Subject + Argue + That-Clause Pattern (per 10,000 words)*

ELV	Clause Position Type	US-ARG	AELT	TR-ICLE
	Human NP subject	3.65	0.92	1.03
argue	Non-human NP subject	0.40	0.00	0.05
	It with passive	0.40	0.26	0.44

The analysis of *argue* indicates that the human NP subjects are most frequently preferred by the students in all three databases. This finding is expected, and the results are in line with Ngula (2015) study. Since *argue* is “a reporting verb” and it “is typically associated with communication activities”, it mostly “involves human agents. In other words, *arguing* is a

human activity rather than a non-human activity. Therefore, the non-human and *it* with passive types are far less common in this pattern (Ngula, 2015, p. 186)".

According to Table 4.21, it is striking that the human NP subjects are higher in the US-ARG database by the American students (3.65) compared to AELT (0.92) and TR-ICLE (1.03). There is no instance of non-human NP subject in the *argue* sequence found in the AELT database. This pattern is also found in very low frequencies in both US-ARG (0.40) and TR.ICLE (0.05). *It* with passive pattern, on the other hand, is less frequent in the AELT database, compared to (0.40) in US-ARG and (0.44) in TR-ICLE.

Figure 4.14 demonstrates the frequency distribution of clause types for the subject + argue + That-clause pattern (per 10.000 words) in each of the three databases. Figure 4.14 summarizes the results presented in Table 4.21.

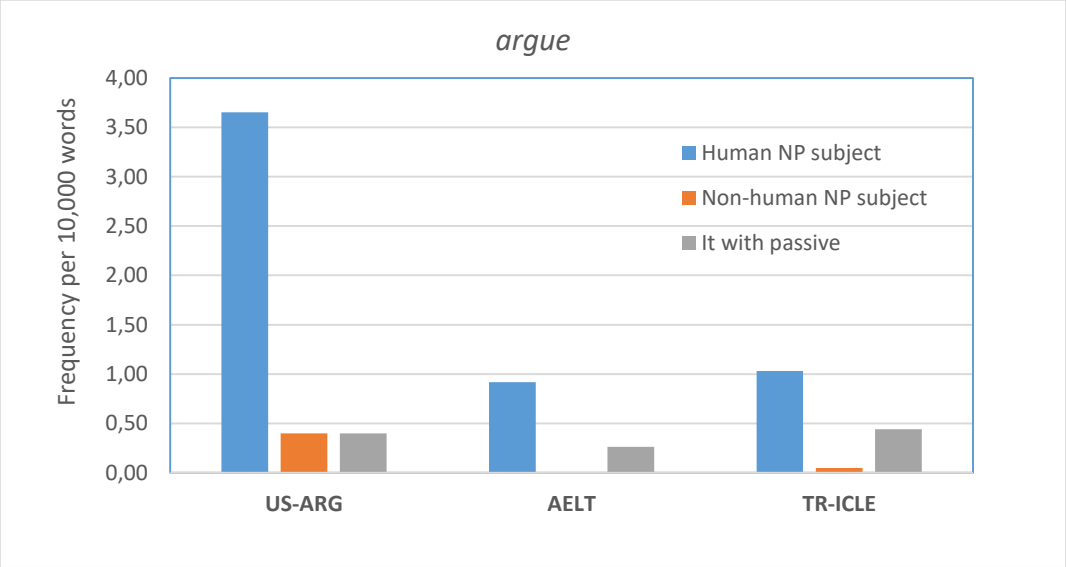


Figure 4.14. *Frequency Distribution of Clause Position Types For Argue in the Three Databases*

The bar graphs clearly show that human NP subjects are the most commonly occurring pattern in the case of *argue* in all of the three databases. However, this pattern is in significantly higher frequency in the US-ARG database compared to the AELT and TR-ICLE databases and it is slightly more frequent in TR-ICLE than the AELT. The non-human NP subject pattern is not detected in the AELT database, and it is also far less preferred in both US-ARG and TR-ICLE databases. As for the '*It* with passive', the use of this pattern is similar in terms of frequency in all three databases, though it is less frequent in AELT than US-ARG and TR-ICLE.

Table 4.22 demonstrates the frequency distribution of clause types for the subject + show + That-clause pattern (per 10.000 words) in each of the three databases. They are the Human NP subject, Non-human NP subject and it with passive, respectively.

Table 4.22. *Frequency Distribution of Clause Types For the Subject + Show + That-Clause Pattern (per 10,000 words)*

ELV	Clause Position Type	US-ARG	AELT	TR-ICLE
show	Human NP subject	0.86	0.00	0.05
	Non-human NP subject	1.93	0.79	1.62
	It with passive	0.33	0.26	0.05

The analysis of *show* indicates that the non-human NP subjects are the most frequent type co-occurring with the ELV *show* in all of three databases. However, the non-human NP subject pattern is slightly higher in frequency in US.ARG (1.93) than in AELT (0.79) and TR-ICLE (1.62). There are relatively fewer examples of human NP and *it* passive subjects co-occurring with *show* in all three databases. The human NP subjects for *show* is more visible in the US-ARG database (0.86 per 10.000 words) than the AELT (0.00-no instance of this pattern found) and TR-ICLE (only 0.05 per 10.000 words). In the case of '*It* with passive structure', this pattern is far less preferred in TR-ICLE (0.05) compared to US-ARG (0.33) and AELT (0.26) databases.

Figure 4.15 demonstrates the frequency distribution of clause types for the *subject + show + that-clause pattern* (per 10.000 words) in each of the three databases. Figure 4.15 summarizes the results presented in Table 4.22.

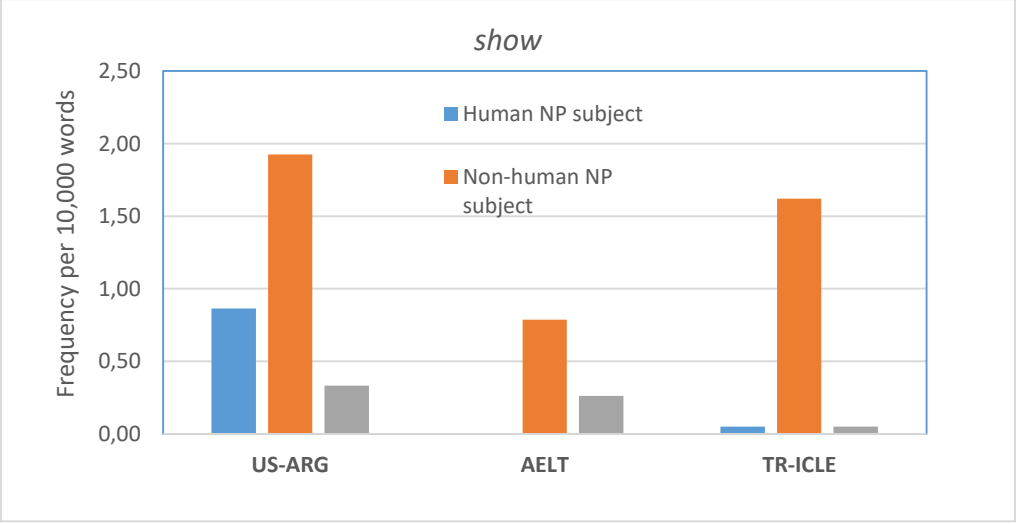


Figure 4.15. *Distribution of Clause Position Types for Show in the Three Databases*

According to Figure 4.15, non-human NP subjects are the most preferred pattern involving the ELV *show* in all three databases. However, this pattern is more frequent in the US-ARG database compared to the AELT and TR-ICLE databases and it is also more frequent in TR-ICLE than the AELT. While the human NP subject pattern is not detected in the AELT database, it is also less frequently preferred in both US-ARG (0.86) and TR-ICLE (0.05) databases. As for the 'It with passive', it is slightly more frequent in US-ARG (0.33) than in AELT (0.26) and TR-ICLE (0.05).

Table 4.23 shows the frequency per 10.000 words of the three subject types co-occurring with the ELV *suggest* and followed by that-complement clause in the three databases.

Table 4.23. *Frequency of Clause Types For the Subject + Suggest + That-Clause Pattern (per 10,000 words)*

ELV	Clause Position Type	US-ARG	AELT	TR-ICLE
suggest	Human NP subject	0.46	0.00	0.25
	Non-human NP subject	0.46	0.13	0.15
	It with passive	0.00	0.13	0.10

One can observe from Table 4.23 that ELV *suggest* seems to have a stronger co-occurrence with the non-human NP subject pattern in all three databases. However, in the US-ARG database while the non-human NP subject is more frequent (0.46), it is less marked in AELT (0.13) and TR-ICLE (0.15). It is interesting that the human NP subject pattern with *suggest* is not detected in the AELT database, it is the most frequent pattern in TR-ICLE. The frequency of the human NP subject pattern is also slightly higher in the US-ARG database (0.46) than in TR-ICLE (0.25). Another striking finding concerns the use of *it* with passive. While the '*it* with passive pattern' is not ever used in the US-ARG database, it is slightly more frequent in AELT (0.13) than in TR-ICLE (0.10). Figure 4.16 shows the frequency of clause types for the subject + suggest+ That-clause pattern (per 10.000 words) in each of the three databases. Figure 4.16 summarizes the results presented in Table 4.23.

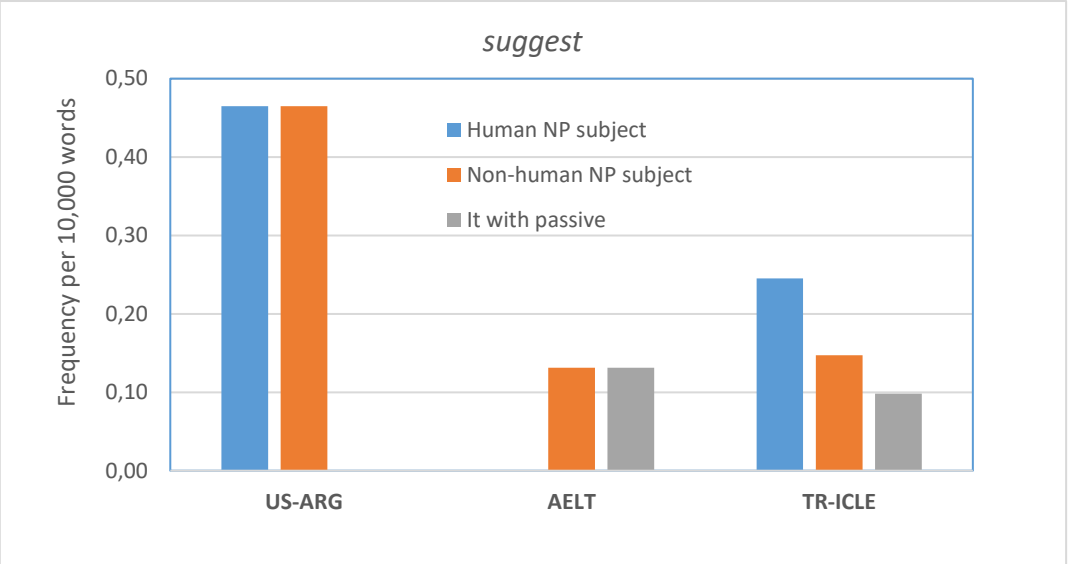


Figure 4.16. *Distribution of Clause Position Types For Suggest in the Three Databases*

According to Figure 4.16, the use of *suggest* with the human NP subject and the non-human NP subject is the same in terms of frequency (0.46 per 10.000 words) in the US-ARG database. *It* with passive structure with the ELV *suggest* is not ever used by the American students in US-ARG. This structure seems to be most preferred among Turkish students in both AELT and TR-ICLE databases. It seems interesting that while the Turkish students in AELT never used the human NP subject pattern with the ELV *suggest*, the other Turkish students used this pattern with (0.25 per 10.000 words) frequency and the American students, on the other hand, used it in higher frequency (0.46 per 10.000).

4.4. Epistemic Devices: Adverbs

4.4.1. Frequency of epistemic adverbs

Table 4.24 shows the frequency distribution of the top 15 epistemic adverbs (EADVs) per 10.000 words in the three databases. For the other epistemic items such as modal verbs, adjectives, nouns and lexical verbs, the top 10 most frequently used list is presented. However, in the case of adverbs, 15 most frequent ones have been detected in the three databases. Therefore, top 15 list is presented below. (No) refers to the raw number of epistemic occurrence of each item in the three databases.

Table 4.24. *Top 15 Epistemic Adverbs (EADVs) For the Three Databases*

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	usually	2.92	44	of course	6.17	47	of course	6.72	137
2	probably	2.79	42	almost	4.99	38	in fact	4.17	85
3	perhaps	2.59	39	actually	4.73	36	maybe	3.83	78
4	actually	2.52	38	maybe	4.73	36	almost	2.65	54
5	in fact	2.32	35	generally	2.63	20	generally	2.45	50
6	maybe	2.06	31	probably	2.23	17	probably	1.57	32
7	almost	1.93	29	in fact	1.97	15	usually	1.57	32
8	likely	1.86	28	definitely	1.84	14	certainly	1.33	27
9	clearly	1.73	26	usually	0.39	3	actually	1.28	26
10	of course	1.66	25	indeed	0.26	2	perhaps	1.08	22
11	possibly	1.26	19	likely	0.26	2	quite	0.69	14
12	certainly	1.26	19	naturally	0.26	2	likely	0.69	14
13	definitely	1.20	18	clearly	0.26	2	indeed	0.54	11
14	obviously	1.00	15	doubt	0.26	2	clearly	0.49	10
15	indeed	1.00	15	inevitably	0.26	2	approximately	0.49	10

According to Table 4.24, the epistemic adverb *usually* is the most frequently used one by the American students in US-ARG, with a frequency of 2.92 per 10.000 words. Interestingly, *of course* is found as the most frequently used epistemic adverb by the Turkish students in both AELT and TR-ICLE, (6.17) and (6.72) respectively. On the other hand, *of course* occurs only 1.66 times per 10.000 words in the US-ARG database and listed as the tenth most frequent epistemic adverb. Another interesting finding is that *perhaps* has never been used in the AELT database. However, *perhaps* ranks as the third most frequent adverb used by the American students in US-ARG, with a frequency of (2.59) per 10.000 words. *Perhaps* is also less frequently used by the Turkish students in TR-ICLE, ranking as the tenth most frequently used epistemic adverb with a frequency of (1.08) per 10.000 words. In the case of *obviously,* it occurs 1.00 times per 10.000 words in the US-ARG database; however it is very rarely used by the Turkish students in both AELT and TR-ICLE and therefore, it doesn't occur in the list

above. The case of *maybe* is also interesting. *Maybe* is used more frequently by the Turkish students in both AELT and TR-CLE compared to the frequency in US-ARG, which is 2.06 per 10.000 words.It occurs 4.73 times in AELT and 3.83 times in TR-ICLE. One striking finding concerns the use of *certainly.* The epistemic adverb *certainly* occurs 1.26 times per 10.000 words in US-ARG, 1.33 times in US-ARG. However, there is not any occurrences of *certainly* detected in the AELT database. The Turkish students in AELT seem to have used *definitely* instead of *certainly* in their argumentative writing. The epistemic adverb *definitely* occurs 1.84 times per 10.000 words in the AELT database, (1.20) in the US-ARG; however it is not detected among the top 15 epistemic adverbs in the TR-ICLE database. Lastly, as for *possibly,* it occurs 1.26 times in US-ARG. However, no instances of *possibly* have been found in the AELT database and it is rarely used by the Turkish students in TR-ICLE.

4.4.2. The most frequently used epistemic adverbs

Figure 4.17 shows the frequencies of the top five epistemic adverbs (EADVs) used by the American students in the US-ARG database of the LOCNESS corpus.

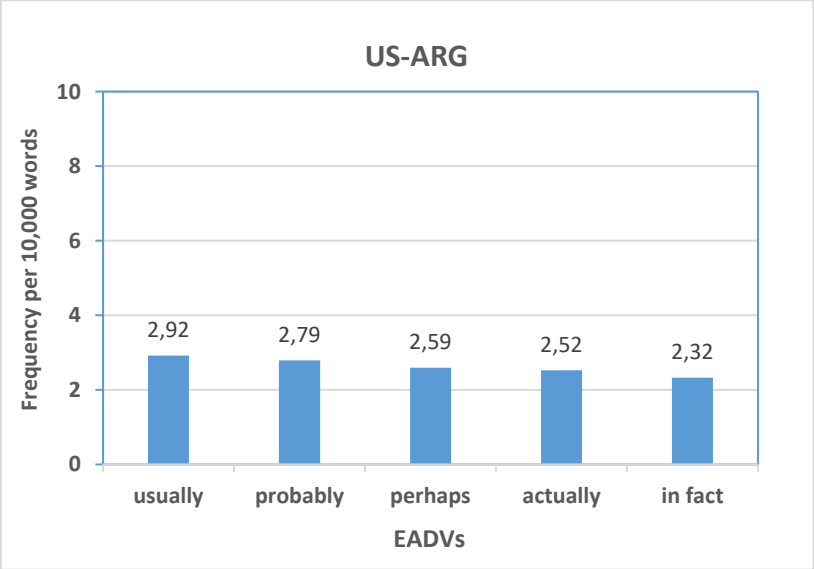


Figure 4.17. *Top five EADVs in US-ARG*

According to Figure 4.17, the most frequent five EADVs (per 10.000 words) in US-ARG are *usually, probably, perhaps, actually* and *in fact*, respectively. Figure 4.18 shows the frequencies of the top 5 EADVs used by the Turkish English Language Teaching (ELT) Department students in the AELT database.

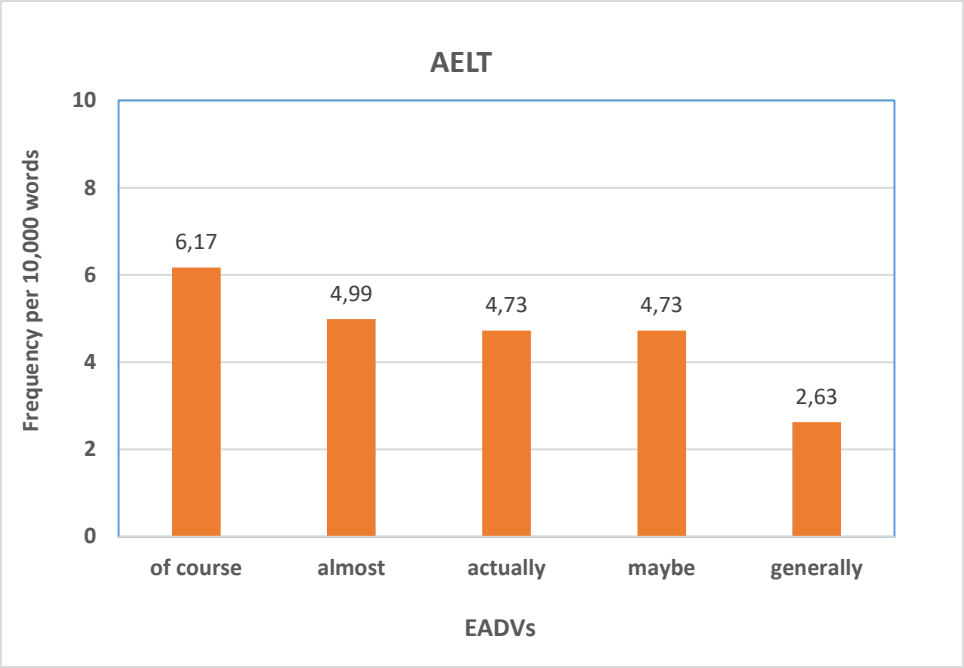


Figure 4.18. *Top five EADVs in AELT*

According to Figure 4.18, the most frequent five EADVs (per 10.000 words) in the AELT database are *of course, almost, actually, maybe* and *generally*, respectively. Figure 4.19 shows the frequencies of the top five EADVs used by the Turkish students in the TR-ICLE component of the ICLE corpus.

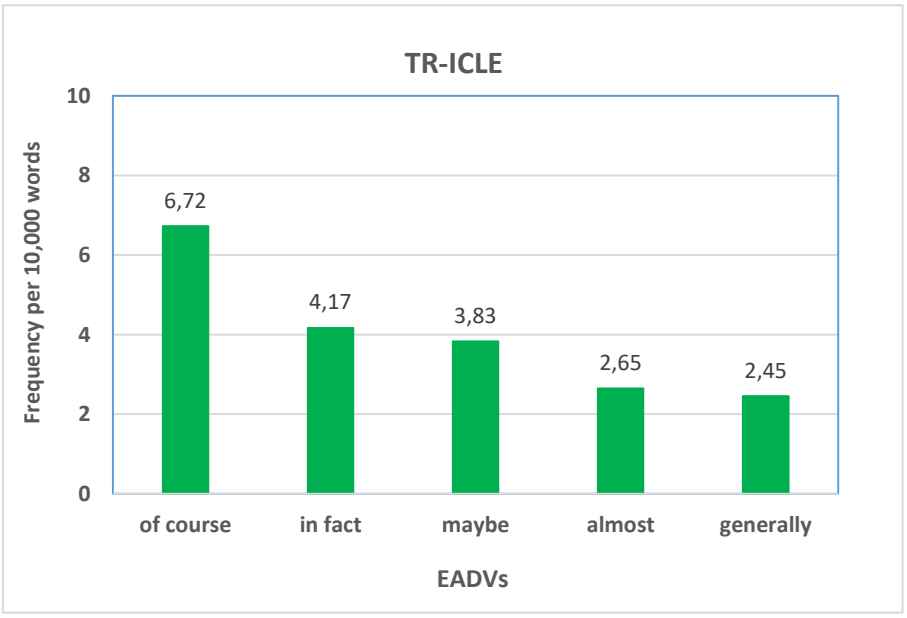


Figure 4.19. *Top five EADVs in TR-ICLE*

According to Figure 4.19, the most frequent five EADVs (per 10.000 words) in TR-ICLE are *of course, in fact, maybe, almost* and *generally*, respectively.

4.4.3. Epistemic adverbs and positioning in clause ttructure

In this section, the qualitative analysis of the epistemic adverbs occurring in the three databases are examined. The notable uses, different combinations and patterns of these epistemic adverbs are analyzed with the extracts taken from each of the three databases. Then the similarities and differences of use of these items are discussed.

Epistemic adverbs may carry a number of different meanings. These meanings may be certainty, doubt, reality, actuality, source of knowledge, limitation, imprecision, and perspective, respectively (Adams& Toledo, 2013). Adverbs are said to be more popular among second/foreign language learners than the semantically equivalent linguistic forms, because learners feel uncertain in the use of appropriate lexical verbs in the statement of their claims (Hyland & Milton, 1997). The manipulation of adverbs might be easier for unexperienced writers (Hyland & Milton, 1997). Adverbs are far more frequently observed in spoken language than in written language (Holmes, 1983). Since they are syntactically mobile in clause structure, it makes it possible for writers to confidently boost and/or hedge their propositions. (Quirk et al, 1972).

Novice writers are reported to prefer epistemic adverbs to lexical verbs. This might be related to the complex features of the appropriate academic tone. It has been often taught that writing requires an impersonal approach. Therefore, the employment of an appropriate epistemic lexicalverb necessitates making correct tense, voice and lexical choices, because all of these may have crucial rhetorical effects. In this regard, epistemic adverbs are easier for writers to use in their expression of commitments to propositions and adjust the degrees of strength of their propositions without experiencing any lexical or grammatical difficulties (Hyland and Milton, 1997).

“Adverbs are not quite suitable for phraseological pattern analysis, because their mobility makes it difficult to identify how certain words repeatedly associate with adverbs (Ngula, 2015, p. 209)”. Since adverbials are mobile in clause structure, researchers have come up with various schemes of classification that demonstrate the positions of adverbials. Among these classification schemes, the most important ones are Quirk et al.(1985) classification as *initial, medial* and *end* positions, Biber *et al.* (1999) identification of these positions as *initial, medial* and *final;* Huddleston and Pullum (2002) identification of *front, central* and *end*; and lastly Ngula (2015) uses four position types as *initial, pre-verbal, post-verbal* and *final. Initial* refers to an epistemic adverb that begins a clause; *pre-verbal* refers to an epistemic adverb preceding the main verb but not beginning a clause; *post-verbal* applies to an epistemic adverb occurring

after the main verb but before the end of the clause; and *final* refers to an epistemic adverb occurring at the end of the clause (Ngula, 2015, p. 210).

1. *Clearly* they are not doing this without thinking. (AELT-A1) (Initial)
2. All these examples *clearly* show that how money leads people badly both in its existence and abundance. (TR-ICLE) (Pre-verbal)
3. This is *clearly* the case in Warren Farrell's book "Why men are the way they 'are'", in which Ralph admits that he worked so hard to provide for his family, that he lost touch with them. (US-ARG) (Post-verbal)

Below the distribution patterns of some specific EADVs according to the four positions in the essays are analyzed in order to identify the similarities and differences among the three groups of student writers.

4.4.3.1. Case Studies

The Case of 'in fact'

In fact is utilized by writers "to assert the actuality or factuality of their claims" (Ngula, 2015; p. 211). The extracts below show the use of *in fact* in terms of the clause position types in the essays written by the three groups of student writers.

1. *In fact*, people are now slave of money. (AELT) (Initial)
2. Another one is the discovery of A-bomb which is *in fact*, very dangerous for mankind. (TR-ICLE) (Post-verbal)
3. Certainly, other evention of great importance preceed, and *in fact*, allow for the existence of the satellite, namely, radio, T.V. & videotape. (US-ARG) (Pre-verbal)

The Case of 'actually'

Actually is also used to indicate a writer's assertion of the truth of a proposition (Biber *et al.*, 1999). The extracts below show the distribution pattern of *actually* in terms of its position in the clause in the essays written by the three groups of student writers:

1. This argument is debated often around times when the death penalty is *actually* put into effect. (US-ARG) (Pre-verbal)
2. Symbolic interactionists *actually* view the world by way of symbols. (US-ARG) (Pre-verbal)
3. The belief that money is root of all evil is *actually* wrong. (AELT) (Post-verbal)
4. *Actually*, people decide the way of spending the money which they have. (AELT) (Initial)
5. Can you guess what might happen? Not very nice things *actually*. (TR-ICLE) (Final)

The Case of 'generally'

It is stated by Ngula (2015) that "the epistemic sense of *generally* allows writers to make claims that apply overall to the phenomenon being talked about. It thus presents the likelihood of a proposition in more general terms (p. 214)". The extracts below show the distribution pattern of *generally* in terms of its position within the clause:

1. *Generally*, children who were placed into the school system at an early age such as kindergarten or first grade showed greater academic achievement than did those who were placed in school later in their education. (US-ARG) (Initial)

2. Apart from that, families *generally* confine girls' freedom; they are not allowed to go some places where boys are allowed. (TR-ICLE) (Pre-verbal)

3. They *generally* prefer easy side of works. (AELT) (Pre-verbal)

4. There is a lot of evil in this century. There are many reasons for this, but money is *generally* the root of all evil. (AELT) (Post-verbal)

The Case of 'indeed'

"Indeed is an epistemic device which is often classified together with some other actuality adverbs such as *in fact* (Ngula, 2015, p. 216)". *Indeed* and *in fact* are both viewed as strong epistemic adverbs on the continuum of epistemic strength, however *in fact* is viewed as slightly stronger than *indeed* (Ngula, 2015, p. 216). *Indeed* carries a 'confirmatory' meaning and this meaning distinguishes it from the other actuality adverbs (Simon-Vandenbergen and Aijmer, 2007). *Indeed* is frequently utilized in argumentation and it follows "expectations raised by a preceding proposition" or indicates "that something seems to be the case contrary to what is expected" (Simon-Vandenbergen and Aijmer, 2007; p. 105). The extracts below show the structural positioning of *indeed* in the essays of the three groups of student writers:

5. If we look at the rate of crimes we can easily see that most of them are reasoned bye the desire for much more money *indeed*. (TR-ICLE) (Final)

6. Money is not the root of evil, itself. *Indeed*, the lack of the money is the root of evil. (AELT) (Initial)

7. The case for the teaching of New Age beliefs was *indeed* a weak argument. (US-ARG) (Post-verbal)

8. Computers are *indeed* one of the greatest inventions of the 20th century. (US-ARG) (Post-verbal)

9. Only then could we say that universities are *indeed* preparing students for the real world. (TR-ICLE) (Pre-verbal)

10. The capital punishment is not a settled issue and, *indeed*, continues to an issue of enormous emotion and importance. (TR-ICLE) (Pre-verbal)

The Case of 'perhaps'

"The adverb *perhaps* is one of the significant members of epistemic rhetorical resources. It is basically used by writers to weaken commitment, thus leaving claims open to potential discussion from readers. Writers strategically use *perhaps* in order to avoid a direct attitude towards claims or arguments (Ngula, 2015; p. 218)". In terms of its position within the clause, see the extracts in the following:

11. *Perhaps*, it simplifies our lives, or it makes our lives difficult and complex. (TR-ICLE) (Initial)
12. *Perhaps* the greatest invention and discovery is the polio vaccine, invented by Salk, which changed the future, and future's children. (US-ARG) (Initial)
13. Money *perhaps*, is a necessary evil in order to conduct the daily affairs of life. (US-ARG) (Pre-verbal)
14. In 1914 El Paso, Texas, enacted *perhaps* the first United States ordinance banning the sale or possession of marijuana; by 1931 twenty-nine states had outlawed marijuana. (US-ARG) (Post-verbal)

4.4.3.2. Epistemic adverbs in terms of their expression of epistemic strength across the three databases

Similar to Ngula (2015) findings, the epistemic adverbs *(perhaps, indeed, in fact, generally actually),* examined in this study also suggest that most of the epistemic adverbs typically occur in initial positions. The pre-verb and post-verb positions are also preferred often by the students. Epistemic adverbs were found to occur rarely in clause-final position, because for most adverbs this position is grammatically not permitted. These findings seem to be parallel with Ngula (2015) and Biber *et al.* (1999). They also report that the pre-verbal and post-verbal (initial and medial) positions are the most frequent places where epistemic adverbs occur, and they occur least in final-clause position.

"The use of epistemic adverbs indicating doubt and certainty qualifies the writer's position with regard to his or her degree of confidence in the truth of the proposition being expressed ranging from "absolute judgements of certainty" to "indications of belief in various levels of probability" (Biber *et al.,* 1999; p. 854)". Writers exhibit the tendency to use the expressions of certainty rather than uncertainty expressions. Epistemic adverbs such as *certainly, of course, obviously* and *clearly* are often utilized to show the writer's highest degree of confidence about the truth of a particular proposition , *probably* and *perhaps* are utilized to indicate uncertainty or doubt as can be observed in the following extracts from the three databases:

1. Nowadays, technology, science and industrialization are developing. *Of course*, these are important subjects *but* they have an adverse effect. There is no longer a place for dreaming and imagination. (AELT)

2. *Of course*, the issue of feminism is not a new one, *but* it is just within the past century that much progress has been made towards the equality of women (with the important exception of women winning the right to vote in the 1800s). (US-ARG)

3. Computer was *certainly* one of the most important inventions of the 20th century. Today we use computers in many areas such as banks, hospitals, schools, factories and so on. (TR-ICLE)

4. Second is industrialization is what keeps companies and people race with people. They always thrive for more and better. *Clearly* they are not doing this without thinking. (AELT)

5. *Obviously*, one of the central issues of welfare reform is dealing with the growing number of illegitimate births in this country. (US-ARG)

In these extracts above, the underlined adverbs indicate high degrees of certainty. The epistemic adverb *of course* signals that both the writer and the reader share similar background knowledge. In the case of (2), the writer seems to assume that his/her audience know about the issue of feminism, which is explicitly stated in the following utterance, "*…is not a new one,…"* In the case of (1), there is a sense of *sharedness* by the writer to establish a connection with the intended audience. By employing *of course* in here, the writer exhinits his/her assumption that technology, science and industrialization are developing and they are generally considered as important subjects by almost everybody.

In the cases of *clearly, obviously,* and *certainly,* they are used to show the writers' ultimate judgements of certainty towards their claims. They indicate their absolute confidence in the certainty of their claims. In the extracts (4) and (5) above, writers intend to express their personal views. Therefore, these epistemic adverbs indicate high levels of commitment on the part of the writer.

The epistemic adverbs *perhaps* and *probably* in (6), (7) and (8), on the other hand, indicate lower degrees of commitment by leaving the claim that is presented open to discussion. Epistemic adverbs usually function as an opinion or comment within the clause. (Biber, *et al.,* 1999). These opinions or comments express some degree of epistemicity, as can be observed in the following extracts:

6. Also, Americans talk too fast, so it's often impossible to understand them, "later" means "I'll see you later" and "coming" means "Are you coming? ". In short, communication is *probably* the first problem that international students face in the United States. (TR-ICLE)

7. Money can be donated to a good cause. If used wrong it *probably* only destroys a single persons life but if used right in can save a lot of lifes and make a change in peoples lifes. (AELT)

8. The trend of our society today is striving so hard to equalize men and women that the efforts *perhaps* have been taken a little too far when it comes to women in combat. (US-ARG)

There is a contrast between the uses of *perhaps* and *probably* and the uses of *certainly, of course, obviously* and *clearly. Probably* and *perhaps* are the hedging devices and they are used to mitigate the writer's evaluation of the probability of a particular statement. Hedges are defined by Hyland (1998) as "a lack of complete commitment to the truth value of an accompanying proposition, or a desire not to express the commitment categorically (p. 1)". The epistemic adverbs *probably* and *perhaps* may function to reduce the risk of criticism from the intended audience as can be observed in (8).

Epistemic adverbs indicating evidence and/or source are utilized to make comments on the source of information and/or the kind of evidence writers have for their utterance. The attribution of information to a source is a crucial side of argumentative writing because it helps "writers to establish a persuasive epistemological and social framework for the acceptance of their arguments (Hyland, 2004; p. 22)". The epistemic adverbs *evidently* and *apparently,* in this vein, indicate that the kind of evidence the writer has for his/her proposition is acquired by perception.This perception may either be through the senses, or it might be inferential, where the writer reached that knowledge by observing the relationship between events. See the following extracts for exemplification:

9. *Apparently,* most people believe that they are underpaid and that others are overpaid. For instance, everyone seems to think that doctors make much too money for the work they do, yet none of the doctors are lowering their fees (they must think that it's a fair price). (US-ARG)
10. Everyone is supposed to be equal, but *apparently* some people just don't have to obey the law. It seems suspicious that some government run facilities could be "immune" from their own laws. No law requires that cosmetics or house hold products be tested on animals. (TR-ICLE)
11. Using marijuana as medicine is not a new idea. In 1993 scientists in Israel exhumed the body of a woman who died in childbirth 1600 years ago. These scientists found a burned material they identified as marijuana. It was *evidently* used to ease the pain of a difficult labor. (US-ARG)

In (9) and (10), the writers use *apparently* in order to reduce authorial commitment and hedging the proposition. However, in (11), the writer prefers to strengthen the propositional content by using the booster *evidently.* Other epistemic adverbs indicating actuality and reality are demonstrated in the extracts below. The use of *in fact* and *actually* in (12)-(14) provide a comment on the status of the proposition as a real-life fact:

12. Since ancient times people kill each other for being wealthy and have the power that comes with money. *In fact*, it is still same in present day. One of the main reason of crimes all over the world is money. (AELT)

13. Most important, grammar information are not given thoroughly after first year of university. *Actually*, it is the most necessary lesson which must be thought. A student who will be a teacher must take these skills every year. (TR-ICLE)

14. The problem here is that people don't realize the big picture of the situation at hand. Instead of capital punishment saving tax payers money, it *actually* does the complete opposite. Let me throw a couple of statistics at you that I gathered doing a paper last year. (US-ARG)

While the epistemic use of *generally* states the probability of an utterance in general terms, *of course* is in pragmatic terms a solidarity means of showing the intended audience might already know that the claim being made is true (Simon-Vandenbergen & Aijmer, 2007).

15. *Generally*, children who were placed into the school system at an early age such as kindergarten or first grade showed greater academic achievement than did those who were placed in school later in their education. (US-ARG)

16. For the better part of this century, the bulk of that familial guidance service was provided by the at-home female who did not demand financial compensation, and *of course*, it remains an unpaid job today, whether it's Mom or Dad who stays at home. (US-ARG)

17. To sum up, when we discuss about the effects, it is not hard to agree on all. *But of course* it is nearly impossible to go back top ast and live without technology. (AELT)

18. Most of the people think that money is the root of all devil. They think that *generally* the reason of wars, conflicts, social imbalance is money. (AELT)

19. *Generally*, internet users are only interested in their conjectural world, not in their real world. (TR-ICLE)

20. *Of course* you can be happy when you have a lot of money, *but* there are limits to its power. (TR-ICLE)

Perhaps is an epistemic device that is used to considerably reduce the assertiveness of a particular proposition. *In fact,* on the other hand, is often used to emphasize the truth of a certain proposition. (Ngula, 2015).

21. I wonder whether I let my students to cheat or not. *Perhaps* I find the answer when I will be a teacher. (TR-ICLE)

22. We find it surprising, *perhaps* even shocking, when someone dies from anything other than old age. (US-ARG)

23. There are many persons who engage in criminal activity to their advantage. *In fact* one needs only to consider the historical context, the current material gain, and even the consequences of crime in America to prove that crime can be a profitable profession. (US-ARG)

24. All in all, technology may dominate the today's world but it doesn't cause lack of imagination and dreaming ability. *In fact*, it creates opportunities to use imagination and encourage us to develop bigger and better things. (AELT)

25. Most of the people commit suicide when they are hopeless and desperate. They see suicide as a solution *but in fact* it is not a solution but escaping. (TR-ICLE)

4.4.4. Epistemic strength expressed by adverbs

Table 4.25 and Figure 4.20 show the levels of epistemic strength with specific reference to epistemic adverbs in the three databases (per 10.000 words).

Table 4.25. *Frequency Distribution of the Three Levels of EADVs per 10,000 Words across the Three Databases*

Strength of EADVs	US-ARG	AELT	TR-ICLE
Strong	14.48	15.89	15.26
Medium	8.57	8.27	6.92
Weak	9.63	7.75	9.08
Total	32.67	31.91	31.26

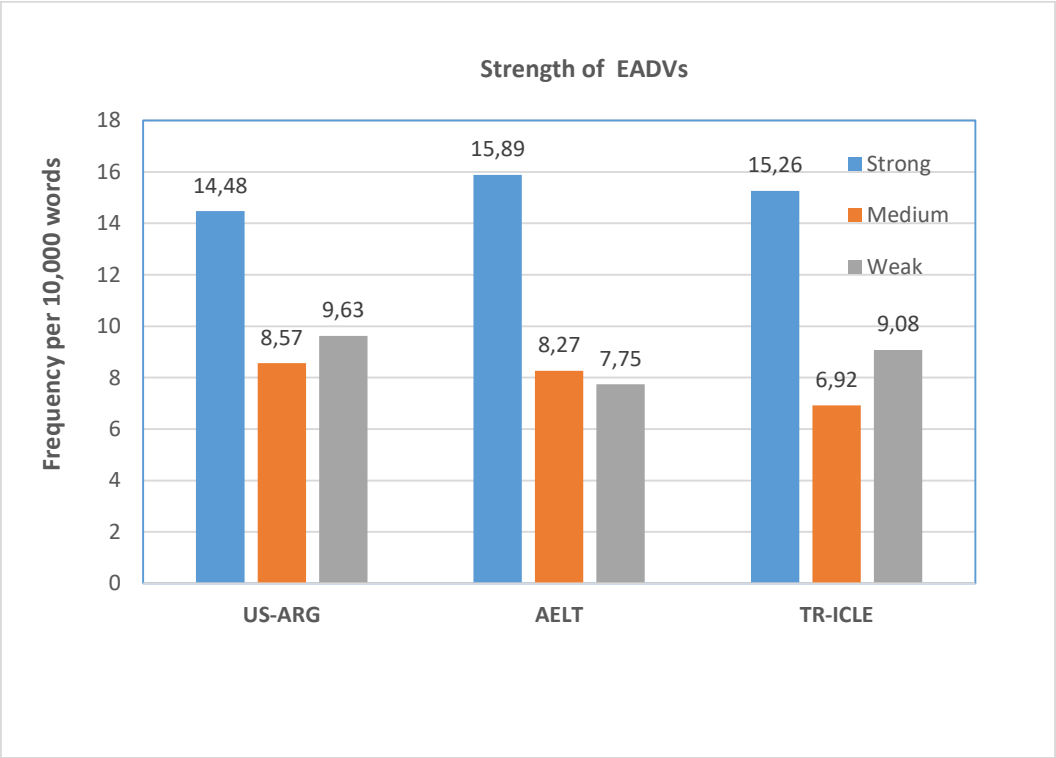


Figure 4.20. *Frequency Distribution of the Three Levels of EADVs per 10,000 Words Across the Three Databases*

As we can observe from Table 4.25 and Figure 4.20, there is a common preference in the three databases for the use of EADVs expressing strong level of epistemic strength. The use of strong level EADVs are slightly higher in AELT (15.89) and TR-ICLE (15.26) than in US-ARG (14.48). In the case of the EADVs expressing medium level of epistemic strength, they occur in almost the same frequencies in US-ARG (8.57) and AELT (8.27) databases, though

in lower frequency in TR-ICLE (6.92). Lastly, as for the EADVs expressing weak level of epistemic strength, they occur in almost the same frequencies in US-ARG (9.63) and TR-ICLE (9.08) databases, though in lower frequency in AELT (7.75) per 10.000 words.

Table 4.26 below shows the log-likelihood results for the epistemic strength of EADVs for the AELT and US-ARG databases being compared.

Table 4.26. *Epistemic Strength of EADVs in AELT and US-ARG Databases Per 10,000 Words*

Strength of EADVs	AELT	US-ARG	Log-likelihood	Sig.	
Strong	15.89	14.48	0.07	0.798	+
Medium	8.27	8.57	0.01	0.943	-
Weak	7.75	9.63	0.20	0.651	-

As we can observe from Table 4.26, there is statistically no significant difference between the two groups in terms of their use of the three level of EADVs. This indicates that the Turkish students in AELT and the American students in US-ARG are similar in terms of their use of strong, medium and weak level EADVs. However, there are still some slight differences between the two groups. For instance, the strong level EADVs occur with slightly higher frequency in AELT (15.89) than in US-ARG (14.48). Medium level EADVs, on the other hand, occur with almost the same frequency in AELT (8.27) and in US-ARG (8.57). Lastly, in terms of the frequency of weak level EADVs, they occur 7.75 times per 10.000 words in AELT; whereas 9.63 times in US-ARG. Table 4.27 below shows the log-likelihood results for the epistemic strength of EADVs for the AELT and TR-ICLE databases being compared.

Table 4.27. *Epistemic Strength of EADVs in AELT and TR-ICLE Databases Per 10.000 Words*

Strength of EADVs	AELT	TR-ICLE	Log-likelihood	Sig.	
Strong	15.89	15.26	0.01	0.911	+
Medium	8.27	6.92	0.12	0.729	+
Weak	7.75	9.08	0.11	0.745	-

As we can observe from Table 4.27, there is statistically no significant difference between the two groups in terms of their use of the three level of EADVs. This indicates that the Turkish students in AELT and the other Turkish students in TR-ICLE are similar in terms of their use of strong, medium and weak level EADVs. However, there are still some slight differences between the two groups. For instance, the medium level EADVs occur with slightly higher frequency in AELT (8.27) than in TR-ICLE (6.92). Strong level EADVs, on the other hand, occur with almost the same frequency in AELT (15.89) and TR-ICLE (15.26). Lastly, in terms

of the frequency of weak level EADVs, they occur 7.75 times per 10.000 words in AELT; whereas 9.08 times in TR-ICLE.

Table 4.28 below shows the log-likelihood results for the epistemic strength of EADVs for the TR-ICLE and US-ARG databases being compared.

Table 4.28. *Epistemic Strength of EADVs in TR-ICLE and US-ARG Databases Per 10.000 Words*

Strength of EADVs	TR-ICLE	US-ARG	Log-likelihood	Sig.	
Strong	15.26	14.48	0.02	0.8851	+
Medium	6.92	8.57	0.18	0.675	-
Weak	9.08	9.63	0.02	0.899	-

Table 4.28 indicates that there is statistically no significant difference between the two groups in terms of their use of the three level of EADVs. This indicates that the Turkish students in TR-ICLE and the American students in US-ARG are similar in terms of their use of strong, medium and weak level EADVs. However, there are still some slight differences between the two groups. For instance, the strong level EADVs occur with slightly higher frequency in TR-ICLE (15.26) than in US-ARG (14.48). Weak level EADVs, on the other hand, occur with almost the same frequency in TR-ICLE (9.08) and in US-ARG (9.63). Lastly, in terms of the frequency of medium level EADVs, they occur 6.92 times per 10.000 words in TR-ICLE; whereas 8.57 times in US-ARG.

4.4.5. Positioning in clause structure of epistemic adverbs

Table 4.29 shows the frequency distribution of *in fact* per 10.000 words based on the types of clause positions in argumentative essays written by the three groups of students.

Table 4.29. *Frequency Distribution of Clause Position Types for in fact in the Three Databases*

EADV	Clause Position Type	US-ARG	AELT	TR-ICLE
In fact	Initial	1.33	1.84	2.90
	Pre-Verbal	0.73	0.13	0.69
	Post-Verbal	0.27	0.00	0.39
	Final	0.00	0.00	0.15

According to Table 4.29, the most favored position of the epistemic adverb *in fact* within a clause is the initial position. However, it is also observed with less frequency in pre-verb and post-verb positions. *In fact* does not occur in clause-final position in US-ARG and AELT databases, though 0.15 cases per 10.000 was recorded for this position in the TR-ICLE database. *In fact* occurs most frequently in clause-initial position, then pre-verb and post-verb positions, respectively. Figure 4.21 shows the distribution of *in fact* per 10.000 words based on the types of clause positions in the argumentative essays written by the three groups of students. Figure 4.21 summarizes the results presented in Table 4.29 above. The analyses of concordance lines for some specific epistemic devices were conducted through the use of AntConc program and they are summarized in Appendix G.

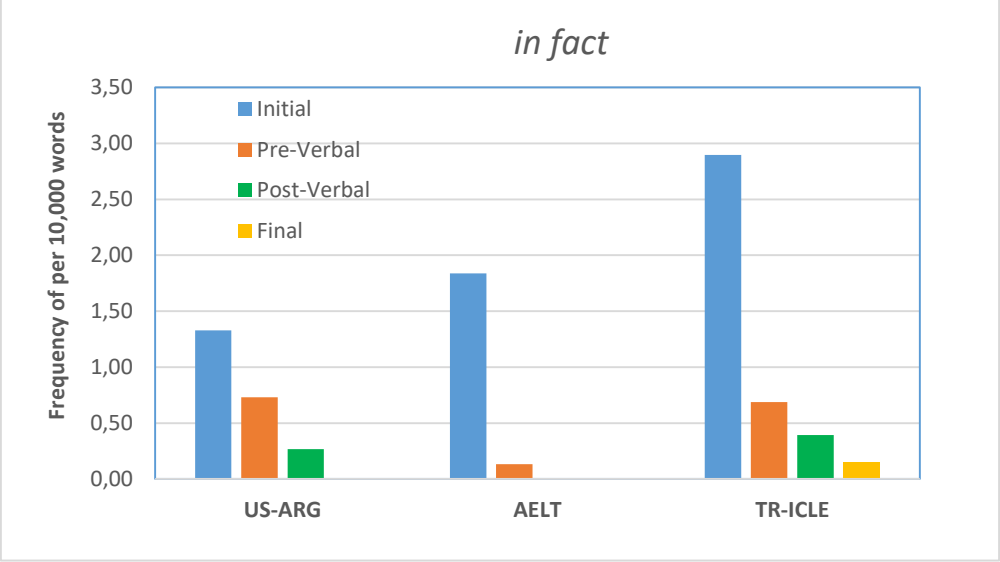


Figure 4.21. *Frequency Distribution of Clause Position Types for **In Fact** in the Three Database*

According to Figure 4.21, *in fact* most frequently occurs in initial position in all three databases. Thus there is similar pattern observed for the three groups of students in their use of *in fact* in

clause-initial position. While there are no instances of *in fact* in post-verbal position in AELT, this position is used with 0.27 frequency in LOCNESS and with 0.39 frequency in the TR-ICLE database. While no examples were found in clause-final position in both US-ARG and AELT, this position is used with 0.15 frequency in the TR-ICLE database. Table 4.30 demonstrates the distribution patterns of *actually* in the argumentative essays by the three groups of students.

Table 4.30. *Frequency Distribution of Clause Position Types For Actually in the Three Databases*

EADV	Clause Position Type	US-ARG	AELT	TR-ICLE
Actually	Initial	0.20	1.84	0.54
	Pre-Verbal	2.12	1.05	0.49
	Post-Verbal	0.20	1.31	0.10
	Final	0.00	0.53	0.15

According to Table 4.30, in the essays written by the American students, the most favored clause position for *actually* is pre-verbal, which can occur either before the entire verb phrase or between the auxiliary and the main verb. While *actually* is used (1.84, per 10.000 words) times in clause-initial position in the AELT database and is used (0.54) times in the TR-ICLE database, it is only used (0.20) times in clause-initial position in the US-ARG database by American students. This signals that the Turkish students in both AELT and TR-ICLE use *actually* in clause-initial position more frequently than the American students in the US-ARG database. The EADV *actually* has no occurrence in clause-final position in the US-ARG database; however it occurs (0.53) times in AELT and (0.15) times in TR-ICLE in clause-final position. Lastly, the occurrence of *actually* in post-verbal position is higher in AELT, with 1.31 frequency, than in US.ARG (0.20) and TR-ICLE (0.10).

Figure 4.22 shows the distribution patterns of *actually* in the argumentative essays by the three groups of students with regard to the types of clause positions:

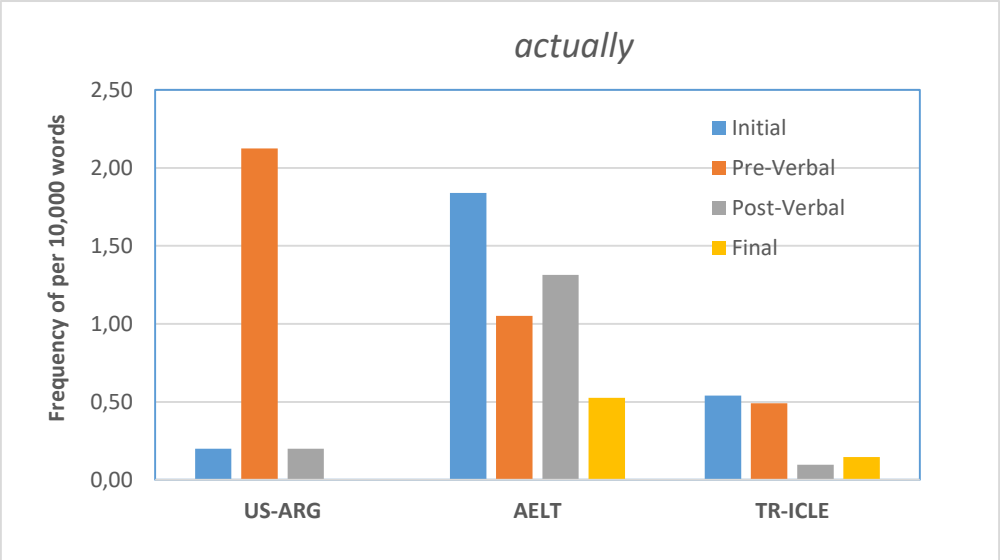


Figure 4.22. *Distribution of Clause Position Types For Actually in the Three Databases*

According to Figure 4.22, it can be observed that in the case of American students in the US-ARG database, the prototypical clause position for *actually* is pre-verbal. However, clause-initial position is more favored by the Turkish students in both AELT and TR-ICLE databases. The frequency distribution of *actually* in clause-initial and post-verb positions is the same (0.20 frequency, per 10.000 words) in the US-ARG database. The occurrence of *actually* in post-verbal position in the AELT database (1.31), on the other hand, is higher than in US.ARG (0.20) and TR-ICLE (0.10).

Table 4.31 shows the structural positioning of *indeed* in the three databases.

Table 4.31. *Frequency Distribution of Clause Position Types For Indeed in the Three Databases*

EADV	Type of Clause Position	US-ARG	AELT	TR-ICLE
Indeed	Initial	0.00	0.13	0.34
	Pre-Verbal	0.53	0.13	0.00
	Post-Verbal	0.33	0.00	0.44
	Final	0.13	0.00	0.10

According to Table 4.31, the EADV *indeed* typically occurs in post-verbal position in TR-ICLE (0.44), in pre-verbal position in US-ARG (0.53), and in initial and pre-verbal position in the AELT database (both 0.13). There is no instance of *indeed* occurring in initial position in the US-ARG database, while it occurs in clause-initial position with 0.13 and 0.34 frequency in AELT and TR-ICLE databases, respectively. No instances of *indeed* are found in pre-verbal position in the TR-ICLE database, however *indeed* in pre-verbal position is found with 0.53 and

0.13 frequency in US-ARG and AELT databases, respectively. There are no instances of *indeed* found in post-verbal and final positions in the AELT database. *Indeed* in post-verbal position occurs with 0.33 and 0.44 frequency in US-ARG and TR-ICLE databases, respectively. Lastly, *indeed* occurs in clause-final position with 0.13 and 0.10 frequency in US-ARG and TR-ICLE, respectively.

Figure 4.23 shows the distribution patterns of *indeed* based on the types of clause positions in the three databases.

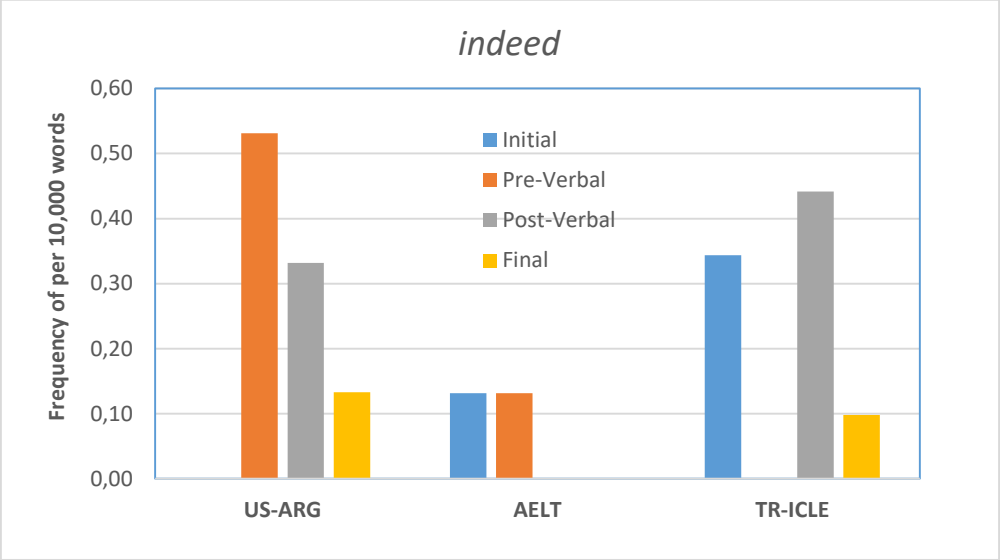


Figure 4.23. *Frequency Distribution of Clause Position Types for Indeed in the Three Databases*

Figure 4.23 shows that the EADV *indeed* occurs more frequently in post-verbal position in TR-ICLE, in pre-verbal position in US-ARG, in initial and pre-verbal position equally in the AELT database. There is no instance of *indeed* occurring in initial position in the US-ARG database, however it occurs in clause-initial position with lower frequency in AELT than in the TR-ICLE database. No instances of *indeed* are found in pre-verbal position in the TR-ICLE database, however *indeed* in pre-verbal position is found with higher frequency in US-ARG than in the AELT database. There are no instances of *indeed* found in post-verbal and final positions in the AELT database, while *indeed* in post-verbal position occurs more frequently in TR-ICLE than in US-ARG. Lastly, *indeed* occurs in clause-final position with a slightly higher frequency in US-ARG than in TR-ICLE.

Table 4.32 below presents the EADV *generally* in terms of its structural positioning in the clause for the three databases.

Table 4.32. *Frequency Distribution of Clause Position Types For Generally in the Three Databases per 10.000 Words*

EADV	Clause Position Type	US-ARG	AELT	TR-ICLE
Generally	Initial	0.13	0.13	0.59
	Pre-Verbal	0.60	1.97	1.28
	Post-Verbal	0.07	0.53	0.54
	Final	0.00	0.00	0.00

We can see from Table 4.32 that *generally* in pre-verb position seems to be the prototypical slot in all three databases. For all the three databases, *generally* is most frequently found in pre-verb position.The final position does not occur in either of the three databases.While *generally* is used in clause-initial position with the equal frequency (0.13) in both US-ARG and AELT databases, it seems to be more frequent in initial position in the TR-ICLE database, with 0.59 frequency per 10.000 words. *Generally* in post-verbal position is used fairly equally in AELT (0.53) and TR-ICLE (0.54); however it seems to be far less frequent in post-verbal position (0.07) in the US-ARG database.

Figure 4.24 shows the distribution patterns of *generally* based on the types of clause positions in the three databases.

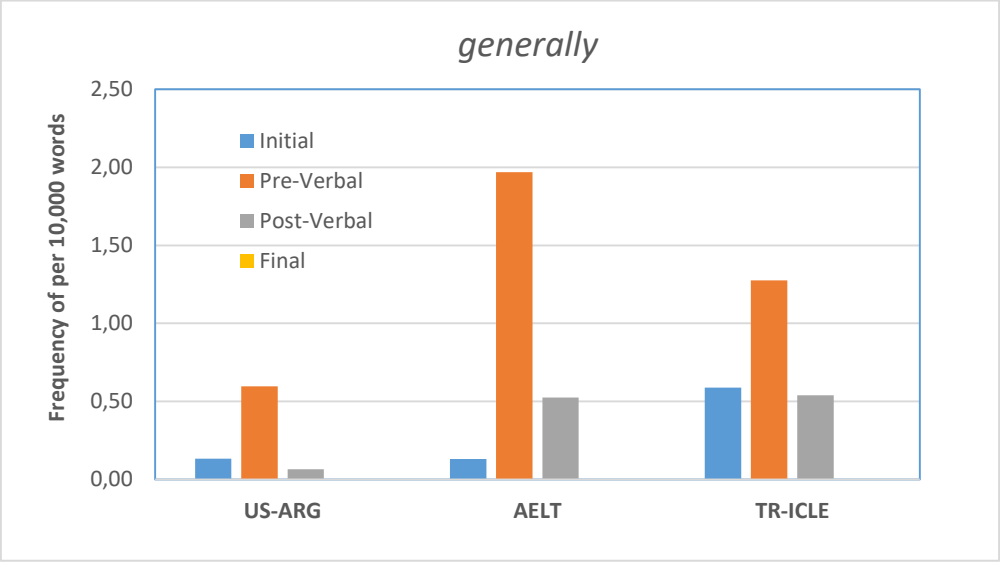


Figure 4.24. *Frequency Distribution of Clause Position Types For Generally in the Three Databases*

We can observe from Figure 4.24 that *generally* in pre-verb position seems to be the prototypical position in the three databases. In other words, *generally* is clearly most common

in pre-verb position among the three groups. The final position does not occur in either of the three databases. While *generally* is used in clause-initial position with the equal frequency in both US-ARG and AELT databases, it seems to be more frequent in initial position in the TR-ICLE database. *Generally* in post-verbal position is used fairly equally in AELT and TR-ICLE, but it seems to be far less frequent in post-verbal position in the US-ARG database. On the clause positioning of the occurrence of *perhaps,* Table 4.33 summarizes the results.

Table 4.33. *Frequency Distribution of Clause Position Types For Perhaps in the Three Databases Per 10.000 Words*

EADV	Clause Position Type	US-ARG	AELT	TR-ICLE
Perhaps	Initial	1.13	0.00	0.49
	Pre-Verbal	1.00	0.00	0.39
	Post-Verbal	0.46	0.00	0.15
	Final	0.00	0.00	0.00

According to Table 4.33, *perhaps* tends to occur in initial position in both US-ARG (1.13) and TR-ICLE (0.49). It is important to emphasize that the EADV *perhaps* does not occur in the AELT database. It is also important to note that there is no use of *perhaps* in clause-final position in either LOCNESS or TR-ICLE. The frequency of *perhaps* in pre-verbal and post-verbal positions in the US-ARG database is (1.00) and (0.46) respectively. The occurrence of *perhaps* in pre-verbal and post-verbal positions in TR-ICLE, on the other hand, is (0.39) and (0.15), respectively. This indicates that *perhaps* in pre-verbal and post-verbal positions are more frequently utilized in US-ARG than in TR-ICLE. *Perhaps* in clause-initial position is not set apart with commas in most of the instances. In post-verb position, *perhaps* comes in between the main verb and a copula or complement. Typical occurrences of *perhaps* in the three databases are as follows:

Figure 4.25 shows the distribution patterns of *perhaps* based on the types of clause positions in the three databases.

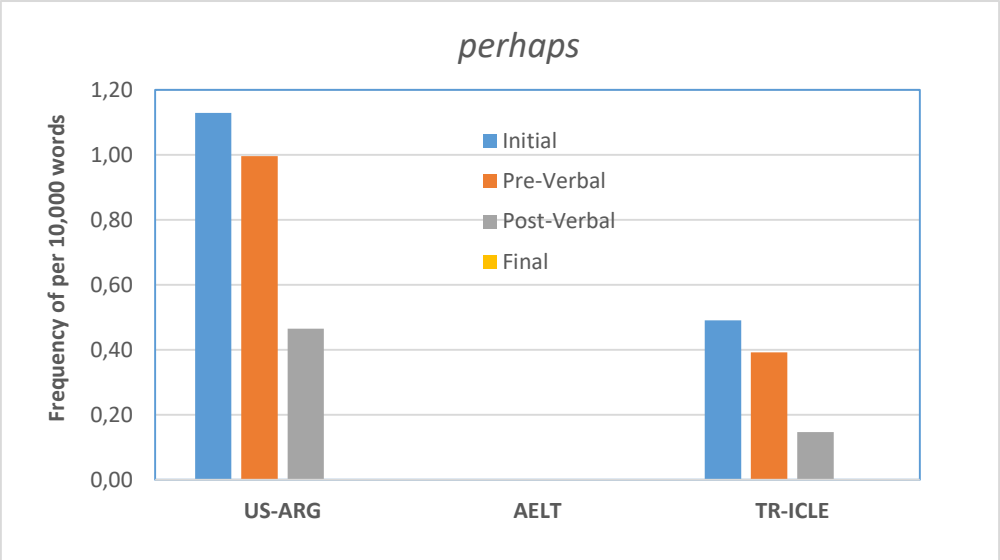


Figure 4.25. *Frequency Distribution of Clause Position Types For* ***Perhaps*** *in the Three Databases*

Figure 4.25 demonstrates a tendency for *perhaps* to occur in clause-initial position in both US-ARG and TR-ICLE databases. It is important to emphasize that there is no instance of *perhaps* occurring in the AELT database. It is also important to note that there is no use of *perhaps* in clause-final position in either LOCNESS or TR-ICLE. Lastly, *perhaps* in pre-verbal and post-verbal positions are more frequently utilized in the US-ARG database than in TR-ICLE.

4.4.6. Frequency distribution of the epistemic adverbs *perhaps, maybe, probably* and *of course* in the three databases

Table 4.34 below shows the frequency distribution (per 10.000 words) of the epistemic adverbs *perhaps, maybe, probably* and *of course* in the three databases.

Table 4.34. Frequency Distribution (per 10.000 words) of the Epistemic Adverbs *Perhaps, Maybe, Probably* and *Of Course* in the three databases

Item	US-ARG	AELT	TR-ICLE
	f/10,000	f/10,000	f/10,000
perhaps	2.59	0.00	1.08
maybe	2.06	4.73	3.83
probably	2.79	2.23	1.57
of course	1.66	6.17	6.72

As can be observed from Table 4.34, the epistemic adverb *perhaps* occurs 2.59 times per 10.000 words in the US-ARG database, 1.08 times in TR-ICLE; however no instance of *perhaps* is found in the AELT database. As for the epistemic adverb *maybe*, it is more

frequently used in AELT compared to the US-ARG and TR-ICLE databases. *Maybe* occurs 4.73 times per 10.000 words in AELT, 3.83 times in TR-ICLE and only 2.06 times in the US-ARG database. As for *probably,* it occurs slightly more frequently in US-ARG compared to AELT and TR-ICLE databases. *Probably* occurs 2.79 times per 10.000 words in US-ARG, 2.23 times in AELT, and 1.57 times in TR-ICLE. The case of '*of course'* seems interesting, because *of course* occurs 6.17 and 6.72 times per 10.000 words in AELT and TR-ICLE, respectively; whereas it only occurs 1.66 times in the US-ARG database.

Figure 4.26 shows the frequencies of *perhaps, maybe, probably* and *of course* among the three databases. Figure 4.26 summarizes the results presented in Table 4.34 above.

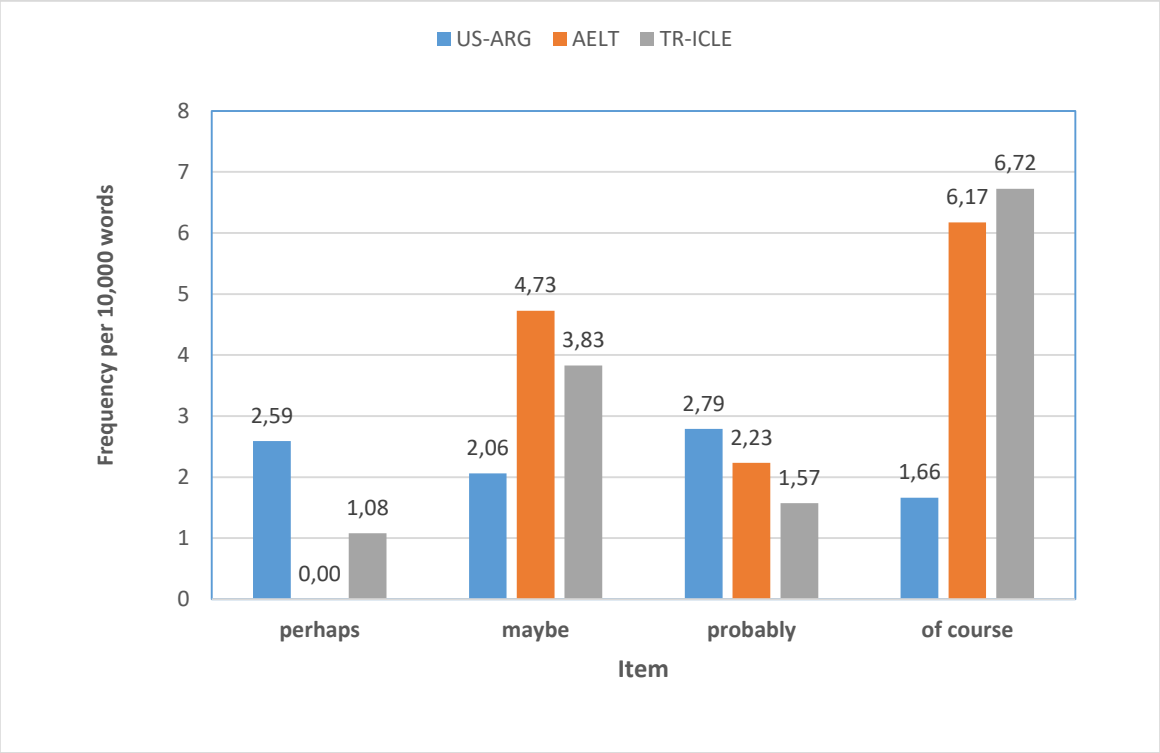


Figure 4.26. Frequency Distribution of the Epistemic Adverbs *Perhaps, Maybe, Probably* and *Of Course* in the Three Databases

According to Figure 4.26, *of course* is significantly more frequent in both AELT and TR-ICLE databases compared to US-ARG. *Maybe* is also more frequently used by the Turkish students in the AELT and TR-ICLE databases compared to the American students in US-ARG.In the case of *perhaps* and *probably,* these two epistemic adverbs (EADVs) are more frequently used by the American students compared to the Turkish students in both AELT and TR-ICLE. As stated before, *perhaps* is not ever used in the AELT database and it is only found 1.08 times

per 10.000 words in TR-ICLE. Table 4.22 shows the frequency distribution of *perhaps, maybe, probably* and *of course* according to their clause positions in the three databases.

Table 4.35. *Distribution of the EADVs Perhaps, Maybe, Probably and Of Course According to their Positions in Clauses*

Item	US-ARG			AELT			TR-ICLE		
	Initial	Medial	Final	Initial	Medial	Final	Initial	Medial	Final
perhaps	16	23	0	0	0	0	10	12	0
maybe	7	24	0	17	18	1	34	44	0
probably	0	42	0	2	15	0	4	28	0
of course	13	12	0	33	14	0	89	48	0

According to Table 4.35, *perhaps* is more frequently used in clause-medial position in both US-ARG and TR-ICLE. There is no instance of *perhaps* occurring in clause-final position. Interestingly in the case of *maybe,* the Turkish students in both AELT and TR-ICLE databases tend to use it more frequently in clause-initial position compared to the American students in US-ARG. *Maybe* occurs in clause-initial position in US-ARG only 7 times, 17 and 34 times in AELT and TR-ICLE respectively. However *maybe* occurs more frequently in clause-medial position in the three databases. In the case of *probably,* there seems to be a tendency among the three groups to use it in clause-medial position. There is no instance of *probably* occurring in clause-initial position in the US-ARG database. Turkish students in AELT and TR-ICLE, on the other hand, used *probably* in 2 and 4 cases in clause-initial position respectively. There is no instance of *probably* found in clause-final position in each of the three databases. In the case of *'of course',* the Turkish students in both AELT and TR-ICLE tend to use it more frequently in clause-initial position compared to the American students in the US-ARG database. Rather than using *of course* in clause-medial position, Turkish students seem to use it more often in clause-initial position. Lastly, there is no instance of *'of course'* found in clause-final position in each of the three databases.

4.5. Epistemic Devices: Nouns

4.5.1. Frequency of epistemic nouns

Table 4.36 lists the top 10 epistemic nouns (ENs) used by the students in the three databases. *(No)* refers to the raw number of occurrence of each item in the databases. However in order to make correct interpretations, the standardized values will be interpreted instead of these raw number of occurrences.

Table 4.36. *Top 10 Epistemic Nouns (ENs) For the Three Databases*

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	evidence	5.25	79	opinion	7.75	59	idea	3.73	76
2	fact	5.11	77	idea	3.15	24	view	3.73	76
3	claim	4.32	65	fact	2.10	16	fact	3.44	70
4	idea	4.12	62	chance	1.05	8	opinion	3.44	70
5	opinion	1.93	29	hope	0.79	6	chance	1.52	31
6	chance	1.86	28	belief	0.66	5	hope	1.13	23
7	fear	1.66	25	claim	0.53	4	fear	0.79	16
8	view	1.39	21	evidence	0.53	4	belief	0.69	14
9	theory	1.20	18	danger	0.39	3	possibility	0.54	11
10	belief	1.20	18	theory	0.13	1	danger	0.44	9

According to Table 4.36, *evidence* is detected as the most commonly used epistemic noun by the American students in the US-ARG database. *Evidence* occurs 5.25 times per 10.000 words in US-ARG. It is interesting that *evidence* only occurs 0.53 times per 10.000 in the AELT database and it is not even listed among the top 10 ENs in TR-ICLE. *Opinion* is found as the most common epistemic adjective used by the Turkish students in the AELT database. *Opinion* occurs 7.75 times per 10.000 words in AELT. However, it only occurs 1.93 times in US-ARG and 3.44 times in TR-ICLE. As for the most frequent epistemic adjective in the TR-ICLE database, it is *idea* with a frequency of 3.73 per 10.000 words. The frequency of *idea* seems to be similar in the three databases, though it slightly occurs more number of times in US-ARG. *Idea* occurs 4.12 times per 10.000 words in US-ARG and 3.15 in AELT. As for the epistemic noun (EN) *fact,* it is more frequently used by the American students compared to the Turkish group in both AELT and TR-ICLE. *Fact* occurs 5.11 times per 10.000 words in the US-ARG, (2.10) in AELT, and (3.44) in TR-ICLE. Thus, *fact* occurs slightly more number of times in TR-ICLE compared to AELT. One interesting finding concerns the use of the epistemic noun (EN) *view.* It occurs 3.73 times per 10.000 words in TR-ICLE. However, it is found occurring 1.39 times in the US-ARG and it is not even listed among the top 10 ENs in the AELT database. Another striking finding concerns the use of the EN *claim.* It occurs more frequently in the US-ARG database (4.32) compared to AELT (0.53) and it is not found among the top 10 ENs in TR-ICLE.

4.5.2. The commonly used epistemic nouns

Figure 4.27 shows the frequencies of the top five epistemic adverbs (ENs) used by the American students in the US-ARG database of the LOCNESS corpus.

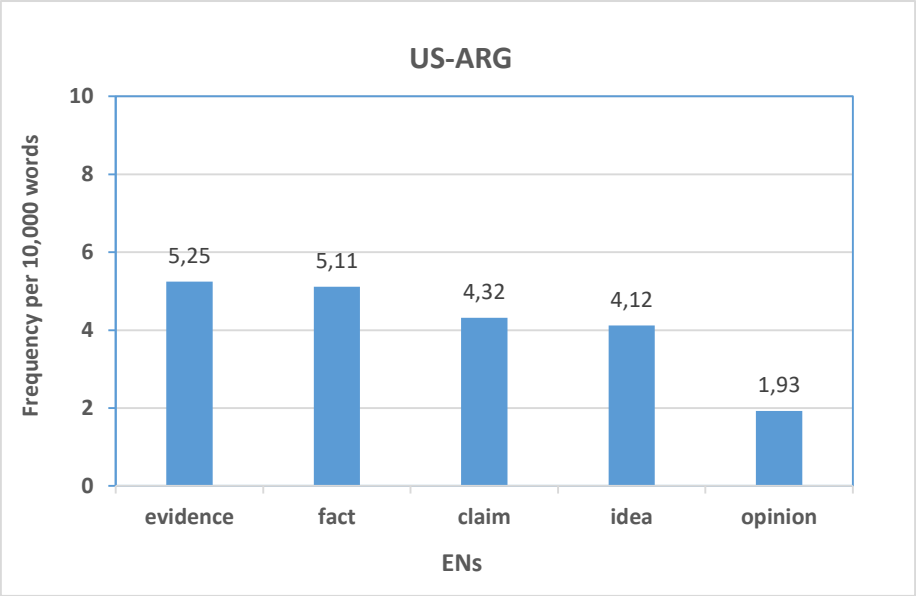


Figure 4.27. *Top five ENs in US-ARG*

According to Figure 4.27, the most frequent five ENs (per 10.000 words) in US-ARG are *evidence, fact, claim, idea* and *opinion,* respectively. Figure 4.28 shows the frequencies of the top five ENs used by the Turkish English Language Teaching (ELT) Department students in the AELT database.

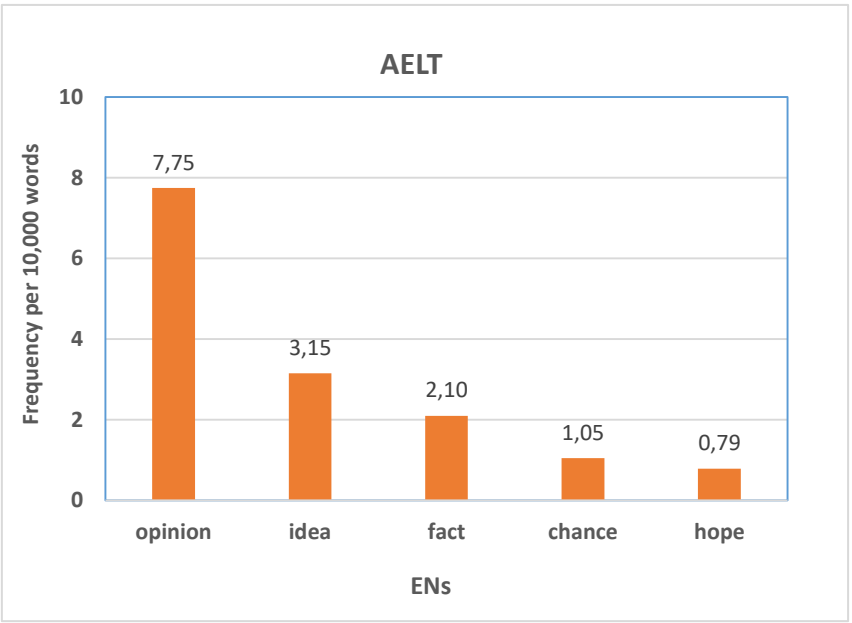


Figure 4.28. *Top five ENs in AELT*

According to Figure 4.28, the most frequent five ENs (per 10.000 words) in the AELT database are *opinion, idea, fact, chance* and *hope,* respectively. Figure 4.29 shows the

frequencies of the top 5 ENs used by the Turkish students in the TR-ICLE component of the LOCNESS corpus.

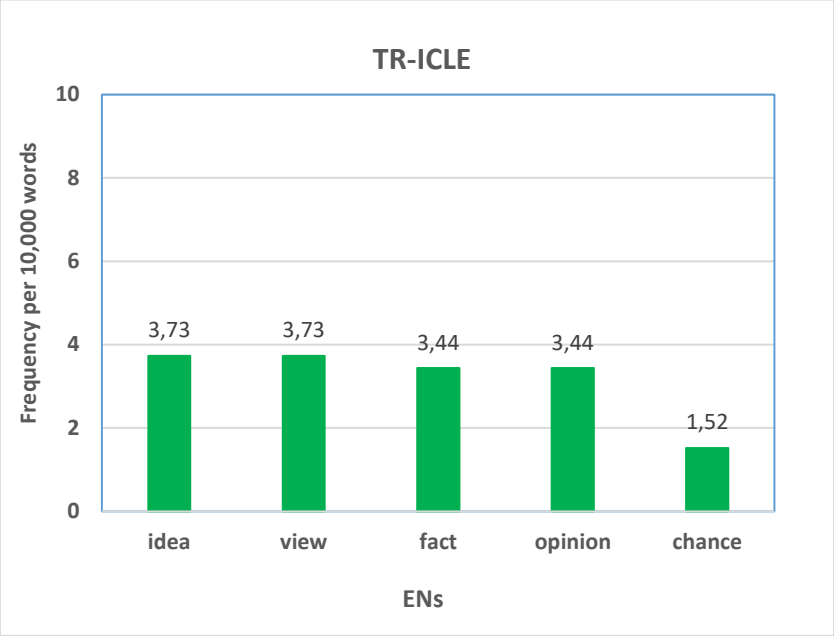


Figure 4.29. *Top five ENs in TR-ICLE*

According to Figure 4.29, the most frequent five ENs (per 10.000 words) in TR-ICLE are *idea, view, fact, opinion* and *chance,* respectively.

4.5.3. Epistemic strength expressed by nouns

Table 4.37 and Figure 4.30 show the levels of epistemic strength with specific reference to epistemic nouns in the three databases (per 10.000 words).

Table 4.37. *Frequency Distribution of the Three Levels of ENs per 10,000 Words Across the Three Databases*

Strength of ENs	US-ARG	AELT	TR-ICLE
Strong	19.99	6.43	8.00
Medium	6.11	1.84	3.83
Weak	6.24	9.06	9.77
Total	32.34	17.33	21.60

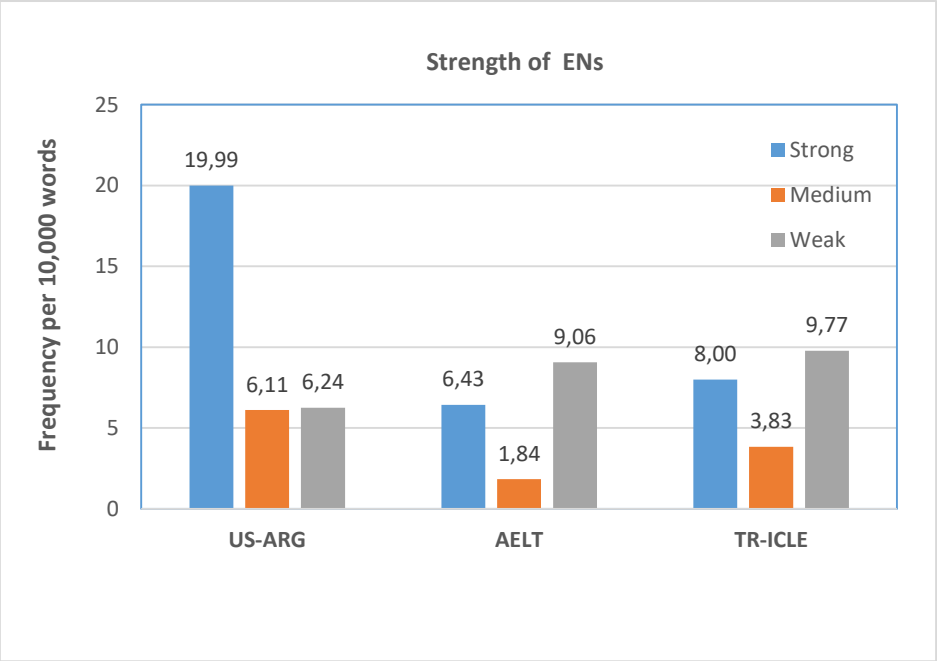


Figure 4.30. *Frequency Distribution of the Three Levels of ENs Per 10,000 Words Across the Three Databases*

According to Table 4.37 and Figure 4.30, the American students use strong level ENs with significantly higher frequency (19.99) than the Turkish students in both AELT (6.43) and TR-ICLE (8.00). There is also a similar case in the use of ENs expressing medium level of epistemic strength. The American students in US-ARG also utilize medium level ENs with higher frequency (6.11) than the Turkish students in both AELT (1.84) and TR-ICLE (3.83). In the case of the ENs expressing weak level of epistemic strength, on the other hand, the Turkish students in both AELT and TR-ICLE use them with slightly higher frequencies (9.06 and 9.77, respectively) than the American students in the US-ARG database (6.24).

Table 4.38 below shows the log-likelihood results for the epistemic strength of ENs for the AELT and US-ARG databases being compared.

Table 4.38. *Epistemic Strength of ENs in AELT and US-ARG Databases Per 10.000 Words*

Strength of ENs	AELT	US-ARG	Log-likelihood	Sig.		
Strong	6.43	19.99	**7.30**	**0.007**	**	-
Medium	1.84	6.11	2.42	0.120		-
Weak	9.06	6.24	0.52	0.470		+

According to Table 4.38, there is a statistically significant difference between AELT and US-ARG in terms of the use of ENs expressing strong level of epistemic strength. The strong level ENs occur 6.43 times in AELT; whereas they occur 19.99 times in US-ARG, a difference that is statistically significant (LL =7.30) at the $p < 0.01$ level. This indicates that the American

students in US-ARG utilize strong level ENs with statistically higher frequency than the Turkish students in the AELT database. In terms of the use of medium level ENs, there is statistically no significant difference between the two databases, though the medium level modals are utilized with higher frequency in US-ARG (6.11) than in AELT (1.84). Lastly, as for the use of weak level ENs, there is again statistically no significant difference between the two groups, though the weak level ENs occur with higher frequency in AELT (9.06) than in the US-ARG database (6.24).

Table 4.39 below shows the log-likelihood results for the epistemic strength of ENs for the AELT and TR-ICLE databases being compared.

Table 4.39. *Epistemic Strength of ENs in AELT and TR-ICLE Databases Per 10.000 Words*

Strength of ENs	AELT	TR-ICLE	Log-likelihood	Sig.	
Strong	6.43	8.00	0.17	0.680	-
Medium	1.84	3.83	0.71	0.398	-
Weak	9.06	9.77	0.03	0.870	-

As we can observe from Table 4.39, there is statistically no significant difference between the two groups in terms of their use of the three level of ENs.This indicates that the Turkish students in both databases are similar in terms of their use of strong, medium and weak level ENs.However, there are still some slight differences between the two groups. For instance, the strong level ENs occur with slightly higher frequency in TR-ICLE (8.00) than in AELT (6.43). Medium level ENs, on the other hand, occur with slightly higher frequency in TR-ICLE again (3.83) than in AELT (1.84). Lastly, in terms of their frequency of use of weak level ENs, both groups appear to be similar. ENs expressing weak level of epistemic strength occur 9.06 times per 10.000 words in AELT; whereas they occur 9.77 times in TR-ICLE. Table 4.40 below shows the log-likelihood results for the epistemic strength of ENs for the TR-ICLE and US-ARG databases being compared.

Table 4.40. *Epistemic Strength of ENs in TR-ICLE and US-ARG Databases Per 10.000 Words*

Strength of ENs	TR-ICLE	US-ARG	Log-likelihood	Sig.		
Strong	8.00	19.99	**5.30**	**0.0213**	*	-
Medium	3.83	6.11	0.53	0.467		-
Weak	9.77	6.24	0.78	0.376		+

Table 4.40 shows that there is statistically significant difference between TR-ICLE and US-ARG in terms of the ENs indicating strong level of epistemic strength. The strong level ENs occur 8.00 times in TR-ICLE; whereas they occur 19.99 times in US-ARG, a difference that is statistically significant (LL=5.30) at the $p < 0.05$ level. This indicates that the American students in US-ARG utilize strong level ENs with statistically higher frequency than the Turkish students in the TR-ICLE database. In terms of the use of medium level ENs, there is statistically no significant difference between the two databases, though the medium level ENs are utilized with higher frequency in US-ARG (6.11) than in TR-ICLE (3.83). Lastly, as for the use of weak level ENs, there is again statistically no significant difference between the two groups, though the weak level ENs occur with slightly higher frequency in TR-ICLE (9.77) than in the US-ARG database (6.24).

4.6. Epistemic Devices: Adjectives

4.6.1. Frequency of epistemic adjectives

Table 4.41 shows the top ten epistemic adjectives (EADJs) as used by the three groups of students in the three databases. While the ten most frequent EADJs are listed for the US-ARG and TR-ICLE databases, only eight most frequent EADJs are detected in the AELT database. Therefore, only these eight most frequent adjectives are listed in the AELT section of the table below:

Table 4.41. Top 10 *Epistemic Adjectives (EADJs)* for the Three Databases

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	certain	4.12	62	true	4.60	35	true	2.11	43
2	true	3.65	55	inevitable	1.44	11	certain	2.06	42
3	possible	2.79	42	possible	1.44	11	possible	1.91	39
4	obvious	1.73	26	sure	1.05	8	clear	1.28	26
5	sure	1.66	25	certain	0.66	5	sure	0.98	20
6	clear	1.66	25	clear	0.39	3	obvious	0.74	15
7	inevitable	0.53	8	obvious	0.39	3	inevitable	0.64	13
8	evident	0.46	7	probable	0.13	1	probable	0.34	7
9	convincing	0.20	3				evident	0.25	5
10	well known	0.13	2				speculative	0.05	1

According to Table 4.41, the epistemic adjective *certain* is the most frequently used one in US-ARG. Certain occurs 4.12 times per 10.000 words in US-ARG; while it is the fifth most frequent adjective (0.66) in AELT and the second most frequent one (2.06) in TR-ICLE. Interestingly,

true is the most frequently occurring adjective in both AELT and TR-ICLE. The Turkish students prefer to use *true* more frequently than the occasions that they should use *certain* instead of *true*. As for the case of *possible*, it is the third most frequent adjective in the three databases. *Possible* occurs 2.79 times per 10.000 words in US-ARG; (1.44) in AELT and (1.91) in TR-ICLE. The American students employ the epistemic adjective *possible* more frequently than the Turkish students in both AELT and TR-ICLE. The Turkish students in TR-ICLE use *possible* slightly more than the students in the AELT database, though. In the case of *inevitable*, it is the second most frequent adjective in the AELT database with a frequency of 1.44 per 10.000 words. However, in the US-ARG, *inevitable* occurs 0.53 times per 10.000 and 0.64 times in TR-ICLE. Another interesting finding concerns the use of *probable*. Though *probable* occurs 0.13 times per 10.000 words in AELT and 0.34 times in TR-ICLE, it is not among the top ten EADJs in the US-ARG database. The use of *obvious* is also interesting. The American students employ the EADJ *obvious* more frequently than the Turkish students in both AELT and TR-ICLE. *Obvious* occurs 1.73 times per 10.000 words in US-ARG, 0.74 times in TR-ICLE and only 0.39 times in AELT. When compared to the Turkish students, the epistemic adjectives *sure* and *clear* are slightly more frequently used by the American students in US-ARG, both occurring 1.66 times per 10.000 words. *Sure* occurs 1.05 times per 10.000 words in AELT and 0.98 times in TR-ICLE. *Clear*, on the other hand, occurs 0.39 times in AELT and 1.28 times in TR-ICLE. Lastly, as for the case of *evident*, it occurs 0.46 times in US-ARG and 0.25 times in TR-ICLE, however there is no instance of *evident* detected in the AELT database.

4.6.2. The commonly used epistemic adjectives

Figure 4.31 shows the frequencies of the top five epistemic adverbs (EADJs) used by the American students in the US-ARG database of the LOCNESS corpus.

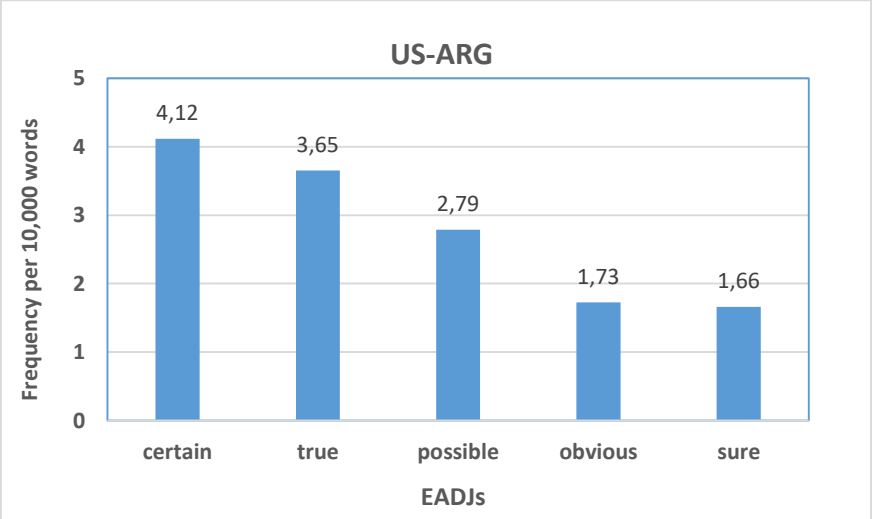


Figure 4.31. *Top five EADJs in US-ARG*

According to Figure 4.31, the most frequent five EADJs (per 10.000 words) in US-ARG are *certain, true, possible, obvious* and *sure,* respectively. Figure 4.32 shows the frequencies of the top five EADJs used by the Turkish English Language Teaching (ELT) Department students in the AELT database.

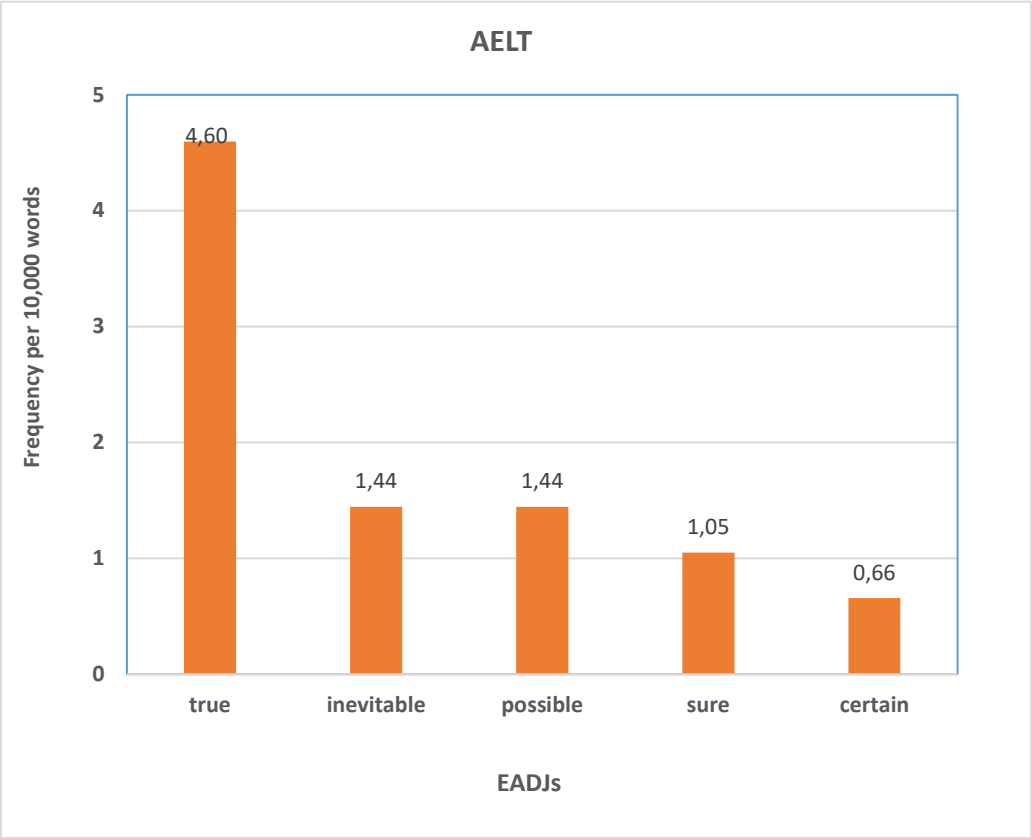


Figure 4.32. *Top five EADJs in AELT*

According to Figure 4.32, the most frequent five EADJs (per 10.000 words) in the AELT database are *true, inevitable, possible, sure* and *certain*, respectively. Figure 4.33 shows the frequencies of the top five EADJs used by the Turkish students in the TR-ICLE component of the LOCNESS corpus.

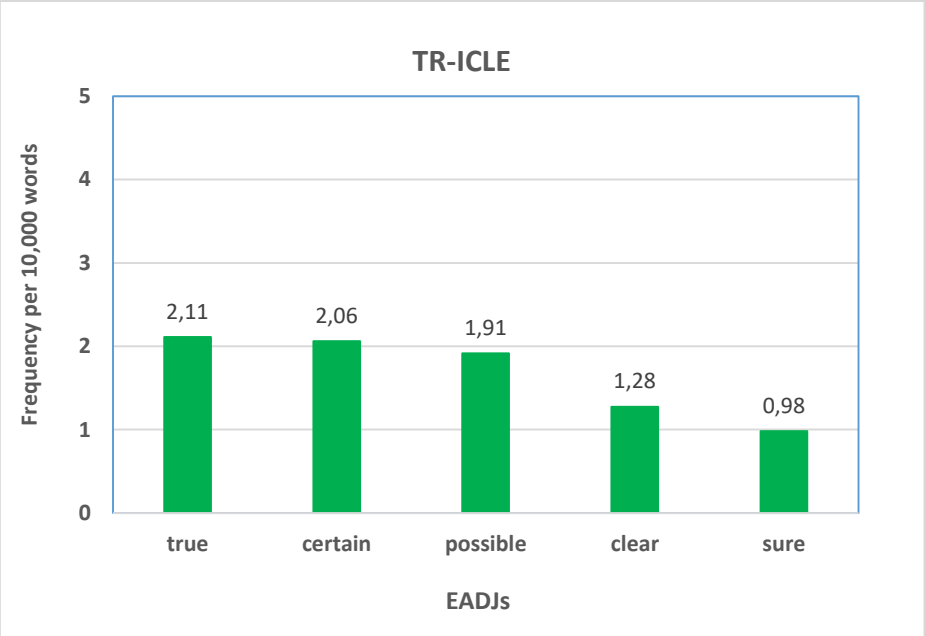


Figure 4.33. *Top five EADJs in TR-ICLE*

According to Figure 4.33, the most frequent five EADJs (per 10.000 words) in TR-ICLE are *true, certain, possible, clear* and *sure,* respectively.

4.6.3. Epistemic strength expressed by adjectives

Table 4.42 and Figure 4.34 demonstrate the levels of epistemic strength with specific reference to epistemic adjectives in the three databases (per 10.000 words).

Table 4.42. *Frequency Distribution of the Three Degrees of EADJs Per 10,000 Words Across the Three Databases*

Epistemic Strength of EADJs	US-ARG	AELT	TR-ICLE
Strong	14.14	8.53	8.10
Medium	0.20	0.13	0.34
Weak	2.79	1.44	1.96
Total	17.13	10.11	10.41

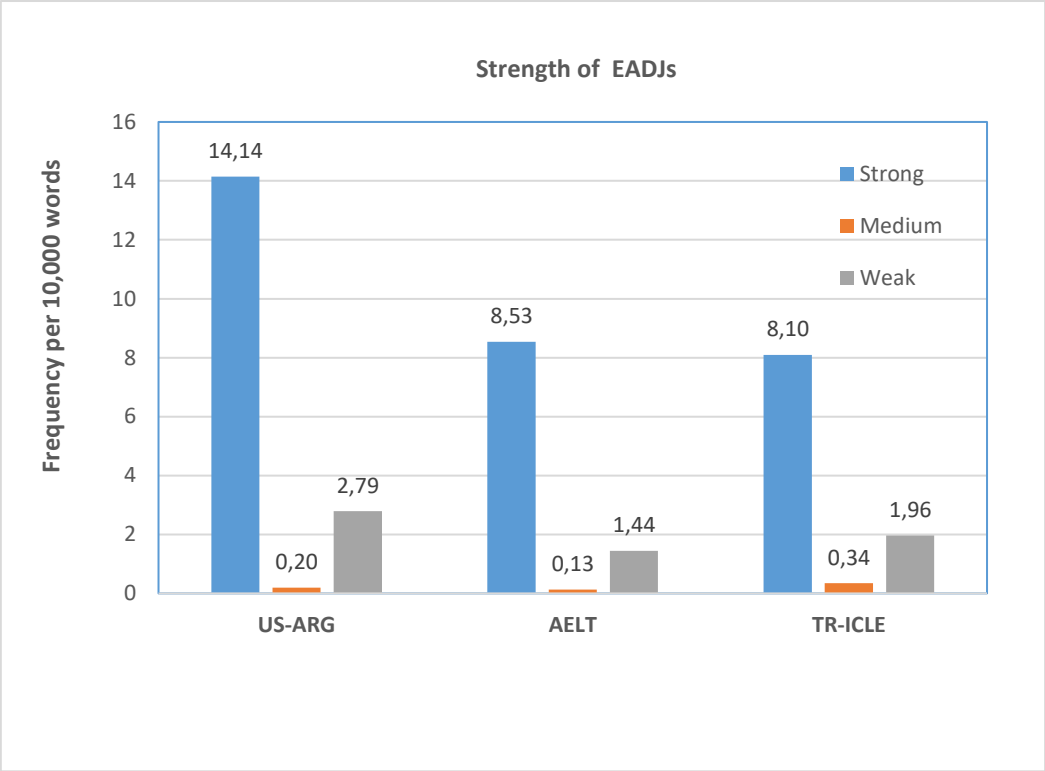


Figure 4.34. *Frequency Distribution of the Three Levels of EADJs per 10,000 Words Across the Three Databases*

As we can observe from Table 4.42 and Figure 4.34, there is a common preference for the use of EADJs expressing strong level of epistemic strength in the three databases. All of the three groups of students utilized strong level EADJs in higher frequencies than the medium and weak ones. However, the American students used them with higher frequency (14.14) than the Turkish non-native students in AELT (8.53) and TR-ICLE (8.10). In their frequency of use of EADJs expressing medium level of epistemic strength, all three databases seem to be similar. While the medium level EADJs occur 0.20 times in US-ARG, they occur 0.13 times in AELT and 0.34 times in the TR-ICLE database. Lastly, as for the EADJs expressing weak level of epistemic strength, they occur 2.79 times in US-ARG, 1.44 times in AELT and 1.96 times in TR-ICLE. This indicates that the American students use weak level EADJs with slightly higher frequency than the Turkish students in both AELT and TR-ICLE databases.

Table 4.43 below shows the log-likelihood results for the epistemic strength of EADJs for the AELT and US-ARG databases being compared.

Table 4.43. *Epistemic Strength of EADJs in AELT and US-ARG Databases Per 10.000 Words*

Strength of EADJs	AELT	US-ARG	Log-likelihood	Sig.	
Strong	8.53	14.14	1.40	0.236	-
Medium	0.13	0.20	0.01	0.906	-
Weak	1.44	2.79	0.43	0.510	-

As we can observe from Table 4.43, there is statistically no significant difference between the two groups in terms of their use of the three level of EADJs. This indicates that the Turkish students in AELT and the American students in US-ARG are similar in terms of their use of strong, medium and weak level EADJs. However, there are still some slight differences between the two groups. For instance, the strong level EADJs occur with slightly higher frequency in US-ARG (14.14) than in AELT (8.53). Medium level EADJs, on the other hand, occur with almost the same frequency in AELT (0.13) and in US-ARG (0.20). Lastly, in terms of the frequency of weak level EADJs, they occur 1.44 times per 10.000 words in AELT; whereas 2.79 times in US-ARG.

Table 4.44 below shows the log-likelihood results for the epistemic strength of EADJs for the AELT and TR-ICLE databases being compared.

Table 4.44. *Epistemic Strength of EADJs in AELT and TR-ICLE Databases Per 10.000 Words*

Strength of EADJs	AELT	TR-ICLE	Log-likelihood	Sig.	
Strong	8.53	8.10	0.01	0.915	+
Medium	0.13	0.34	0.10	0.754	-
Weak	1.44	1.96	0.08	0.778	-

As we can observe from Table 4.44, there is statistically no significant difference between the two groups in terms of their use of the three level of EADJs. This indicates that the Turkish ELT Department students in AELT and the other Turkish students in TR-ICLE are similar in terms of their use of strong, medium and weak level EADJs. For instance, the strong level EADJs occur with almost the same frequency in AELT (8.53) and TR-ICLE (8.10). Medium level EADJs also occur with almost the same frequency in AELT (0.13) and in TR-ICLE (0.34). Lastly, in terms of the frequency of weak level EADJs, they occur 1.44 times per 10.000 words in AELT; whereas 1.96 times in TR-ICLE.

Table 4.45 below shows the log-likelihood results for the epistemic strength of EADJs for the TR-ICLE and US-ARG databases being compared.

Table 4.45. *Epistemic Strength of EADJs in TR-ICLE and US-ARG databases per 10.000 words*

Strength of EADJs	TR-ICLE	US-ARG	Log-likelihood	Sig.	
Strong	8.10	14.14	1.66	0.1970	-
Medium	0.34	0.20	0.04	0.844	+
Weak	1.96	2.79	0.14	0.704	-

Table 4.45 indicates that there is statistically no significant difference between the two groups in terms of their use of the three level of EADJs. This indicates that the Turkish students in TR-ICLE and the American students in US-ARG are similar in terms of their use of strong, medium and weak level EADJs. However, there are still some slight differences between the two groups. For instance, the strong level EADJs occur with higher frequency in US-ARG (14.14) than in TR-ICLE (8.10). Medium level EADJs, on the other hand, occur with almost the same frequency in TR-ICLE (0.34) and in US-ARG (0.20). Lastly, in terms of the frequency of weak level EADJs, they occur 1.96 times per 10.000 words in TR-ICLE; whereas 2.79 times in US-ARG.

4.7. Top Five EDs Occurring in the Epistemic Strong Category

Table 4.46 shows the top five EDs according to their expression of epistemic strength in the three databases. (Regardless of the grammatical categories of EDs)

Table 4.46. *Frequency distribution of the three levels of Top5 EDs per 10,000 words*

Epistemic degrees	rank	US-ARG		AELT		TR-ICLE	
Strong	1	will	26.30	think	39.91	will	33.67
	2	think	15.67	will	23.11	think	12.81
	3	evidence	5.25	know	11.82	of course	6.72
	4	fact	5.11	of course	6.17	know	6.58
	5	claim	4.32	actually	4.73	in fact	4.17
Medium	1	would	38.51	would	8.67	believe	5.55
	2	seem	6.24	wouldn't	6.04	would	5.06
	3	believe	5.11	almost	4.99	seem	3.44
	4	feel	4.98	believe	4.20	almost	2.65
	5	argue	4.45	probably	2.23	consider	2.55
Weak	1	could	14.61	may	11.16	may	13.06
	2	may	11.16	could	4.60	might	2.40
	3	might	2.46	couldn't	1.84	could	2.06
	4	couldn't	0.13	might	1.18	couldn't	0.34
	5	appear	1.00	guess	0.92	suggest	0.49

As can be observed from Table 4.46, *will* and *think* are the most frequent two EDs expressing strong level of epistemic strength and they are commonly used by the students in the three databases. Figure 4.35 shows the top five EDs in the strong category per 10.000 words in the US-ARG database by American students. (Regardless of the grammatical categories of EDs).

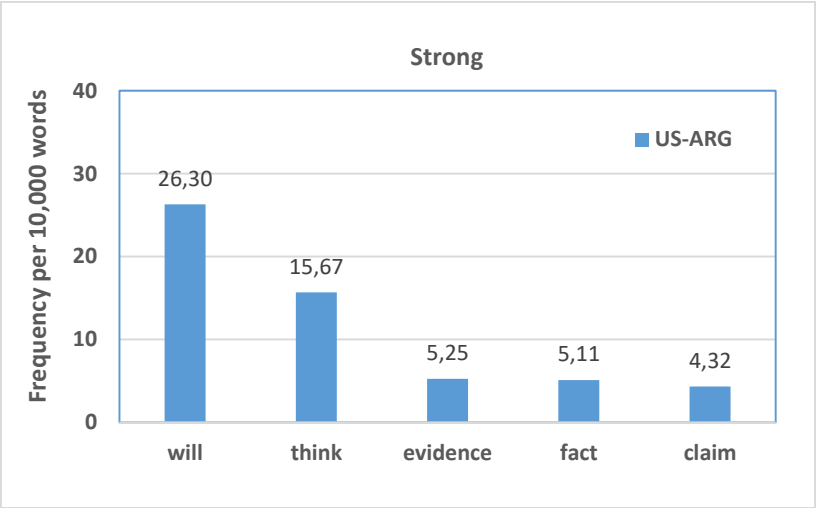


Figure 4.35. *Top 5 EDs occurring in the strong category in US-ARG*

As can be observed from Figure 4.35, the top 5 EDs occurring in the strong category in US-ARG are *will* (26.30), *think* (15.67), *evidence* (5.25), *fact* (5.11) and *claim* (4.32), respectively.

Figure 4.36 shows the top five EDs in the strong category per 10.000 words in the AELT database by Turkish students studying at the ELT Department of Anadolu University.

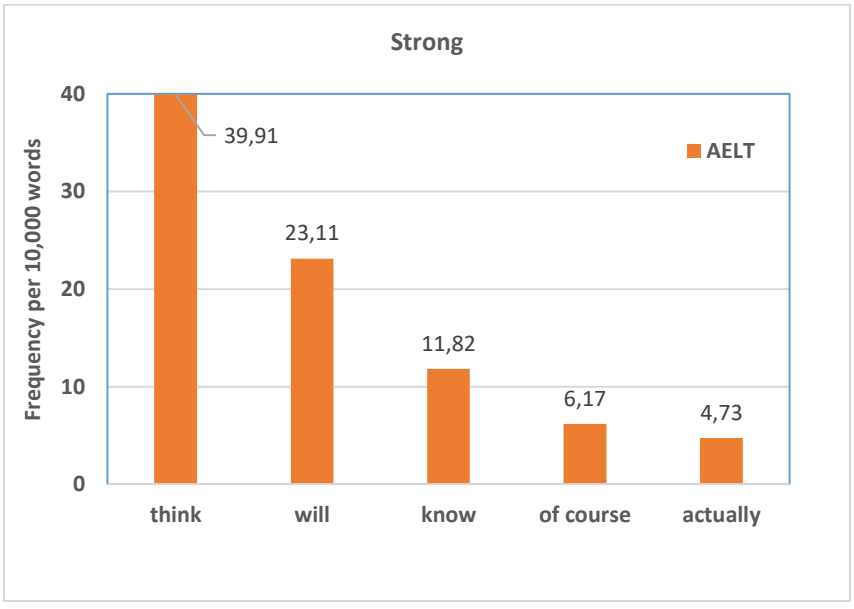


Figure 4.36. *Top five EDs occurring in the strong category in AELT*

As we can observe from Figure 4.36, the top 5 EDs occurring in the strong category in AELT are *think* (39.91), *will* (23.11), *know* (11.82), *of course* (6.17) and *actually* (4.73), respectively. Figure 4.37 shows the top five EDs in the strong category per 10.000 words in the TR-ICLE database by the other Turkish students.

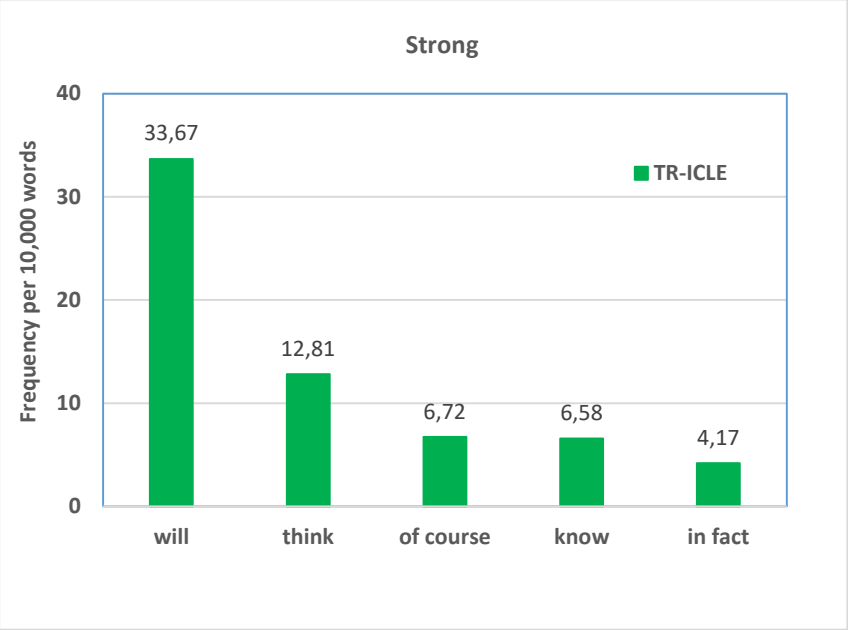


Figure 4.37. *Top Five EDs Occurring in the Strong Category in TR-ICLE*

According to Figure 4.37, the top five EDs occurring in the strong category in TR-ICLE are *will* (33.67), *think* (12.81), *of course* (6.72), *know* (6.58) and *in fact* (4.17), respectively.

The EDs *will, think, evidence, fact* and *claim* are the most frequent 5 items expressing strong level of epistemic commitment in the US-ARG database. The EDs *think, will, know, of course, actually* are the most frequent 5 items expressing strong level of epistemic commitment in the AELT database. Lastly, The EDs *will, think, of course, know* and *in fact* are the most frequent 5 items expressing strong level of epistemic commitment in the AELT database. It is interesting that the EDs *know* and *of course* are among the top 5 items expressing strong level of epistemic commitment in both AELT and TR-ICLE by the Turkish students, though *know* and *of course* do not occur among the top 5 EDs expressing strong level of commitment in the US-ARG database by the American students.

Figure 4.38 shows the top five EDs in the medium category per 10.000 words in the US-ARG database by American students. (Regardless of the grammatical categories of EDs)

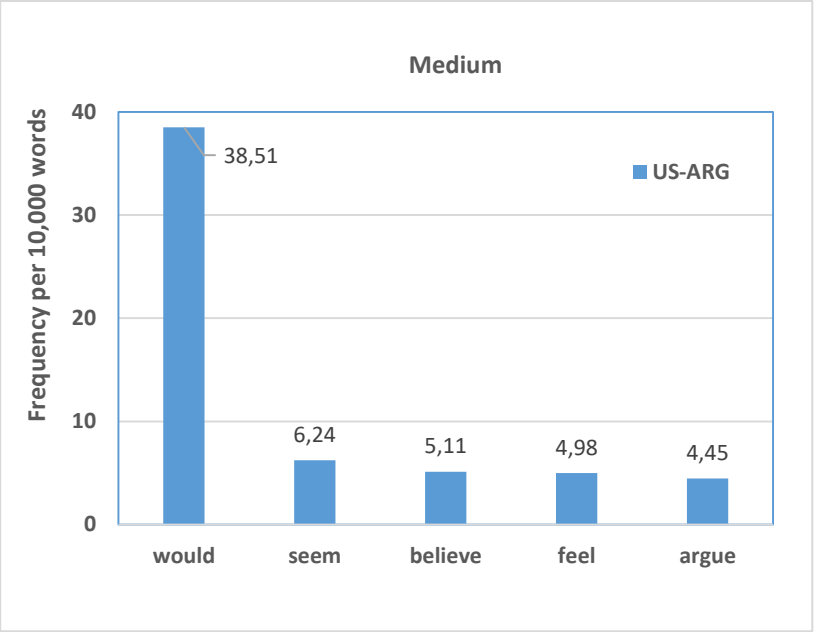


Figure 4.38. *Top Five EDs Occurring in the Medium Category in US-ARG*

As can be observed from Figure 4.38, the top 5 EDs occurring in the medium category in US-ARG are *would* (38.51), *seem* (6.24), *believe* (5.11), *feel* (4.98) and *argue* (4.45), respectively. Figure 4.39 shows the top 5 EDs in the medium category per 10.000 words in the AELT database by Turkish students studying at the ELT Department of Anadolu University.

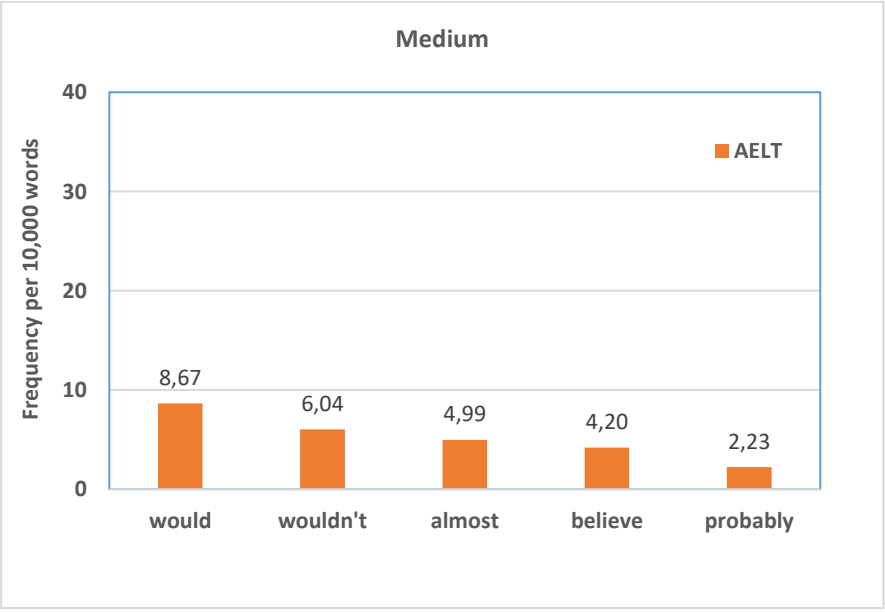


Figure 4.39. *Top Five EDs Occurring in the Medium Category in AELT*

As we can observe from Figure 4.39, the top five EDs occurring in the medium category in AELT are *would* (8.67)*, wouldn't* (6.04)*, almost* (4.99)*, believe* (4.20) and *probably* (2.23)*,* respectively. Figure 4.40 shows the top five EDs in the medium category per 10.000 words in the TR-ICLE database by the other Turkish students.

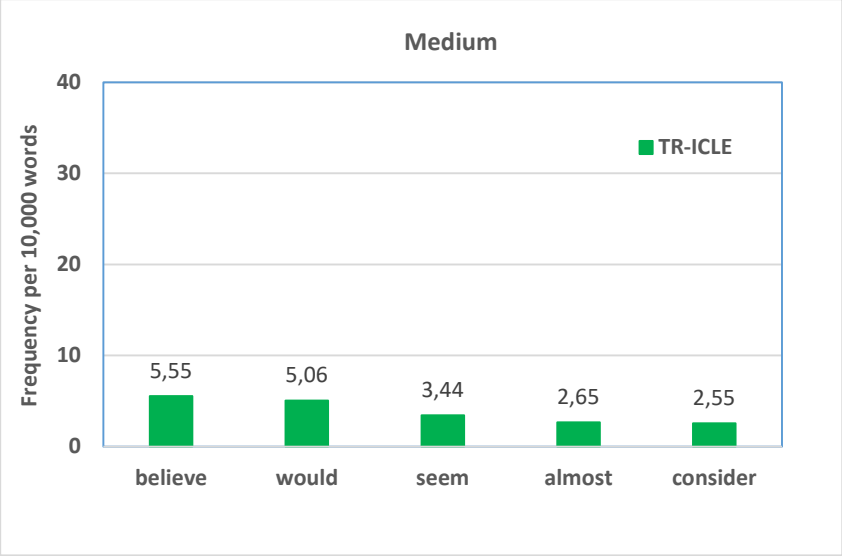


Figure 4.40. *Top 5 EDs Occurring in the Medium Category in TR-ICLE*

According to Figure 4.40, the top five EDs occurring in the medium category in TR-ICLE are *believe* (5.55)*, would* (5.06)*, seem* (3.44)*, almost* (2.65) and *consider* (2.55)*,* respectively.

When we look at the EDs expressing medium level of epistemic strength, they are *would, seem, believe, feel* and *argue*, respectively in US-ARG. The top five EDs in the medium level category in AELT are *would, wouldn't, almost, believe* and *probably,* respectively. Lastly, the top 5 EDs expressing medium level of epistemic commitment in TR-ICLE are *believe, would, seem, almost* and *consider,* respectively. It is striking in here that the EDs *would* and *believe* are commonly among the top 5 items expressing medium degree of epistemic commitment in all three databases.

Figure 4.41 shows the top five EDs in the weak category per 10.000 words in the US-ARG database by American students (Regardless of the grammatical categories of EDs).

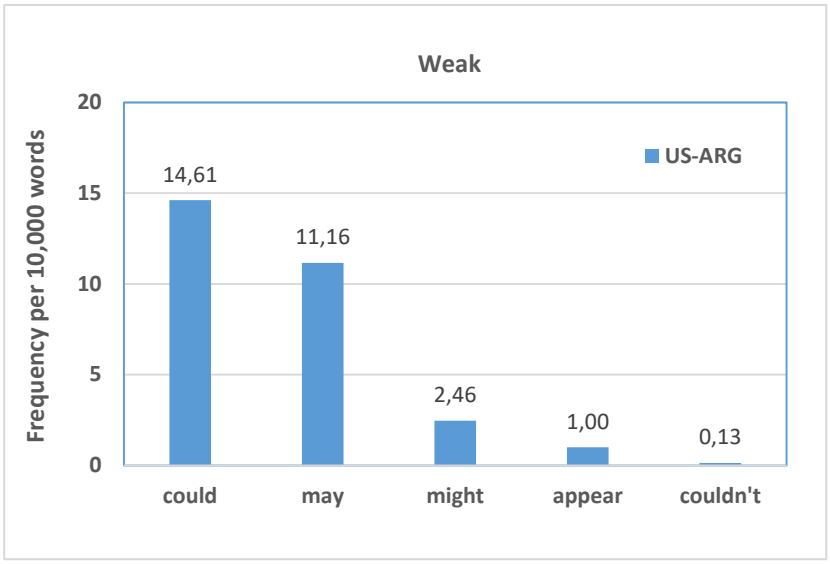


Figure 4.41. *Top five EDs Occurring in the Weak Category in US-ARG*

As we can observe from Figure 4.37, the top 5 EDs occurring in the weak category in US-ARG are *could* (14.61), *may* (11.16), *might* (2.46), *appear* (1.00) and ***couldn't*** (0.13), respectively. Figure 4.42 shows the top five EDs in the weak category per 10.000 words in the AELT database by Turkish students studying at the ELT Department of Anadolu University.

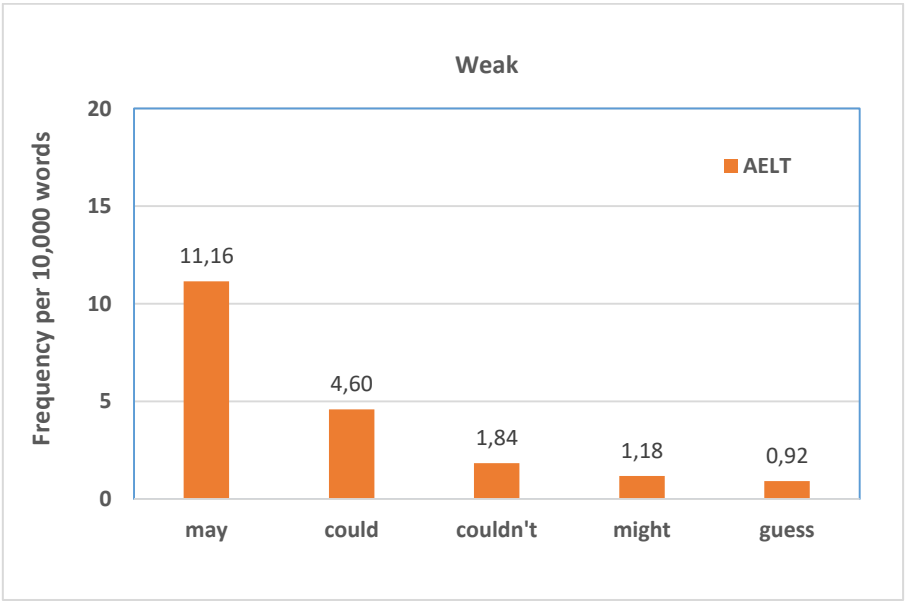


Figure 4.42. *Top Five EDs Occurring in the Weak Category in AELT*

As we can observe from Figure 4.42, the top 5 EDs occurring in the weal category in AELT are *may* (11.16), *could* (4.60), *couldn't* (1.84), *might* (1.18) and *guess* (0.92), respectively. Figure 4.43 shows the top five EDs in the weak category per 10.000 words in the TR-ICLE database by the other Turkish students.

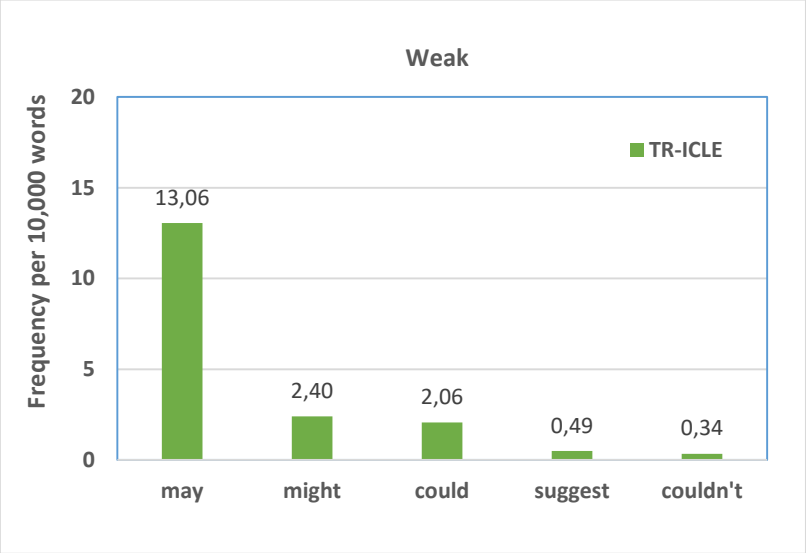


Figure 4.43. *Top 5 EDs Occurring in the Weak Category in TR-ICLE*

According to Figure 4.43, the top five EDs occurring in the weak category in TR-ICLE are *may* (13.06), *might* (2.40), *could* (2.06), *suggest* (0.49) and *couldn't* (0.34), respectively.

Lastly, in the case of EDs expressing weak level of epistemic strength, they are *could, may, might, couldn't* and *appear,* respectively in US-ARG. The most frequent 5 EDs in the weak category in AELT are *may, could, couldn't, might* and *guess,* respectively. The top 5 EDs expressing weak level of epistemic strength in TR-ICLE are *may, might, could, couldn't* and *suggest,* respectively. The EDs *may, might, could* and *couldn't* commonly occur among the top 5 EDs in the weak category in all three databases.

4.8. Discussion

Reasons that might affect non-native writers' use of epistemic devices (EDs) can be grouped under three areas. These are the specific features of the English language in terms of epistemic devices (EDs), second/foreign language instruction and factors related to language learners, respectively (Hu, 2010; VanPatten, 2004). Regarding the specific features of ED's in English, Hyland and Milton (1997) discuss their pragmatic and semantic complexity: "many EDs can simultaneously convey a range of different meanings; EDs not only convey the writer's confidence in the truth of referential information, but also help contribute to a

relationship with the reader; and epistemic meanings can be signaled in many different ways (p. 185)".

Semantic complexity has a crucial role in the acquisition and use of epistemic devices by language learners. For instance, *would* is stated to be a very complex modal for learners because it has a number of different meanings (Palmer, 1990; Perkins, 1983; Coats, 1983). This complexity creates confusion among language learners, whatever their first language background is (Hinkel, 2002). This may also account for the less frequent use of *would* among the Turkish student writers in this study compared with the American student writers.

Besides the pragmatic and semantic complexity stated by Hyland and Milton, there are some other specific features of the English language as well. For example, form complexity is a crucial factor in determining learners' preference of certain items more than others. Considering articulation, *probably* seems to be more complex than *maybe* for language learners. The complex forms are challenging to use, and thus they are less likely to be preferred by language learners. Between the two forms of the same or similar function, the shorter one is the easier one and it is most likely to be preferred by language learners. For example, learners prefer to use *maybe* more frequently in spoken language, because it is easier for them to pronounce. However, the problem seems to be that learners have the tendency to transfer this habit into their writing when they are not aware of the fact that *maybe* is rarely used in formal written language. This might also account for the high frequencies of *maybe* compared with *perhaps* in both of the Turkish non-native databases (AELT and TR-ICLE) in this study.

Frequency and saliency are also stated to be the crucial factors affecting second and/or foreign language acquisition and the use of epistemic devices. Since some of the epistemic devices are more salient and frequent than others, they are most likely to be noticed earlier by language learners. Saliency and frequency are closely connected with each other. The frequent form is normally easy to notice and therefore salient; but frequency does not serve as the guarantee for saliency. For example, *might* in speech is not salient in the stream of language, because native speakers often pronounce it very fast. However, it is much more possible for language learners to notice *maybe*, since it is generally employed in clause-initial position in spoken language. Several other epistemic adverb such as *in my opinion, from my point of view* occur often in sentence-initial position. Despite their infrequency, they can be salient for second/foreign language learners. Therefore, they are likely to be employed with higher frequency by language learners, as demonstrated in this research as well.

Second/foreign language instruction has a crucial role in SLA. Instruction provides structured input which helps learners notice and increase their awareness of certain features of the language. (Skehan, 1998). In the case of epistemic modality expressions, however;

results of the previous studies indicate that epistemic devices are not much emphasized and even ignored in textbooks (Hyland and Milton, 1997; Holmes, 1988).

One of the crucial roles of language instruction is to equip language learners with the necessary instructional support to contribute to their process of learning. There are many different forms of instructional support. “Does the instructor draw learners’ attention to a modal form? Is the instructor able to help learners to distinguish the subtle differences between semantically close modal forms? Does the instructor make learners aware of the gap between their modal production and the native norms? Does the instructor provide the opportunity for learners to use the modal expressions that learners have learned? (Hu and Li, 2015, p. 27)”.

To sum up, if the learners are provided with the necessary support, acquisition process will get easier (Lantolf and Thorne, 2006; Johnson, 2004; Lantolf, 2000). When the instructional support is not adequate enough, the learning process may even be distorted or delayed.

Lastly, there are also learner factors that are likely to affect the second/foreign language acquisition process and the use of epistemic devices as well. In second language acquisition (SLA) research, factors such as first language influence, second language proficiency, and the One-to-One Principle are identified as the important influencing factors. (VanPatten, 2004).

The first one of these factors is L1 influence. Adult second/foreign language learners often have significant cognitive limitations, especially at the beginning stages of language learning (Robinson, 2003; Skehan, 1998; VanPatten, 1996). In order to overcome these limitations, they are likely to use their first language knowledge. The already existing L1 system of knowledge is powerful in learners’ minds, therefore they will most likely to transfer L1 features into their written or spoken productions so that they can establish form-meaning relationship in the L2.

Concerning the One-to-One Principle, it states that “one form is mapped onto a single meaning (Hu and Li, 2015, p. 28)”. Andersen (1984) states that one-to-one principle is “the construction of a minimal but functional IL system (p.79)” especially at the beginning stages of language learning. For instance, “when L2 writers opt for *generally*, *in general* seems unnecessary. Similarly, when *maybe* becomes the dominant form to mark epistemic possibility, other epistemic devices such as *perhaps*, *possibly* and *probably* becomes less significant (Hu and Li, 2015, p. 28)”. This problem is likely to be gradually solved as learners’ overall language proficiency improves over time. In other words, the One-to-One principle may stop working for L2 learners with advanced proficiency levels (Hu and Li, 2015).

The third factor is the second/foreign language proficiency of learners. The acquisition of epistemic devices is not only dependent on the modality system of the learners’ first language, but also related to their prior second/foreign language knowledge. Learners with

different language proficiency levels their processing capacities accordingly (VanPatten, 1996). They may also differ in their focus of attention (Gass, 2004). For this reason, the less proficient language learners are less likely to notice the epistemic modality features. However, more proficient language learners are more likely to notice the different aspects of epistemic modality. For instance, "*must*, *maybe* are used much less frequently by advanced learners, indicating that these learners are more sensitive to the register knowledge (Hu and Li, 2015, p. 28)".

"The role of input factor (frequency, saliency and complexity) may also change as the language proficiency level improves (Hu and Li, 2015, p. 28)". The less frequent forms are mostly unnoticed by language learners especially at the beginning stages. Yet, however; since they are infrequent, they may be more noticeable for language learners who possess more advanced language proficiency levels (Gass and Selinker, 2008).

Finally, in the case of advanced learners, they "may rely less on their L1 modal system. Instead, they may resort to the context in which a modal construction appears in the L2, and they may abstract implicit knowledge or patterns regarding a modal form-meaning relationship, as L1 children do (Hu and Li, 2015, p. 28)".

All of the above-stated factors interact with each other. Therefore, they should be investigated as interacting factors so that researchers are able to observe how this interaction occurs (Hu and Li, 2015). For instance, ease of articulation and form saliency might be the two significant factors that make *maybe* the dominant adverbs marking epistemic possibility. (Hu and Li, 2015). Previous studies in the area of second/foreign language modality acquisition indicate that *maybe* is one of the most commonly used devices in the marking of epistemic possibility meaning and it is employed with higher frequencies by language learners of different first language backgrounds (Salsbury, 2000). It is stated by Hu and Li (2015) that "once *maybe* becomes deeply rooted in the learners' grammar, it may block the use of other modal adverbs (p. 28)". Concerning the relatively rare use of *might*, there may be several possible reasons. *Might* is stated to be more complex in semantic terms than '*may'.* Therefore it is more likely to be acquired in the later stages of language learning (Perkins, 1983).

CHAPTER 5

SUMMARY AND CONCLUSION

5.1. Introduction

In this final chapter, the most striking epistemic features in the argumentative essays of the three groups of students are discussed. Afterwards, the main goals of the research and the main findings emerging from it in relation to the research questions are summarized. Finally, the implications of the study are discussed with some suggestions for further work. The chapter ends with concluding remarks.

5.2. Summarizing the Main Goals of the Study

This study was conducted with the aim of exploring how the use of epistemic devices (EDs) in the argumentative essays written in English by American students compare with the use of EDs by the Turkish students studying in the English Language Teaching (ELT) Department at Anadolu University, and the other Turkish students studying at the three other universities in Turkey. Specifically, the study aimed to find out whether the Turkish student writers differ significantly from the American student writers in their use of epistemic devices (EDs) in argumentative essays and also to find out whether the two Turkish groups (AELT and TR-ICLE) are similar or different from each other in their use of different categories of EDs.

In order to realize the above research goals, corpus linguistics was found to be the most effective methodology for the context of this study. Three sets of databases were used in the study, one for the American native speaker (NS) students writers (LOCNESS-USARG), the other two (AELT and TR-ICLE) for the Turkish non-native speaker (NNS) student writers.The AELT database was created by the researcher and it includes argumentative essays written by the Turkish freshman students studying at the English Language Teaching (ELT) Department of Anadolu University in Eskişehir, Turkey. The US-ARG database used in this study is the sub-corpus of LOCNESS and it includes argumentative essays written by American students. The TR-ICLE database is the sub-corpus of ICLE and it includes argumentative essays written by Turkish students studying at three different universities in Turkey. The topics in TR-ICLE cover the same topics as in the US-ARG database. The corpus analysis of epistemic devices (EDs) in the essays examined relied mainly on Ant.Conc concordance tools. Therefore, the analysis in this study had both quantitative and qualitative aspects. *Descriptive* and *inferential* statistical methods (i.e. normed frequency analysis and log-likelihood tests, see McEnery and

Hardie, 2012) were used in the quantitative analysis. These statistical methods made it possible to determine the frequency counts of EDs in the texts and to make effective comparison across the three databases as well as between them. In addition to frequency analysis, qualitative interpretations were also made on the uses of EDs in the texts examined. A close examination of concordance outputs allowed for the identification and interpretation of co-occurrence patterns of EDs.

5.3. Summarizing the Main Findings of the Study

At the beginning of this thesis, three research questions were posed in order to understand how the American and Turkish student writers used epistemic modality devices in their argumentative writing in English. In this section, the main findings of this research are summarized in view of the research questions.

The first research question of this study asked the relative frequency and diversity of epistemic devices (EDs) used by American student writers in US-ARG database and by the Turkish student writers in AELT and TR-ICLE. With regard to the first research question, it was found that the Turkish students in both AELT and TR-ICLE databases use less number of epistemic devices compared to the American students in US-ARG database. When we compare the AELT and TR-ICLE databases, students in the AELT database used slightly more number of epistemic devices in total than their counterparts in the TR-ICLE database. Modal verbs were the most frequently employed epistemic devices by the US-ARG and TR-ICLE students in their expression of epistemic modality. Lexical verbs, on the other hand, were the most preferred epistemic devices by the Turkish students in the AELT database. Although the frequency of epistemic lexical verbs was high in the AELT database, it is striking that the diversity of these devices is limited to expressions such as *'I think', 'I know'* and *'I believe',* etc. According to the Log-likelihood test results, a significant difference was found between the AELT and US-ARG databases in their frequency of use of modal verbs as pistemic devices. This shows a clear underuse of modal verbs as epistemic devices by the Turkish students in the AELT database. This also shows a significant underuse of nouns as epistemic devices by the Turkish students in the AELT database. Nouns as epistemic devices were significantly more frequent in the US-ARG database compared to their frequency of occurrence in AELT by the Turkish ELT department students. Concerning the grammatical categories of lexical verbs, adverbs and adjectives, statistically no significant difference was found between the two databases. However, significant difference was found between the AELT and TR-ICLE databases in terms of the frequency of lexical verbs as epistemic devices. Thus, the frequency of lexical verbs as epistemic devices were significantly

higher in the AELT database than in TR-ICLE. Concerning the other grammatical categories -modal verbs, adverbs, nouns and adjectives- statistically no significant difference was found between the two databases. This might indicate that the Turkish students in both AELT and TR-ICLE databases are similar in terms of their frequency of use of modal verbs, adverbs, nouns and adjectives as epistemic devices.

There was again a significant difference between the TR-ICLE and US-ARG databases in their frequency of use of modal verbs as epistemic devices. This shows a clear underuse of epistemic modal verbs by the Turkish students in the TR-ICLE database, too. In other words, modal verbs as epistemic devices were significantly more frequent in the US-ARG database compared to their frequency in TR-ICLE. Concerning the other grammatical categories- lexical verbs, adverbs, nouns and adjectives- statistically no significant difference was found in terms of frequency between the two databases.

To summarize, the log-likelihood tests indicated that there was a significant difference between the Turkish students (in both AELT and TR-ICLE databases) and the American students in US-ARG in terms of their frequency of use of modal verbs as epistemic devices in their argumentative writing. The American students seemed to use modal verbs as EDs significantly more frequently than the Turkish students.

The second research question aimed to track the frequencies of the grammatical categories of epistemic modal verbs, lexical verbs, adjectives, adverbs and nouns in each database. Regarding the frequency distribution of epistemic modal verbs (per 10.000 words) among the three groups, *'would'* was found to be the most frequently utilized modal verb by the American students. *'Will'*, on the other hand, was the most frequently utilized modal verb in both TR-ICLE and AELT. It is remarkable that the top three epistemic modal verbs are *will, may* and *would*, respectively in both TR-ICLE and AELT databases, whereas *would, will* and *could* are the most preferred modals, respectively by the American students in the US-ARG database. Concerning the modal verb *could*, it is more frequently used in its epistemic sense by the American students compared to the use of *could* by the Turkish students. Results of the qualitative analysis show that the Turkish group used *could* more frequently in its ability meaning rather than the epistemic meaning. Another interesting finding concerns the use of *'might'* in terms of its frequency of use.The Turkish students in the TR-ICLE database seem to use *might* more frequently than the students in both US-ARG (American students) and the AELT (Turkish ELT students studying at Anadolu University). As for the negative forms of the

modals such as wouldn't, couldn't and shouldn't, they are used in lower frequencies in the three databases.

Another remarkable finding concerns the use of *'should'* and *'must'* by the three groups of students. Both the American students and the Turkish students mostly preferred to use 'must' with its deontic rather than epistemic meaning. The same tendency is observed with the modal verb *'should'*. Both the American and the Turkish students used *'should'* more frequently with its deontic rather than epistemic meaning.

With regard to the frequency distribution of epistemic lexical verbs among the three databases, the lexical verb '*think'* is the most frequently used epistemic verb by both the American and Turkish students. However, it is used with higher frequency by the Turkish student writers. As for the epistemic lexical verb '*know'*, it is the ninth most frequent epistemic item in the US-ARG database; however, it is the second most frequent item in AELT, and the third most frequent item in the TR-ICLE database. This is an interesting finding, because '*know*' expresses strong epistemic commitment in terms of epistemic strength. The Turkish students in both AELT and TR-ICLE used it more frequently in their argumentative writing than did the American students. The epistemic lexical verb '*argue'* is more frequently used by the American students compared to the use of argue by the Turkish students. *'Show'* is another lexical verb which is more frequently employed by the American students compared to the Turkish students.

Concerning the frequency distribution of epistemic adverbs in each of the three databases, '*usually'* is the most frequently used epistemic adverbs by the American students in US-ARG. Interestingly, *'of course'* is found as the most frequently used epistemic adverb by the Turkish students in both AELT and TR-ICLE. Another interesting finding is that *'perhaps'* has never been used in the AELT database. However, it ranks as the third most frequent adverb used by the American students in US-ARG. *'Perhaps'* is also less frequently used by the Turkish students in TR-ICLE. In the case of *obviously*, it occurs more frequently in the US-ARG database; however it is very rarely employed by the Turkish students in both AELT and TR-ICLE. The case of '*maybe*' is also interesting. '*Maybe'* is used with higher frequency by the Turkish students in both AELT and TR-CLE compared to its use in US-ARG. One striking finding concerns the use of '*certainly'*. There is not any occurrence of '*certainly*' detected in the AELT database. The Turkish students in AELT seem to have used '*definitely*' instead of '*certainly'* in their argumentative writing.

In the case of epistemic nouns as used by the three groups of students, '*evidence'* is detected to be the most commonly used epistemic noun by the American students in the US-ARG database. *'Opinion'* is found as the most common epistemic adjective used by the Turkish students in the AELT database. *'Opinion'* occurs 7.75 times per 10.000 words in AELT. As for the epistemic noun (EN) '*fact'*, it is more frequently used by the American students compared to the Turkish group in both AELT and TR-ICLE. Another striking finding concerns the use of the EN '*claim'*. It occurs more frequently in the US-ARG database compared to AELT and it is not found among the top 10 ENs in TR-ICLE.

Lastly, with regard to the frequency distribution of epistemic adjectives, *'certain'* is the most frequently used epistemic adjective in the US-ARG. Interestingly, *'true'* is the most frequent epistemic adjective in both AELT and TR-ICLE. The Turkish students prefer to use '*true'* more frequently than the occasions that they should use *'certain'* instead of *'true'*. As for the case of *'possible'*, it is the third most frequent adjective in the three databases. However, the American students employ the epistemic adjective *'possible'* more frequently than the Turkish students in both AELT and TR-ICLE. The Turkish students in TR-ICLE use *'possible'* slightly more than the students in the AELT database, though. The use of *'obvious'* is also interesting. The American students employ the EADJ *'obvious'* more frequently than the Turkish students in both AELT and TR-ICLE. When compared to the Turkish students, the epistemic adjectives *'sure'* and *'clear'* are slightly more frequently employed by the American students in US-ARG.

The third research question tried to investigate how the degrees of epistemic strength differ (in terms of weak, medium and strong categories) in each database. According to the results of the Log-likelihood tests, a statistically significant difference was observed between AELT and US-ARG in terms of their use of medium level EDs. American students in US-ARG utilized medium level EDs with statistically higher frequency than the Turkish students in the AELT database. In terms of the use of strong level EDs, statistically no significant difference was found between the two databases, though the strong level EDs are utilized with slightly higher frequency in AELT than in US-ARG. Lastly, as for the use of weak level EDs, there was again statistically no significant difference between the two groups, though the weak level EDs occur with higher frequency in US-ARG than in the AELT database. Concerning the AELT and TR-ICLE databases in terms of their use of epistemic devices according to the expression of epistemic strength, statistically no significant difference was between the two groups. This might indicate that the Turkish students in both databases are similar in terms of their use of strong, medium and weak level EDs. However, there were still some slight

differences between the two groups. For instance, the strong level ED's occurred with higher frequency in AELT than in TR-ICLE. Medium level EDs, on the other hand, occurred with slightly higher frequency in TR-ICLE than in AELT. Lastly, in terms of their frequency of use of weak level EDs, both groups seemed to be very similar.

There was statistically significant difference between TR-ICLE and US-ARG in terms of their use of medium level EDs. The American students in US-ARG utilized medium level EDs with statistically higher frequency than the Turkish students in the TR-ICLE database. In terms of their use of strong level EDs, statistically no significant difference was found between the two databases, though the strong level EDs were utilized with slightly higher frequency in US-ARG than in TR-ICLE. Lastly, as for the use of weak level EDs, there was again statistically no significant difference between the two groups, though the weak level EDs occur with higher frequency in US-ARG than in the TR-ICLE database.

Regarding the five grammatical categories in terms of their expression of epistemic strength among the three groups, I would like to start with the epistemic modal verbs (EMVs). There was statistically significant difference between AELT and US-ARG in terms of their use of modal verbs expressing medium level of epistemic strength. The American students in US-ARG utilized medium level modals with statistically higher frequency than the Turkish students in the AELT database. In terms of the use of strong level modals, there was statistically no significant difference between the two databases, though the strong level modals are utilized with slightly higher frequency in US-ARG than in AELT. Regarding the use of weak level modals, there was again statistically no significant difference between the two groups, though the weak level modals occurred with higher frequency in US-ARG than in the AELT database.

Statistically no significant difference was found between the AELT and TR-ICLE databases in terms of their use of the three level of epistemic modal verbs. This might indicate that the Turkish students in both databases are similar in terms of their use of strong, medium and weak level modal verbs.

Statistically significant difference was found between the TR-ICLE and US-ARG databases in terms of the epistemic modal verbs indicating medium level of epistemic strength. The American students in US-ARG utilized medium level modals with statistically higher frequency than the Turkish students in the TR-ICLE database. In terms of the use of strong level modals, there was statistically no significant difference between the two databases, though the strong level EMVs are utilized with higher

frequency in TR-ICLE than in US-ARG. Lastly, as for the use of weak level EMVs, there was again statistically no significant difference between the two groups, though the weak level EMVs occurred with higher frequency in US-ARG than in the TR-ICLE database.

Concerning the epistemic lexical verbs (ELVs) in terms of their expression of epistemic strength among the three groups, statistically significant difference was observed between AELT and US-ARG in terms of their use of ELVs expressing strong and medium level of epistemic strength. The Turkish students in AELT utilized strong level ELVs with significantly higher frequency than the American students in the US-ARG database. As for the frequency of medium level ELVs, the American students in US-ARG utilized them with significantly higher frequency than the Turkish students in the AELT database. Lastly, as for the use of weak level ELVs, statistically no significant difference was found between the two groups, though the weak level ELVs occurred with slightly higher frequency in US-ARG than in the AELT database.

In terms of their use of strong level ELVs, statistically significant difference was found between the AELT and TR-ICLE databases The Turkish students in AELT used strong level ELVs with statistically higher frequency than the other Turkish students in the TR-ICLE database. Both groups were found to be similar in terms of their use of medium and weak level ELVs. However, there were still some slight differences between the two groups. For instance, the medium level ELVs occurred with higher frequency in TR-ICLE than in AELT. Weak level ELVs, on the other hand, occurred with slightly higher frequency in AELT compared with TR-ICLE.

Statistically no significant difference was observed between the US-ARG and TR-ICLE databases in terms of their use of the three level of ELVs. The Turkish students in TR-ICLE and the American students in US-ARG were generally similar in terms of their use of strong, medium and weak level ELVs. For instance, the strong level ELVs occurred with almost the same frequencies in both US-ARG and TR-ICLE. However, there were still some slight differences in terms of the frequencies of medium and weak level ELVs. Medium and weak level ELVs occurred with higher frequency in US-ARG than in TR-ICLE.

Regarding the epistemic adverbs (EADVs) in terms of their expression of epistemic strength among the three groups, there was statistically no significant difference between the AELT and US-ARG databases. However, there were still some slight differences between the two groups. For instance, the strong level EADVs occurred with slightly

higher frequency in AELT than in US-ARG. Medium and weak level EADVs, on the other hand, occurred with slightly higher frequency in US-ARG than in AELT.

Statistically no significant difference was observed between the AELT and TR-ICLE databases in terms of their use of the three level of EADVs. This might indicate that the Turkish students in AELT and the other Turkish students in TR-ICLE are similar in terms of their use of strong, medium and weak level EADVs.

There was again statistically no significant difference between the TR-ICLE and US-ARG databases in terms of their use of the three level of EADVs. However, there were still some slight differences between the two groups. For instance, the strong level EADVs occurred with slightly higher frequency in TR-ICLE than in US-ARG. Medium and weak level EADVs, on the other hand, occurred with slightly higher frequency in US-ARG compared with TR-ICLE.

Regarding the epistemic nouns (ENs) in terms of their expression of epistemic strength among the three groups, statistically significant difference was found between the AELT and US-ARG databases in their use of ENs expressing strong level of epistemic strength. The American students in US-ARG utilized strong level ENs with statistically higher frequency than the Turkish students in the AELT database. In terms of the use of medium and weak level ENs, there was statistically no significant difference between the two databases, though the medium level modals were utilized with higher frequency in US-ARG than in AELT.

There was statistically no significant difference between the AELT and TR-ICLE databases in terms of their use of the three level of EN's. In other words, the Turkish students in both databases were found to be similar in terms of their use of strong, medium and weak level EN's. However, there were still some slight differences between the two groups. For instance, the strong and medium level ENs occurred with slightly higher frequency in TR-ICLE than in AELT. Lastly, in terms of their frequency of use of weak level ENs, both groups appeared to be similar.

There was a statistically significant difference between TR-ICLE and US-ARG in terms of the ENs indicating strong level of epistemic strength. The American students in US-ARG utilized strong level ENs with statistically higher frequency than the Turkish students in the TR-ICLE database. In terms of their use of medium level ENs, there was statistically no significant difference between the two databases, though the medium level ENs were utilized with higher frequency in US-ARG than in TR-ICLE.

With regard to the epistemic adjectives (EADJs) in terms of their expression of epistemic strength among the three groups, there was statistically no significant difference between the AELT and US-ARG databases in their use of the three level of EADJs. This might indicate that the Turkish students in AELT and the American students in US-ARG were similar in terms of their use of strong, medium and weak level EADJs. However, there were still some slight differences between the two groups. For instance, each of the three level EADJs occurred with slightly higher frequency in US-ARG than in AELT.

There was statistically no significant difference observed between the AELT and TR-ICLE databases in terms of their use of the three level of EADJs. This might indicate that the Turkish ELT Department students in AELT and the other Turkish students in TR-ICLE were similar in terms of their use of strong, medium and weak level EADJs.

There was again statistically no significant difference found between the US-ARG and TR-ICLE databases in terms of their use of the three level of EADJs. This might indicate that the Turkish students in TR-ICLE and the American students in US-ARG were similar in terms of their use of strong, medium and weak level EADJs. However, there were still some slight differences between the two groups. For instance, the strong and weak level EADJs occurred with higher frequency in US-ARG than in TR-ICLE. Medium level EADJs, on the other hand, occurred with almost the same frequency in both TR-ICLE and US-ARG.

To summarize the above-stated findings, it is striking that the American student writers prefer to use more number of epistemic devices indicating medium level of epistemic strength, while the Turkish students in both databases tend to prefer more number of epistemic devices expressing strong level of epistemic commitment. American students also tend to use weak level epistemic devices more frequently than the Turkish student writers. This finding supports the findings of the several previous studies in the modality literature. It was commonly observed that the non-native speakers tend to make stronger assertions in their writing compared to the native speakers. This might be related to their inadequate awareness of English writing conventions or it might also be related to the students' English proficiency levels. As language proficiency increases, students tend to produce more native-like forms. In other words, they get closer to native-speaker standards. For instance, while the students with lower English proficiency levels have the tendency to make stronger assertions in their writing, the ones with higher proficiency levels tend to be more cautious in expressing their claims.

This research has focused on the investigation of the use of epistemic devices in argumentative texts written by Turkish students (L2 writers) and English students (L1 writers). Previous studies on the use of language and rhetorical features in writing have identified that the non-native speaker (NNS) texts mostly fail to conform to English writing conventions and these texts include instances of overuse, underuse or misuse of some linguistic features (Mauranen, 1993; Hyland & Milton, 1997; Aijmer, 2001). The results indicate several differences between the three groups. For instance, it seems that the Turkish L2 writers use a slightly more restricted number of epistemic devices than the American L1 writers do. Another striking finding is that this smaller set of epistemic devices is utilized with higher frequency compared with American student writers In the case of epistemic lexical verbs, for instance, the Turkish student writers mainly use the expression, *I think.* In a similar vein, epistemic adverbs, such as *maybe* and *of course*, are also utilized with higher frequency by the Turkish student writers in this study.

Regarding the distribution of epistemic devices across grammatical classes, it should be noted that only one category (lexical verbs) showed statistically significant differences. It seems that the Turkish student writers primarily employ lexical verbs and adverbs in their expression of doubt and certainty, however the American student writers appear to use modal verbs instead. The Turkish student writers prefer to use certain modal verbs with relatively high frequency than the American student writers. For instance, in this study they exhibit the tendency to employ *will* more frequently than *would*, but the American student writers prefer to use *would* instead.

Stating an explanation for these differences in the use of epistemic devices between the Turkish student writers and the American student writers would be speculative at this point; however, some possibilities might be mentioned. Regarding the use of modal verbs, we see that these devices are commonly used by the American student writers to hedge arguments, but not by the Turkish student writers. In English, modal verbs are primarily used in the expression of modality meanings. It might be concluded that the Turkish student writers have not fully mastered the epistemic modality potential of English modal verbs. In other words, they may not have mastered the vague, fuzzy, and often subtle meanings of the modal verbs.

Furthermore, the Turkish student writers adopt a more personal and straightforward style to make argumentation compared with the American student writers. Depending on the higher frequency of such personal items, it might be assumed that the Turkish student writers use the phrases such as *I think (that)* and *of course* to demonstrate their personal style in their argumentative writing. These differences might

stem from in different educational and cultural writing orientations. Phrases such as *I think* and *of course* causes the writer to be more visible in writing, but visibility is something that is usually avoided in English writing (Aijmer 2001, p. 256). However it is interesting that the same tendency of visibility on the part of the writer has also been detected in the case of Arabic and East-Asian non-native writers (Hinkel, 2005; Hyland and Milton 1997).

This finding may be related to "register-awareness (Gilquin and Paquot 2007, p. 3)". Findings of this study demonstrated that Turkish student writers employ epistemic devices which are more frequently used in spoken discourse than in written discourse. The frequent uses of *I think, may be* and *really* by the Turkish student writers might show that they are not adequately aware of which epistemic devices are considered more appropriate in the text type they are producing.

However, the use of such spoken language items does not seem to be characteristic of Turkish L2 learners exclusively. Similar tendency is also found among English L2 learners from various linguistic and cultural backgrounds (Hinkel 2005, p.46).

This might show that regardless of language and cultural background, L2 writers of English seem to share certain tendencies in the use of epistemic devices. Previous research suggests that there is also a tendency for L2 writers to overuse writer-visibility markers, to an extent that is more than what is considered appropriate for writing in English.

5.4. Implications of the Study

Findings of this study have some certain theoretical, methodological, cultural and pedagogical implications.

5.4.1. Theoretical implications

Regarding the theoretical implications, there is a theoretical claim in the literature that non-native students face considerable challenges in their use of English as a means of written communication (see for example, Aijmer, 2001; Hyland and Milton, 1997; Ruud, 2014). Previous studies focusing on the linguistic and rhetorical features in written texts produced by NNS have usually identified textual deviations and inadequacies in the use of EDs and classified these deviations under the terms of underuse, overuse and/or misuse (see for example, Mauranen, 1993) This corpus-based study on Turkish student writers compared with American student writers seems to be consistent in many ways with the findings of previous studies. It offers added evidence by supporting the

theory that NNS writers are slightly more restricted in their choices of epistemic devices since they use smaller set of epistemic devices compared with NS writers. Moreover, NNS writers prefer a more personal style when making their arguments to a greater extent than NS writers. This may be due to differences in writing culture and educational traditions.

5.4.2. Methodological implications

Finally, regarding the methodological implications, this study relied on corpus linguistics as a methodology to compile and analyze the essays. Corpus linguistics approach in the field of applied linguistics is important beyond doubt (Ngula, 2015). It has also proved to be an effective tool in terms of the identification, classification and quantification of epistemic devices in the argumentative essays representing the three groups of student writers. Concordance lines where the epistemic items entered into co-occurrence patterns were sorted out and closely examined, thanks to corpus linguistics. However, the corpus methodology by itself might not be enough. For instance, in the present study, the non-epistemic occurrences were manually eliminated from the epistemic ones by the researcher and one American native-speaker professional rater in order to determine the true epistemic occurrences. The quantitative analyses were all conducted following this manual elimination procedure. Obviously, this could not be achieved by relying only on the corpus methodology adopted in this study. Though the corpus approach to language studies remains to be a dominant and powerful approach, it may also be supported by some other non-corpus techniques, when required. (Ngula, 2015).

5.4.3. Cultural implications

In terms of cultural implications, English is a global language that is used by people with various cultural and L1 backgrounds. These backgrounds might affect how the non-native writers of English express their opinions. Thus this causes variations when using the language. Shared conventions are expressed through the language; however the cultural background is another important factor in the expression of ourselves in a particular language. Therefore, people from different linguistic and cultural background express the same reality in different ways. In other words, there might be variations in the use of certain kind of expressions in a particular language due to the differences in terms of linguistic and/or cultural backgrounds. Non-native writers of English use it as a lingua franca in their writings. This is said to enrich the production of language. Language variation should therefore be taken into account, because there is not a straightforward

connection between language and culture. Variations in language use exist even among native speakers. Thus, variation is quite possible among non-native speakers of English as well. There are many means of conveying information. One standard form of language appears to be too idealistic in international communication.The representation of language can be in different ways. Therefore, it is already expected that non-native speakers of English may not use the language in the exact same way as native speakers of English. This is demonstrated by the studies such as Mauranen (2012), Hinkel (2009) and Öztürk (2007). Differences even among the non-native writers of same language proficiency levels can be observed in an international communication context. These differences are likely to stem from writers' own social and cultural conventions. Cultural conventions of writers might affect their writing style and also their stance. The writing style might reflect the writer's assignment of the likelihood of the truth value of a particular statement. Individual communication styles are quite normal because they contribute to language production. In the databases examined in this study, variations also occur across the databases. These variations could be related to the different educational or rhetorical conventions of argumentative writing in English and Turkish. In other words, the differences of epistemic modality use between the Turkish and American student writers might be related to different cultural conventions. As the previous studies also state it, writing in English may show great variations in the context of cross-cultural communication.

5.4.4. Pedagogical implications

The findings of this study may also have some pedagogical implications. For instance, Turkish students should learn to use various kinds of epistemic modality devices within each grammatical category. They should also be made aware of different ranges of epistemic meanings such as different levels of doubt and certainty. It may be hard for language learners to "acquire this aspect of pragmatic competence without first consciously noticing it (Hyland and Milton, 1997, p. 200**)**". Exposing language learners to English texts only may not be adequate to achieve native-like proficiency in the area of epistemic modality. In this vein, explicit instruction might be required. Norris and Ortega (2000) maintain that, "focused instructional treatments of whatever sort far surpass non- or minimally focused exposure to the L2 (p. 463)". Different functions of epistemic modality should be taught to learners through instruction so that they can notice these different functions. For example, learners may remove particular epistemic devices from a text or rewrite them by replacing them with other some other devices (Hyland and Milton, 1997). Such kind of exercises would help learners to gain awareness

what happens when epistemic devices are removed and/or replaced with some other devices and thus they might acquire the different functions of epistemic modality.

Learners should also be made aware of the distinctions between the formal written and the spoken language features through instruction. They should move beyond the use of limited diversity of epistemic devices reflecting the features of spoken language. Activities such as providing different lexical alternatives (for example, providing alternatives to *think*) may be prepared and administered with this purpose in mind (Hinkel, 2003).

Learner corpora can also be used in the teaching and learning activities. This might be effective especially in the cases of misuses of epistemic modality. This is called Data-Driven Learning (Johns, 1991). This methodology was first suggested by Granger and Tribble (1998). Then several other researchers applied the same methodology (such as Milton and Hyland, 1999; Seidlhofer, 2000; Flowerdue, 2001).

Particular error-prone items can also be searched for in the native speaker corpus through using concordance programs. Then the concordance lines from each corpus can be compared. In this way, learners can discover themselves the variations of language use between the native speakers (NS) and the non-native speakers of English (NNS). The role of the instructor in here might be to let the learners find out how the two corpora exhibit differences in the employment of the same epistemic device. This might help learners attain a more native-like language competence. This is called negative evidence and it is proved to be very effective especially in the case of advanced language learners, help them notice and thus correct the fossilized forms (Granger, 1996).

When learners discover their own errors by themselves and notice the variations between the native-speaker language and their interlanguage, this might also improve their learner independence. Furthermore, language learners are stated to feel more motivated when they investigate and identify their own errors in this way (Fan et al., 1999, cited in Nesselhauf, 2004).

5.5. Suggestions For Further Studies

The present study explored epistemic modality in the argumentative writing of Turkish students compared with American students. There are important aspects of this study that I could not address due to time limitations. Hence further work might prove helpful in extending the insights gained through this study. Since I focused on examining a wide-ranging list of epistemic devices (see Table 4.2), it was difficult to explore in detail

the pragmatic features of each epistemic device as used by students in the three databases. Previous research has demonstrated that epistemic modality devices have rich pragmatic features to be explored by close and detailed examination of each item (Ngula, 2015). Thus, in further studies, a specific and limited set of epistemic devices may be explored in terms of pragmatic perspectives, such as in the pragmatic analysis of some specific epistemic adverbs by Simon-Vandenbergen and Aijmer (2007).

The current study only examined the argumentative essays of the upper intermediate and advanced learners. For this reason, it was not possible to observe whether a developmental sequence takes place in the acquisition of epistemic modality devices. For further studies, essays produced by different language proficiency levels of language learners can be collected. This might be useful for comparing the use of epistemic modality across different language proficiency levels. Findings of these kind of research may be significant for the decision of the order in which the epistemic modality devices should be taught. Another area for further work might be the exploration of other linguistic and rhetorical features of argumentative writing apart from epistemic modality, topics such as authorial stance, lexical bundles, collocational patterns, and discourse structure, etc.

5.6. Concluding Remarks

Argumentation is stated to be very important in the context of debate and persuasion (Glenn, Miller, Webb, Gary and Hodge, 2004). It involves appropriately presenting the writer's propositions, discussing the issue in appropriate terms, and also justifying the writer's standpoint by establishing good rapport with the prospective readers. It is crucial in argumentative writing to express one's propositions with an appropriate level of doubt and certainty. Through analyzing comparable data from US-ARG sub-corpus of LOCNESS, TR-ICLE sub-corpus of ICLE, and the AELT database, this study reveals that especially the Turkish students utilize a narrow diversity of epistemic devices and the use of epistemic modality in argumentative writing is very challenging for them. They were found to use syntactically simple sentences and rely on a limited diversity of epistemic devices, as demonstrated in the findings of several other previous studies. While the Turkish students tended to exhibit a reliance on more limited number of epistemic devices for strong assertion, their American counterparts tended to be more tentative and cautious in their assertions.

REFERENCES

Adams-Smith, D. (1984) Medical discourse: Aspects of author's comments. *English for Specific Purposes,* 3, 25-36.

Ädel, A. (2006) *Metadiscourse in L1 and L2 English*, Amsterdam: John Benjamins.

Ädel, A. (2010). Using corpora to teach academic writing: Challenges for the direct approach. *Corpus-based approaches to ELT. London: Continuum*, 39-55.

Ahmad, J. (2012) Stylistic features of scientific English: a study of scientific research articles. English Language & Literature Studies 2(1). 47-55.

Aijmer, K. (2001). I think as a marker of discourse style in argumentative student writing, In Aijmer, Karin (ed.). *A wealth of English: Studies in Honour of Göran Kjellmer.* Göteborg: Acta Universitatis Gothoburgensis, 247-257.

Aijmer, R. K. (2002). Modality in advanced Swedish learners' written interlanguage. In S.

Aikhenvald, A.Y. (2004). Evidentiality. Oxford: Oxford University Press.

Allison, D. (1995). Assertions and alternatives: Helping ESL undergraduates extend their choices in academic writing. *Journal of Second Language Writing, 4*, 1-15.

Altenberg, B. & Granger, S. (2001). The grammatical and lexical patterning of MAKE in native and non-native student writing. *Applied Linguistics*, *22 (2),* 173-195.

Andersen, R. W. (1984). The one-to-one principle of interlanguage construction. *Language Learning,* 34, 77-95.

Anderson, L.B. (1986). Evidentials, paths of change, and mental maps: typologically regular asymmetries. In Wallace Chafe & Johanna Nichols (eds.), Evidentiality: The Linguistic Coding of Epistemology, 273-312, Ablex.

Aston, G. (1995). Corpus evidence for norms of lexical collocation. In G. Cook, & B. Seidlhofer (Eds.), *Principle and practice in applied linguistics: Studies in honour of H.G. Widdowson* (pp. 257-270). Oxford: Oxford University Press.

Aston, G. (2000). Corpora and language teaching. In L. Burnard & T. McEnery (Eds.), *Rethinking language pedagogy from a corpus perspective* (pp. 7-17). Berlin: Peter Lang.

Bakhtin, M. K. (1998a). 文本·对话与人文 [*Texts: Dialogues and Humanities*] (C. R. Bai et al. trans.). Shijiazhuang: Hebei Education Press.

Bardovi-Harlig, K. (1999). Exploring the interlanguage of interlanguage pragmatics: A research agenda for acquisitional pragmatics. *Language Learning, 49*(4), 23-24.

Bardovi-Harlig, K., & Dornyei, Z. (1998). Do language learners recognize pragmatic violations? Pragmatic vs. grammatical awareness in instructed L2 learning. *TESOL Quarterly, 32,* 233-259.

Barnes, J. (1984). Evidentials in the Tuyuca Verb. International Journal of American Linguistics 50 (3). 255-271.

Barton, E. L. (1993). Evidentials, argumentation, and epistemological stance. College English 55 (7), 745-769.

Besters-Dilger, J., Drobnjaković A., & Hansen B. (in press). Modals in Slavonic languages. In B. Hansen, F. de Haan, & J. van der Auwera (Eds.), *Modals in the languages of Europe*. Berlin: Mouton. Retrieved from http://www.uniregensburg.de

Biber, D. & E. Finegan (1989). Styles of stance in English: Lexical and grammatical marking of evidentiality and affect, Text, 9, 93-124. Special issue on the pragmatics of affect, edited by Elinor Ochs. Biber, D., S. Johansson. Leech, S.

Biber, D. (2004). Historical patterns for he grammatical marking of stance, Journal of Historical Pragmatics, 5:1, 107-136.

Biber, D. (2006). Stance in spoken and written university registers, *Journal of English for Academic Purposes,* 5, 97-116.

Biber, D. and E. Finegan (1988). Adverbial stance types in English. *Discourse Processes* 11, 1-34.

Biber, D. and E. Finegan (1989). Styles of stance in English; Lexical and grammatical marking of evidentiality and affect. *Text* 9, 93-124.

Biber, D., Conrad, S., & Leech, G. (2002). A student of spoken and written English, London: Longman.

Biber, D., S. Conrad, and R. Reppen. (1998). *Corpus linguistics: Investigating language structure and use*. Cambridge: Cambridge University Press.

Biber, D.S., Johansson Leech, S. Conrad, & E. Finegan, (1999), *Longman grammar of spoken and written English*, Pearson Education Ltd.

Boas, F., Yampolsky H.B. & Zellig S. H. (1947). Kwakiutl grammar with a glossary of the suffixes. Transactions of the American Philosophical Society 37 (3), 203-377.

Bonyadi, A. (2011) "Linguistic Manifestation of Modality in Newspaper Editorials" *International Journal of Linguistics* Vol.3, No.1. Pp.1-13.

Boye, K. & Harder, P. 2009. "Evidentiality: Linguistic categories and grammaticalization", *Functions of Language*, 16.1: 9-43.

Boye, K. (2012). Epistemic meaning: A crosslinguistic and functional-cognitive study. Berlin: Mouton de Gruyter.

Brown, K. (1992). Describing modality in English. In R. Bowers& C. Brumfit (eds.) *Applied linguistics and English language teaching* Review of ELT, 2. Brown. P. & Levinson, S.

Butler, C. (1990). Qualifications in science: Modal meanings in scientific texts. In W. Nash (ed.) *The Writing Scholar: Studies in Academic Discourse.* Newbury Park, CA: Sage. 137-170.

Bybee, J L. and Fleischman S., eds., (1995) Modality in grammar and discourse. Amsterdam: Benjamins.

Bybee, J, Perkins R. and Pagliuca, W. (1994). The Evolution of Grammar: tense, aspect and modality in the languages of the world. Chicago: University of Chicago Press.

Camiciottoli, B. C. (2004). Interacting with the audience: Modal verbs in cross-cultural business letters. In R. Faccbinetti & F. Palmer (eds.), *English Modality in Perspective: Genre Analysis and Contrastive Studies*. Frankfurt: Peter Lang.

Carretero, M. (2002). The influence of genre and register on epistemic modality in spoken English: a preliminary study. *Estudios Ingleses da la Universidad Complutense*, vol.10, 11-41.

Celce-Murci, M., & Larsen-Freeman, D. (1999). *The grammar book*: *An ESL/EFL teacher's course* (2nd ed.). Boston, MA: Heinle & Heinle.

Chafe, W. (1986). Evidentiality in English con- versation and academic writing. In Wallace Chafe and Johanna Nichols, editors, Eviden- tiality: The Linguistic Coding of Epistemol- ogy, pages 261-272. Ablex, Norwood, NJ.

Chafe, W. and Nichols J. eds., (1986). Evidentiality, Norwood: Ablex.

Chafe, W. L. (1970). Meaning and the Structure of Language. *Chicago/London*.

Chen, H. (2010). Contrastive learner corpus analysis of epistemic modality and interlanguage pragmatic competence. *Arizona Working Papers in SLA & Teaching, 17,* 2-51. Retrieved from http://slat.arizona.edu/sites/slat/files/page/

Chen, Z. (2012). Expression of epistemic stance in EFL Chinese university students' writing, *English Language Teaching, 5*(10), 173-179.

Chung, S., & Timberlake, A. (1985). Tense, aspect, and mood. *Language typology and syntactic description*, *3*, 202-258.

Coates, J. (1983). The semantics of modal auxiliaries. London: Croom Helm.

Coates, J. (1990). Modal Meaning: The Semantics – Pragmatics Interface. *Journal of Semantics, 7*(1), 53–63. http://dx.doi.org/10.1093/jos/7.1.53

Coates, J. (1995). The expression of root and epistemic possibility in English. In J. Bybee, & S. Fleischman (Eds.), *Modality in grammar and discourse* (pp. 55-66). Amsterdam and Philadelphia, PA: John Benjamins Publishing Company.

Coates, J. and Leech, G. (1980) 'The meanings of the modals in modern British and American English', *York Papers in Linguistics*, 8: 23–34.

Cobb, T. (2003), Analyzing late interlanguage with learner corpora: Québec replications of three European studies, *The Canadian Modern Language Review/La Revue canadienne des langues vivantes*, *59*(3), 393-423.

Collins, P. (2009). *Modals and Quasi-Modals in English.* Amsterdam/New York: Rodopi.

Creswell, J. W. (2005). Educational research: Planning, conducting, and evaluating quantitative and qualitative research. Upper Saddle River, New Jersey: Pearson Education, Inc.

De Haan, F. (2000). Evidentiality in Dutch. In Steve S. Chang, Lily Liaw & Josef

DeCarrico, J. (1986). Tense, aspect and time in the English modality system. *TESOL Quarterly*, 20-665-82

Dedaic, M. N. (2004). *If I may say, I would like to ask and let me repeat*: Modality-construed mitigation markers in political communication. In R. Faccbinetti & F. Palmer (eds.), *English Modality in Perspective: Genre Analysis and Contrastive Studies*. Frankfurt: Peter Lang.

Dendale, P. & Tasmowski, L. (2001) Introduction: evidentiality and related notions. Journal of Pragmatics 33(3), 339-348.

Depraetere, I., & Verhulst, A. (2008). Source of modality: A reassessment. *English Language and Linguistics*, *12*(1), 1–25.

Deuber, D. (2010). Modal verb usage at the interface of English and a related Creole: A corpus-based study of can/could and will/would in Trinidadian English. *Journal of English Linguistics*, *38*(2), 105–142.

Diewald, G. & Smirnova, E. (2010). Evidentiality in German: linguistic realization and regularities in grammaticalization. Berlin: Mouton de Gruyter.

Downing, A. and Locke, P. (1992). *A University Concise English Grammar.* Hemel Hempstead Phoenix ELT.

Drubig, H. B. (2001). On the syntactic form of epistemic modality. *ms., University of Tübingen*.

Durán, R., Alonso, P., & Sánchez, M. J. (2007). The study of modal verbs from a pedagogical perspective: An analysis of textbooks and grammars. *Revista de Lingüística y Lenguas Aplicadas*, *2*, 29-37.

Edwards, D. (2006). Facts, norms and dispositions: Practical uses of the modal verb *would* in police interrogations *Discourse Studies*, *8*(4), 475–501.

Eide, K. M. (2005). *Norwegian Modals (Studies in Generative Grammar).* Berlin/New York: Mouton de Gruyter.

Facchinetti, R., Krug, M. & Palmer. F. (2003). Modality in English: Theoretical, descriptive and typological issues. In Facchinetti, R. Krug, M. and Palmer, F. (eds.). *Modality in contemporary English*, 1-17. Berlin, New York: Mouton de Gruyter.

Fairclough, N. (1995). *Critical Discourse Analysis: The Critical Study of Language.* London: Pearson Education.

Fan, M., Greaves, C., & Warren, M. (1998). Identifying characteristic patterns in students' writing using a corpus of learner data. In R. Berry, B. Asker, & K. Hyland (Eds.), Language analysis, description and pedagogy (pp. 147-161). Hong Kong: Language Centre HKUST.

Flowerdew, L. (1998), Integrating 'expert' and 'interlanguage' computer corpora findings on causality: Discoveries for teachers and students, *English for Specific Purposes*, *17,* 329-345.

Flowerdew, L. (2001). The Exploitation of small learner corpora. In M. Ghadessy, A. Henry, & R. L. Roseberry (Eds.), *Small Corpus Studies and ELT* (pp. 363-380). Amsterdam and Philadelphia, PA: John Benjamins Publishing Company.

Flowerdue, L. (2000). Investigating referential and pragmatic errors in a learner corpus. In L. Burnard & T. McEnery (Eds.), *Rethinking language pedagogy from a corpus perspective* (pp. 145-154). Berlin: Peter Lang.

Flowerdue, L. (2001). The exploitation of small learner corpora in EAP materials design. In M. Ghadessy. A. Henry, & R. Roseberry (Eds.), Small corpus studies and ELT: Theory and practice (pp. 363-379). Amsterdam: John Benjamins.

Fowler, R. (1985). 'Power'.in T.A. Van Dijk (ed.), *Handbook of Discourse Analysis,* Vol. 4. London: Academic Press, Inc.Pp.61-82.

Frajzyngier, Z. (1985). Truth and the indicative sentence. *Studies in language*, *9*(2), 243-254.

Frajzyngier, Z. (1987). From verb to anaphora. *Lingua*, *72*(2), 155-168.

Freeborn, D. (1995*) A Course Book in English Grammar* (2nd edn.), Palgrave: Macmillan.

Gabrielatos, C., & McEnery, T. (2005). Epistemic modality in MA dissertations. In P. A. Fuertes Olivera (Ed.), *Lengua y Sociedad: Investigaciones recientes en lingüística aplicada*. Lingüística y Filología, *61* (pp. 311-331). Valladolid: Universidad de Valladolid.

Gao, Q. P. (2009). 英语论说文中的情态问题 [The appropriate use of modality in argumentative English writing]. *Courses, Teaching Materials and Approaches*, 10, 60-64.

Garside, R., Leech, G., & Sampson, G. (Eds.). (1987).*The computational analysis of English: A corpus-based approach*. London, UK: Longman.

Gass, S. M. and Selinker, L. (2001). *Second language acquisition: An introductory course.* Mahwah, NJ: Lawrence Erlbaum.

Gass, S.M. (2004). Context and second language acquisition in B. Vanpatten, J. Williams, S. Rott. & M. Overstreet (Eds.). Form-meaning connections in second language acquisition (pp. 77-90). Mahwah. NJ: Lawrence Ewlbaum Associates.

Gass, S.M., & Selinker, L. (2008). Second language acquisition: An introductory course (3rd ed.) Mahwah, NJ. Lawrence Erlbaum Associates

Gibbs, D. (1990). Second language acquisition of the English modal auxiliaries can, could, may and might. In Applied Linguistics 11:3, 297-314.

Gilquin, G, & Paquot, M. (2008). Too chatty: Learner academic writing and register variation. *English Text Construction*, 1(1), 41-61.

Gilquin, G. (2000/2001). The Integrated Contrastive Model. Spicing up your data. *Languages in Contrast 3(1)*, pp. 95–123.

Gilquin, G., & Paquot, M. (2007). Spoken features in learner academic writing: Identification, explanation and solution. In *Corpus linguistics conference CL2007*.

Glenn, C., Miller, R. K., Webb, S. S., Gary, L., & Hodge, J.C. (2004). Hodges' harbrace handbook (15th ed.). Boston: Thompson Heinle.

Granger, J. Hung, & S. Petch- Tyson (Eds.), *Computer learner corpora, second language acquisition and foreign language teaching* (pp. 55-76). Amsterdam & Philadelphia: Benjamins.

Granger, S. (1996). Exploiting learner corpus data in the classroom: Form-focused instruction and data-driven learning. Paper presented at TALC 1996, Lancaster. 9-12 August 1996.

Granger, S. (1996). From CA to CIA and back: An integrated approach to computerized bilingual and learner corpora. In K. Aijmer, B. Altenberg, & M. Johansson, *Languages in Contrast. Text-based cross-linguistic studies.* Lund: Lund University Press.

Granger, S. (1998b). The computer learner corpus: a versatile new source of data for SLA research. In S. Granger (Ed.), (pp. 3-18).

Granger, S. (1999). Use of tense by advanced EFL learners: Evidence from an error-tagged computer corpus. In H. Hasselgard & S. Oksefjell (Eds.) *Out of corpora: Studies in honour of Stig Johansson* (pp. 191-202). Amsterdam: Rodopi.

Granger, S. (2002), A bird's-eye view of learner corpus research. In S. Granger, J. Hung, & S. Petch-Tyson (Eds.), *Computer learner corpora, second language acquisition and foreign language teaching* (pp. 3-33). Amsterdam: John Benjamins.

Granger, S. (2003). The corpus approach: a common way forward for contrastive linguistics and translation studies. In S. Granger, J. Lerot, & S. Petch-Tyson (Eds.), *Corpus-based approaches to contrastive linguistics and translation studies* (pp. 17-29). Amsterdam & Atlanta: Rodopi.

Granger, S. (Ed.). (1998a). *Learner English on computer*. London: Addison Wesley Longman.

Granger, S., & Tribble, C. (1998). Learner corpus data in the foreign language classroom: Form-focused instruction and data-driven learning. In S. Granger (Ed.), Learner English on computer (pp. 199-209). London: Longman.

Granger, S., Dagneaux, E., & Meunier, F. (2002). *The International corpus of learner English: Handbook and CD-ROM*. Louvain-la-Neuve: Presses Universitaires de Louvain.

Guo, X. (2005). Modal auxiliaries in phraseology: A contrastive study of learner English and NS English. *Proceedings of the Corpus Linguistics 2005*, np.

Halliday, M. A. K. (2000). *An introduction to functional grammar*. Beijing: Foreign Language Teaching and Research Press.

Halliday, M. A. K. and Matthiessen, C. M. I. M. (2004) *An introduction to functional grammar* (3rd edn.) London: Edward Arnold

Halliday, M. A.K. (1985). *An introduction to functional grammar*. London: Edward Arnold.

Halliday, M.A.K. (1970). Functional diversity in language as seen from a consideration of modality and mood in English. *Foundations of Language* 6, 322-361.

Halliday, M.A.K. (1994). *An introduction to functional grammar*. (2nd ed.) London: Edward Arnold.

Hasselgard, H, & Johansson, S. (2011). Learner corpora and contrastive interlanguage analysis. In F. Meunier, D. Sylvie, G. Gaëtanelle, & P. Magali, a *Taste for Corpora. In honour of Sylviane Granger.* (pp. 33–62) Amsterdam / Philadelphia: John Benjamins.

He, A. (1993).Exploring modality in institutional interactions: Cases from academic counseling encounters, Text, 13(2) 503-528.

Hermeren, L. (1978). *On modality in English: A Study on the Semantics of the Modals.* Lund: Gleerup. (Lund Studies in English; 53).

Hinkel, E. (1999). *Culture in second language teaching and learning*. Cambridge University Press.

Hinkel, E. (1995). The use of modal verbs as a reflection of cultural value. *TESOL Quarterly*, 29(2), 325-343.

Hinkel, E. (1997). Indirectness in L1 and L2 academic writing. *Journal of Pragmatics, 27*, 361-386.

Hinkel, E. (2003). Simplicity without elegance: Features of sentences in L1 and L2 academic texts. *Tesol Quarterly*, 275-301.

Hinkel, E. (2005). Hedging, inflating, and persuading in L2 academic writing. *Applied Language Learning*, *15*(1/2), 29.

Hinkel, E. (2009). The effects of essay topics on modal verb uses in L1 and L2 academic writing. *Journal of Pragmatics,* 41(4), 667-683.

Holmes, J. (1982). Expressing doubt and certainty in English. *RELC Journal, 13*(2), 9-28.

Holmes, J. (1983). Speaking English with the appropriate degree of conviction. In C. Brumfit (ed*.), Learning and teaching languages for communication: Applied linguistics perspectives*, 100-121, London: British Association Applied Linguistics.

Holmes, J. (1988). Doubt and certainty in ESL textbooks*. Applied Linguistics*, 9(1), 20-44.

Hopper, P. J., & Traugott, E. C. (1993). Grammaticalization. Cambridge textbooks in linguistics. *Cambridge: CUP*.

Horvath, J. (2001). Advanced Writing in English as a Foreign Language. A Corpus-Based Study of Processes and Products. Pecs: Lingua Franca Csoport.

Hoye, L.(1997). *Adverbs and modality in English*. London&New York: Longman.

Hu, C. and Li, X. (2015), Epistemic Modality in the Argumentative Essays of Chinese EFL Learners, *English Language Teaching, 8*(6), 20-31.

Hu. C.Y. (2010). Modal expressions of epistemic possibility in Chinese EFL learners' spoken and written discourses. *Modern Foreign Languages*, 33(3),379-386.

Huddleston, R & Pullum, G. K. (2002). *The Cambridge Grammar of the English Language*, Cambridge: Cambridge University Press.

Huddleston, R. (1984). *Introduction to the grammar of English*, Cambridge: Cambridge University Press.

Huddleston, R. (1988). *English grammar: An Outline*, Cambridge: Cambridge University Press.

Huddleston, R.D. (1971). *The sentence in written English: A Syntactic Study Based on an Analysis of scientific texts.* Cambridge: Cambridge University Press

Hunston, S. (1994). Modal meanings in the structure of argumentation. In M. Brekke, T. Dahl and J. Myking (eds.) *9th European Symposium on LSP.* University of Bergen. 621-628.

Hunston, S. (2002). *Corpora in applied linguistics*. Cambridge: Cambridge University Press.

Hunston, S. (2006). Corpus linguistics. *Linguistics* 7(2) 215-244.

Hyland K. (2001). 'Definitely a possible explanation: epistemic modality in academic argument' in M. Gotti and M. Dossena (eds.), *Modality in Specialized Texts*, pp. 291–230, Bern: Peter Lang.

Hyland, K (2005). *Meta-discourse*, London: Continuum.

Hyland, K. (1994). Hedging in Academic Writing and EAP Textbooks. *English for Specific Purposes*, *13*(3), 239-256.

Hyland, K. (1996). Talking to the academy: Forms of hedging in science research articles. *Written Communication,* 13 (2), 251-281.

Hyland, K. (1998a).Talking to students: Meta-discourse in introductory course books*, English for Specific Purposes*, 18, 3-26.

Hyland, K. (1998b). Persuasion and context: The pragmatics of academic metadiscourse. *Journal of pragmatics*, *30*(4), 437-455.

Hyland, K. (2000). Hedges, boosters and lexical Invisibility. Noticing modifiers In Academic texts, *Language Awareness*, 2(4), 179-196.

Hyland, K. (2013) 'Meta-discourse', in K. Hyland (ed.), *Discourse Studies Reader: Essential Excerpts*, pp. 65–88, London: Bloomsbury.

Hyland, K. and Tse, P. (2004) 'Meta-discourse in academic writing: a reappraisal', *Applied Linguistics*, 25(2), 156–177.

Hyland, K., & Hyland, F. (2006). Feedback on second language students' writing. *Language teaching*, *39*(02), 83-101.

Hyland, K., & Milton, J. (1997). Qualification and certainty in L1 and L2 students writing. *Journal of Second Language Writing*, *6*(2), 183–205.

Ifantidou, E. (2001). Evidentials and Relevance. Amsterdam: Benjamins.

Ingram, D., & Thompson, W. (1996). Early syntactic acquisition in German: Evidence for the modal hypothesis. *Language*, 97-120.

Ishida, T. (2006). Nihon-jin eigo gakushusya kopasu ni okeru houjyodoushi no ryouteki bunseki: LOCKNESS tono hikaku. Handout of The ICLE-LINDSEI Japanese Sub-Corpus Symposium, 19/November/2006, Showa Women's College. [A quantitative analysis of the auxiliary verbs seen in the corpus of Japanese learners of English: A Comparison with LOCKNESS].

Jacobsen, William H., Jr. (1986). The heterogeneity of evidentials in Makah. In Wallace Chafe & Johanna Nichols (eds.), Evidentiality: The Linguistic Coding of Epistemology, 3-28. Ablex

Jakobson, R., L.R. Waugh & M. Halle. (1984). Russian and Slavic Grammar: Studies, 1931-1981. Mouton Publishers.

Johns, T. (1991). Should you be persuaded-two samples of data-driven learning materials, *English Language Research Journal, 4*, 1-16.

Johns, T. (1991). *Should you be persuaded: Two samples of data-driven learning materials*, English Language Research Journal, 4, 1-16.

Johnson, M. (2004). *A philosophy of second language acquisition.* New Haven and London: Yale University Press.

Johnson, Y. (2003). *Modality and the Japanese Language.* University of Michigan: The Center for Japanese Studies.

Jung, J. Y. (2002). Issues in acquisitional pragmatics. *Teachers College-Columbia University Working Papers in TESOL and Applied Linguistics*, *2*(2), 1-34.

Kärkkäinen, E. (1992). Modality as a strategy in interaction: Epistemic modality in the language of native and nonnative speakers of English. *Pragmatics and Language Learning, 3*, 197-216. Retrieved from http://www.eric.ed.gov/PDFS/ED395530.pdf

Kärkkäinen, E. (2003). *Epistemic stance in English conversation: A description of its interactional functions, with a focus on I think*. Amsterdam: John Benjamins.

Kasper, G. (1992). *Pragmatic transfer. Second Language Research, 8*(3), 203-231.

Kasper, G. (1996). Introduction: Pragmatics in SLA. *Studies in Second Language Acquisition, 18,* 145-148.

Kasper, G., & Blum-Kulka, S. (1993). Interlanguage pragmatics: An introduction. In G. Kasper, & S. Blum-Kulka (Eds.), Interlanguage *pragmatics* (pp. 3-20). Oxford: Oxford University Press.

Keck, C. M. & D. Biber (2004) Modal use in spoken and written university registers: A Corpus Based study. In Fachinetti R & Palmer F (eds) English modality in perspective Genre analysis and constractive studies, 3-25, Germany, Peter Lang Gmb.

Kennedy, G. (1992). Preferred ways of putting things with implications for language teaching. In J. Svartvik (Ed.), *Directions in Corpus Linguistics. Proceedings of Nobel Symposium 82, Stockholm, 4-8 August 1991* (pp. 334-373). Berlin: Mouton de Gruyter.

Kennedy, G. (1998). *An Introduction to Corpus Linguistics*. London: Longman.

Kim, H.S. (2011). Epistemic modality in computer-mediated communication. *The Journal of Studies in Language, 27*(1), 71-97.

Klinge, A. (1993). The English modal auxiliaries: from lexical semantic to Uttrerance interpretion, *Journal of Linguistic*, 29,315-357.

Klinge, A. (1995). On the linguistic interpretation of contractual modalities. *Journal of Pragmatics,* 23, 649-675.

Koike, D. A. (1989). Pragmatic competence and adult L2 acquisition: Speech acts in interlanguage. *Modern Language Journal, 73,* 79-89.

Kubota, R. (1998). An investigation of L1–L2 transfer in writing among Japanese university students: Implications for contrastive rhetoric. *Journal of second language writing*, *7*(1), 69-100.

Langacker, R.W. (2009). Investigations in Cognitive Grammar. Berlin: Mouton de Gruyter.

Langacker, R.W. (2013). Modals: Striving for Control. In: Juanna I. Marin-Arrese. Marta Carretero, Jorge Arus and Johan van der Auwera (eds.) English Modality: Core, Periphery and Evidentiality. Berlin: Mouton de Gruyter. 3-55.

Lantolf, J. & Thorne. S. (2006). *Sociocultural theory and the genetics of second language development.* Oxford: Oxford University Press.

Lantolf, J.P. (2000). *Sociocultural theory and second language learning.* Oxford: Oxford University Press.

Lee, S. H. (2006). The use of interpersonal resources in argumentative/Persuasive essays by East Asian ESL and Australian tertiary students. PhD Thesis, Sydney: University of Sydney.

Leech, G. (1998). Learner corpora: what they are and what can be done with them. In Granger (Ed.), xiv-xx.

Leech, G. (2003). Modals on the move: The English modal auxiliaries 1961-1992. In R. Facchinetti, F. R. Palmer, M. G. Krug (Eds.). *Modality in contemporary English* (pp. 223-240). Berlin & New York: Mouton de Gruyter.

Leech, G. (2004). *Meaning and the English verb* (2nd ed.) London: Longman.

Leech, G., & Svartvik, J. (1983). *A communicative grammar of English*. London: Longman.

Letica S. (2009). Use of epistemic modality by non-native speakers of English. In R. Lugossy,

Lillian, D. L. (2008), "Modality, Persuasion and Manipulation in Canadian Conservative Discourse". *Critical Approaches to Discourse Analysis across Disciplines.* Vol.2 (1): 1-16

Løken, B. (1996). *Expressing possibility in English and Norwegian. Can, could, may, might and kunne and their correspondences.* Oslo: Department of British and American Studies.

Long, M. H. (1991). The design and psycholinguistic motivation of research on foreign language learning. In B. F. Freed (Ed.). Foreign language acquisition research and the classroom (pp. 309*320). Lexington. MA: Heath.

Long. M. H., & Robinson, P. (1998). Focus on form: Theory, research and practice. In C. J. Doughty, & J. Williams (Eds.). Focus on form in classroom second language acquisition (pp. 15-41). Cambridge: Cambridge University Press.

Lyons, J. (1977). Semantics (I and II). Cambridge: Cambridge University Press.

Maeshiba, N. Yoshinaga, N., Kasper, G., & Ross, S. (1996). Transfer and proficiency in interlanguage apologizing. In S. Gass and J. Neu (Eds.), *Speech acts across cultures: Challenge to communication in a second language* (pp. 155-187). Berlin: de Gruyter.

Marin Arrese, Juana I. (2013). Stancetaking and Inter/Subjectivity in the Iraq Inquiry: Blair vs. Brown. In: Juana I. Marin-Arrese, Marta Carretero, Jorge Arus and Johan van der Auwera (eds.) English Modality: Core, Periphery and Evidentiality. Berlin: Mouton de Gruyter. 411-445.

Marin-Arrese, Juana I. (2011). Epistemic Legitimising Strategies, Commitment and Accountability in Discourse. Discourse Studies 13(6): 789-797.

Markkanen, R. and H. Schroder (eds.) (1997). *Hedging in Discourse: Approaches to the Analysis of a Pragmatic Phenomenon in Academic Texts.* New York: Walter de Gruyter.

Martin, J. R. and David, R. (2003). *Working with Discourse: Meaning beyond the Clause* London: Continuum.

Mauranen, A. (1997). Hedging in language revisers' Hands. In Markkanen Schröder, H. (eds.) *Hedging and discourse. Approaches to the analysis of a pragmatic pheno academic texts*, 115-133. Berlin: Walter de Gruyter.

Mauranen, A. (2012). *Exploring ELF: Academic English shaped by non-native speakers*. Cambridge University Press.

McCarthy, M. (1991) *Discourse Analysis for Language Teachers*. Cambridge: CUP.

McEnery, A., & Hardie, A. (2011). *Corpus Linguistics. Method, Theory and Practice,* Cambridge: Cambridge University Press.

McEnery, T. & Kifle, N. (2002). Epistemic modality in argumentative essays of second-language writers. In J. Flowerdew (Ed.), *Academic discourse* (pp. 182–195). London: Longman, Pearson Education.

McEnery, T., & Hardie, A. (2012). Corpus Linguistics: Method, Theory. *Practice*.

Meunier, F. (2002). The pedagogical value of native and learner corpora in EFL grammar teaching. In S. Granger, J. Hung, & S. Petch-Tyson (Eds.), *Computer learner corpora, second language acquisition and foreign language teaching* (pp. 119-142). Amsterdam: John Benjamins.

Millar, N. (2009). Modal verbs in TIME: Frequency change 1923-2006. *International Journal of Corpus Linguistics*, *14*(2), 191-200.

Milton, J. and Hyland, K. (1999). Assertions in students' academic essays: A comparison of L1 and L2 writers. In R. Berry, B. Asker, K. Hyland, & M. Lam (Eds.), *Language analysis, description and pedagogy* (pp. 147-161). Hong Kong: HKUST.

Mindt, D. (1995). *An Empirical Grammar of the English Verb: Modal Verbs.* Berlin: Cornelsen.

Mithun, M. (1986). Evidential diachrony in Northern Iroquoian. In Wallace Chafe & Johanna Nichols (eds.), Evidentiality: The Linguistic Coding of Epistemology, 89-112. Ablex.

Myers, G. (1989). The pragmatics of politeness in scientific articles. *Applied Linguistics, 10*(1), 1-35.

Myles, F. (2005). Interlanguage corpora and second language acquisition research. *Second Language Research, 21*(4), 373-391.

Narrog, H. (2009). *Modality in Japanese: The Layered Structure of the Clause and Hierarchies of Functional Categories.* Amsterdam: John Benjamins.

Neff, J., Dafouz, E., Herrera, H., et al. (2003). Contrasting learner corpora: The use of modal and reporting verbs in the expression of writer stance. In S. Granger, & S. Petch-Tyson (Eds.), *Language and computers. Extending the scope of corpus-based research: New applications, new challenges* (pp. 211-230). NY: Rodopi.

Nesselhauf, N. (2004). Learner corpora and their potential for language teaching. In J. Sinclair (Ed.), *How to use corpora in language teaching* (pp. 125-152). Amsterdam/Philadelphia: John Benjamins.

Nesselhauf, N. (2004). Learner corpora and their potential for language teaching. *How to use corpora in language teaching*, *12*, 125-156.

Ng, I. W-Y., & Lam, P. M. (1994). Modality in computer science text. *Proceedings of the Joint Seminar on Corpus Linguistics and Lexicology*, 82-88. Language Centre, HKUST, Hong Kong, China.

Ngula, R.S. (2015) Epistemic Modality in Social Science Research Articles Written by Ghanaian Authors: A Corpus-Based Study of Disciplinary and Native vs. Non-Native Variations, PhD Thesis, Lancaster University, UK.

Nikula, T. (1996). *Pragmatic Force Modifiers: A Study in Interlanguage Pragmatics.* Studia Philologica Jyväskyläensia. Jyväskyla: University of Jyväskylä.

Norris, J. M., & Ortega, L. (2000). Effectiveness of L2 instruction: A research synthesis and quantitative meta-analysis. *Language learning*, *50*(3), 417-528.

Nuyts, J. (2001). *Epistemic modality, language, and conceptualization: A cognitive-pragmatic perspective* (Vol. 5). John Benjamins Publishing.

O'Keeffe, A., McCarthy, M. J., & Carter, R. (2007). *From corpus to classroom: Language use and language teaching*. Cambridge, U.K.: Cambridge University.

Oh, S.Y. & Kang, S.J. (2013). The effect of English Proficiency on Korean Undergraduates' Expression of Epistemic Modality in English Argumentative Writing, The Journal of Asia TEFL 10(4), 97-132.

Oh, S.Y. (2004). Corpus and English language education. *Foreign Language Education Research,* 1-38.

Oh, S.Y. (2007). A corpus-based study of epistemic modality in Korean college students' writings in English. *English Teaching, 62*, (2), 147-175.

Oxford University Press. (2014, February 7). *'May' or 'might'?* Retrieved from Oxford Dictionaries: http://www.oxforddictionaries.com/words/may-or-might

Ozturk, I. (2007). The textual organisation of research article introductions in applied linguistics: Variability within a single discipline. *English for Specific Purposes*, *26*(1), 25-38.

Palmer, F. R. (2001). *Mood and modality*. Cambridge: Cambridge University Press.

Palmer, F. R. (2007). *Mood and Modality* (2nd ed.). Beijing: World Publishing House.

Palmer, F.R. (1979). *Modality and the English Modals.* London: Longman.

Palmer, F.R. (1986). *Mood and Modality.* Cambridge: Cambridge University Press.

Palmer, F.R. (1990), *Modality and English modals*, 2nd ed. London, Longman.

Palmer, F.R. (2003). Modality in English: Theoretical, descriptive and typological issues. Im Facchinetti, R., Krug, M., and Palmer F. (eds.). Modality in contemporary English, 1-17. Berlin, New York: Mouton de Gruvter.

Perkins, M.R. (1983). *Modal expressions in English*. London: Frances Pinter.

Pique-Angordans, J, Posteguillo, S. and J.V. Andreu-Beso (2002). Epistemic and deontic modality: A linguistic indicator of disciplinary variation in academic English. *LSP and Professional Communication, 2* (2), 49-65,

Precht, K. (2000). *Patterns of stance in English,* PhD. Thesis, Northern Arizona University

Qian, D. D. (2009). Linguistic error or regional variety? Investigating modality in business writing. In L. J. Zhang, R. Rubdy, & L. Alsagoff (Eds.). *Englishes and literatures in English in a globalized world: Proceedings of the 13th International Conference on English in Southeast Asia* (pp.162-175). Singapore: National Institute of Education, Nanyang Technological University.

Quirk, R., Greenbaum, S., Leech, G., & Svartvik, J. (1972). *A grammar of contemporary English*. London, UK: Longman.

Quirk, R., S. Greenbaum, G. Leech, & J. Startvik (1985). *A comprehensive grammar of the English language.* UK: Longman Group Ltd

Recsky, L. (2006). Epistemic modality and spoken discourse: an English-Portuguese cross linguistic investigation. *Linguagem & Ensino*, *9*, 1, 159-185.

Ringbom, H. (1998). Vocabulary frequencies in advanced learners English: A cross-linguistic approach. In S. Granger (Ed.), *Learner English on computer* (pp. 41-52). London: Longman.

Rizomilioti, V. (2006). Exploring epistemic modality in academic discourse using corpora. *Information Technology in Languages for Specific Purposes*, *7*, 53-71.

Robinson, P. (2003). Attention and memory during SLA. In C. J. Doughty & M. Long (Eds.). *The handbook of second language acquisition* (pp. 631-678). New York: Blackwell.

Rubin, V. L. (2010). Epistemic modality: From uncertainty to certainty in the context of information seeking as interactions with texts. *Information Processing & Management*, *46*(5), 533-540.

Ruud, C.J. (2014) A corpus-based study of may and might in the interlanguage of Norwegian and Japanese learners of English, M.Thesis, University of Oslo, Oslo.

Saeed, J.I (2003). *Semantics*. USA: Blackwell Publishers.

Salager-Meyer, F. (1992). Hedges and textual communication function in medical English written discourse. *English for Specific Purposes,* 13 (2), 149-170.

Salager-Meyer, F. (1994). A text-type and move analysis study of verb tense and modality distribution in medical English abstracts. *English for Specific Purposes,* 11 (2), 93-113.

Scarcella, R., & Brunak, R. (1981). On speaking politely in a second language. *International Journal of the Sociology of Language*, *27,* 59-75. http://dx.doi.org/10.1515/ijsl.1981.27.59

Seidlhofer, B. (2000). Mind the gap: English as a mother tongue vs. English as a lingua franca. *Vienna English Working Papers*, 51.

Sieler, S. (1983). *Modals and Modality in English for Academic Purposes: Science and Technology.* Unpublished Ph.D. thesis. University of Florida.

Silva, T. (1993). Towards an understanding of the distinct nature of L2 writing: The ESL research and its implications, *Journal of Second Language Writing, 2*, 657-77.

Simpson, P. (1990). Modality in literary-critical discourse. In W. Nash (ed.) *The Writing Scholar: Studies in Academic Discourse.* Newbury Park, CA; Sage. 63-94.

Simpson, P. (1993). *Language, Ideology and Point of View*. London: Routledge *Sociedad: Investigaciones recientes en lingüística aplicada*. Lingüística y Filología, *61* (pp. 311-331). Valladolid: Universidad de Valladolid.

Simpson, R., & Swales, J. (Eds.) (2001). Corpus linguistics in North America: *Selections from the 1999 symposium.* Ann Arbor, MI: University of Michigan Press.

Skehan, P. (1998). *A cognitive approach to language learning.* Oxford: Oxford University Press.

Skelton, J. (1988). The care and maintenance of hedges. *ELT Journal*, 41(1), 37-43.

Stubbs, M. (1986), A Matter of prolonged fieldwork': Notes towards a modal grammar of English, *Applied Linguistics*, 7(1), 1-25.

Swales, J. (1990). *Genre analysis: English in academic and research settings.* Cambridge, UK: Cambridge University Press.

Swan, M. (2005). *Practical English usage*. 3rd Ed. Oxford, UK: Oxford University Press.

Sweetser, E. (1990). From etymology to pragmatics: The mind-body metaphor in semantic structure and semantic change. *Cambridge: CUP*.

Tarone, E. (2006). Interlanguage. In K. Brown, *Encyclopedia of Language and Linguistics* (pp. 747–751). Boston: Elsevier.

Thomas, J. (1995). Meaning in interaction: An introduction to pragmatics. New York: Longman.

Tono, Y. (Ed.). (2007). *Nihonjin chukousei ichiman-nin no eigo kopasu "JEFLL Corpus": Chugakusei ga egaku eibun no jittai to sono bunseki*. Tokyo: Shogakukan. [JEFLL: A learner corpus collecting 10,000 Japanese junior high and high school students: Features and Analysis of their English essays].

Toolan, M. (1998). *Language in Literature: An Introduction to Stylistics*. London: Arnold.

Trosborg, A. 1987. Apology strategies in natives/non-natives. *Journal of Pragmatics, 4* 11, 147-167.

Turnbull W. & Saxton, K. (1997). Modal expressions as face work in refusals to comply with requests: I think I should say 'no' right now: *Journal of Pragmatics*, 27, 145-181.

Van Bogaert, J. & Dendale, P. (2013). Evidential markers in French: towards a relativistic definition. Studies in Language.

VanPatten, B. (1996). *Input processing and grammar instruction in second language acquisition*. Norwood. NJ: Ablex.

VanPatten, B. (2004). Input and output in establishing form-meaning connections. In B. VanPatten. J. Williams. S. Rott. & M. Overstreet (Eds.), Form-Meaning connections in second language acquisition (pp. 29-17). Mahwah, NJ: Lawrence Erlbaum Associates.

Vassileva, I. (2001). Commitment and detachment in English and Bulgarian academic writing. *English for specific purposes*, *20*(1), 83-102.

Vold, E. T. (2006). 'Epistemic modality markers in research articles: a cross-linguistics and cross disciplinary study', *International Journal of Applied Linguistics*, 16 (1): 62-87.

Wiemer, B. (2010). Hearsay in European languages: toward an integrative account of grammatical and lexical marking. *Linguistic realization of evidentiality in European languages*, *49*, 59-129.

Wierzbicka, A. (1987). *English Speech Act Verbs*. Marrickville: Academic Press Australia.

Willett, T. (1988). A cross-linguistic survey of the grammaticization of evidentiality. *Studies in language*, *12*(1), 51-97.

Wishnoff, J. R. (2000). Hedging your bets: L2 learners' acquisition of pragmatic device in academic writing and computer-mediated discourse. *Second Language Studies, 19*(1)*,* 119-148.

Wishnoff, J. R. (2000).Hedging your bets: L2 learners' Acquisition of pragmatic devices in academic writing and computer-mediated discourse. *Second Language Studies*, 127-157, Fall.

APPENDIX.A

17/02/2016

Write a well-developed argumentative essay on the topic below:

Technology and Imagination

Some people say that in our modern world, dominated by science, technology and industrialization, there is no longer a place for dreaming and imagination. Discuss your opinion about this statement.

Allocated time: 60 minutes

APPENDIX.B

08/03/2016

Write a well-developed argumentative essay on the following statement below:

People claim that money is the root of all evil. Discuss your opinion about this statement.

Allocated time: 60 minutes

Appendix C

Overall frequencies of Epistemic Devices (EDs)

Appendix C.1. *Overall frequencies of Epistemic Devices (EDs)*

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	would	38.51	580	think	39.91	304	will	33.67	686
2	will	26.30	396	will	23.11	176	may	13.06	266
3	think	15.67	236	know	11.82	90	think	12.81	261
4	could	14.61	220	may	11.16	85	of course	6.72	137
5	may	11.16	168	would	8.67	66	know	6.58	134
6	seem	6.24	94	opinion	7.75	59	believe	5.55	113
7	evidence	5.25	79	of course	6.17	47	would	5.06	103
8	believe	5.11	77	wouldn't	6.04	46	in fact	4.17	85
9	fact	5.11	77	almost	4.99	38	maybe	3.83	78
10	feel	4.98	75	actually	4.73	36	idea	3.73	76
11	argue	4.45	67	maybe	4.73	36	view	3.73	76
12	consider	4.45	67	could	4.60	35	seem	3.44	70
13	claim	4.32	65	true	4.60	35	fact	3.44	70
14	idea	4.12	62	believe	4.20	32	opinion	3.44	70
15	certain	4.12	62	idea	3.15	24	almost	2.65	54
16	true	3.65	55	generally	2.63	20	consider	2.55	52
17	wouldn't	3.19	48	probably	2.23	17	generally	2.45	50
18	show	3.12	47	fact	2.10	16	might	2.40	49
19	usually	2.92	44	in fact	1.97	15	wouldn't	2.16	44
20	probably	2.79	42	couldn't	1.84	14	true	2.11	43
21	possible	2.79	42	definitely	1.84	14	could	2.06	42
22	perhaps	2.59	39	consider	1.58	12	certain	2.06	42
23	know	2.52	38	inevitable	1.44	11	possible	1.91	39
24	actually	2.52	38	possible	1.44	11	expect	1.87	38
25	might	2.46	37	might	1.18	9	show	1.72	35
26	in fact	2.32	35	argue	1.18	9	probably	1.57	32
27	maybe	2.06	31	show	1.05	8	usually	1.57	32
28	almost	1.93	29	chance	1.05	8	argue	1.52	31
29	opinion	1.93	29	sure	1.05	8	chance	1.52	31
30	likely	1.86	28	guess	0.92	7	should	1.37	28
31	chance	1.86	28	tend	0.79	6	certainly	1.33	27
32	expect	1.79	27	hope	0.79	6	actually	1.28	26
33	clearly	1.73	26	belief	0.66	5	clear	1.28	26
34	obvious	1.73	26	certain	0.66	5	suppose	1.18	24
35	of course	1.66	25	claim	0.53	4	hope	1.13	23
36	fear	1.66	25	evidence	0.53	4	perhaps	1.08	22

37	sure	1.66	25	usually	0.39	3	sure	0.98	20
38	clear	1.66	25	danger	0.39	3	must	0.93	19
39	tend	1.39	21	clear	0.39	3	fear	0.79	16
40	view	1.39	21	obvious	0.39	3	obvious	0.74	15
41	possibly	1.26	19	must	0.26	2	quite	0.69	14
42	certainly	1.26	19	should	0.26	2	likely	0.69	14
43	assume	1.20	18	expect	0.26	2	belief	0.69	14
44	definitely	1.20	18	assume	0.26	2	inevitable	0.64	13
45	theory	1.20	18	suggest	0.26	2	tend	0.59	12
46	belief	1.20	18	indeed	0.26	2	indeed	0.54	11
47	hope	1.13	17	likely	0.26	2	possibility	0.54	11
48	appear	1.00	15	naturally	0.26	2	suggest	0.49	10
49	obviously	1.00	15	clearly	0.26	2	clearly	0.49	10
50	indeed	1.00	15	doubt	0.26	2	approximately	0.49	10
51	suggest	0.93	14	inevitably	0.26	2	feel	0.44	9
52	should	0.86	13	shouldn't	0.13	1	danger	0.44	9
53	generally	0.80	12	seem	0.13	1	indicate	0.39	8
54	must	0.73	11	necessarily	0.13	1	naturally	0.39	8
55	about	0.73	11	approximately	0.13	1	evidence	0.39	8
56	danger	0.60	9	essentially	0.13	1	couldn't	0.34	7
57	possibility	0.60	9	around	0.13	1	tendency	0.34	7
58	guess	0.53	8	about	0.13	1	probable	0.34	7
59	explanation	0.53	8	theory	0.13	1	guess	0.29	6
60	tendency	0.53	8	explanation	0.13	1	assume	0.25	5
61	inevitable	0.53	8	doubt	0.13	1	definitely	0.25	5
62	convince	0.46	7	probable	0.13	1	frequently	0.25	5
63	frequently	0.46	7				necessarily	0.25	5
64	necessarily	0.46	7				claim	0.25	5
65	doubt	0.46	7				doubt	0.25	5
66	evident	0.46	7				suggestion	0.25	5
67	in reality	0.33	5				evident	0.25	5
68	naturally	0.33	5				convince	0.20	4
69	approximately	0.33	5				about	0.20	4
70	inevitably	0.27	4				theory	0.20	4
71	around	0.27	4				probability	0.20	4
72	convincing	0.20	3				possibly	0.15	3
73	shouldn't	0.13	2				around	0.15	3
74	couldn't	0.13	2				explanation	0.15	3
75	assure	0.13	2				infer	0.10	2
76	indicate	0.13	2				largely	0.10	2

77	infer	0.13	2			assumption	0.10	2
78	no doubt	0.13	2			shouldn't	0.05	1
79	arguably	0.13	2			appear	0.05	1
80	essentially	0.13	2			speculate	0.05	1
81	indication	0.13	2			likelihood	0.05	1
82	likelihood	0.13	2			speculative	0.05	1
83	suggestion	0.13	2			convincing	0.05	1
84	well known	0.13	2					
85	probable	0.13	2					
86	doubt	0.07	1					
87	evidently	0.07	1					
88	surely	0.07	1					
89	apparently	0.07	1					
90	assumption	0.07	1					
91	unlikely	0.07	1					
Total		234.54	3532	178.96	1363		164.42	3350
Mean		2.58	38.81	2.89	21.98		1.98	40.36

Appendix D

Frequencies of Epistemic Devices (EDs)

Appendix D.1. *Overall frequencies of Epistemic Modal Verbs (EMVs)*

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	would	38.51	580	will	23.11	176	will	33.67	686
2	will	26.30	396	may	11.16	85	may	13.06	266
3	could	14.61	220	would	8.67	66	would	5.06	103
4	may	11.16	168	wouldn't	6.04	46	might	2.40	49
5	wouldn't	3.19	48	could	4.60	35	wouldn't	2.16	44
6	might	2.46	37	couldn't	1.84	14	could	2.06	42
7	should	0.86	13	might	1.18	9	should	1.37	28
8	must	0.73	11	must	0.26	2	must	0.93	19
9	shouldn't	0.13	2	should	0.26	2	couldn't	0.34	7
10	couldn't	0.13	2	shouldn't	0.13	1	shouldn't	0.05	1
Total		98.08	1477		57.25	436		61.11	1245
Mean		9.81	147.70		5.72	43.60		6.11	124.50

Appendix D.2. *Overall frequencies of Epistemic Lexical Verbs (ELVs)*

rank	**US-ARG**			**AELT**			**TR-ICLE**		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	think	15.67	236	think	39.91	304	think	12.81	261
2	seem	6.24	94	know	11.82	90	know	6.58	134
3	believe	5.11	77	believe	4.20	32	believe	5.55	113
4	feel	4.98	75	consider	1.58	12	seem	3.44	70
5	argue	4.45	67	argue	1.18	9	consider	2.55	52
6	consider	4.45	67	show	1.05	8	expect	1.87	38
7	show	3.12	47	guess	0.92	7	show	1.72	35
8	know	2.52	38	tend	0.79	6	argue	1.52	31
9	expect	1.79	27	expect	0.26	2	suppose	1.18	24
10	tend	1.39	21	assume	0.26	2	tend	0.59	12
11	assume	1.20	18	suggest	0.26	2	suggest	0.49	10
12	appear	1.00	15	seem	0.13	1	feel	0.44	9
13	suggest	0.93	14				indicate	0.39	8
14	guess	0.53	8				guess	0.29	6
15	convince	0.46	7				assume	0.25	5
16	assure	0.13	2				convince	0.20	4
17	indicate	0.13	2				infer	0.10	2
18	infer	0.13	2				appear	0.05	1
19	doubt	0.07	1				speculate	0.05	1
Total		54.32	818		62.37	475		40.05	816
Mean		2.86	43.05		5.20	39.58		2.11	42.95

Appendix D.3. *Overall frequencies of Epistemic Adverbs (EADVs)*

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	usually	2.92	44	of course	6.17	47	of course	6.72	137
2	probably	2.79	42	almost	4.99	38	in fact	4.17	85
3	perhaps	2.59	39	actually	4.73	36	maybe	3.83	78
4	actually	2.52	38	maybe	4.73	36	almost	2.65	54
5	in fact	2.32	35	generally	2.63	20	generally	2.45	50
6	maybe	2.06	31	probably	2.23	17	probably	1.57	32
7	almost	1.93	29	in fact	1.97	15	usually	1.57	32
8	likely	1.86	28	definitely	1.84	14	certainly	1.33	27
9	clearly	1.73	26	usually	0.39	3	actually	1.28	26
10	of course	1.66	25	indeed	0.26	2	perhaps	1.08	22
11	possibly	1.26	19	likely	0.26	2	quite	0.69	14
12	certainly	1.26	19	naturally	0.26	2	likely	0.69	14
13	definitely	1.20	18	clearly	0.26	2	indeed	0.54	11
14	obviously	1.00	15	doubt	0.26	2	clearly	0.49	10
15	indeed	1.00	15	inevitably	0.26	2	approximately	0.49	10
16	generally	0.80	12	necessarily	0.13	1	naturally	0.39	8
17	about	0.73	11	approximately	0.13	1	definitely	0.25	5
18	frequently	0.46	7	essentially	0.13	1	frequently	0.25	5
19	necessarily	0.46	7	around	0.13	1	necessarily	0.25	5
20	in reality	0.33	5	about	0.13	1	about	0.20	4
21	naturally	0.33	5				possibly	0.15	3
22	approximately	0.33	5				around	0.15	3
23	inevitably	0.27	4				largely	0.10	2
24	around	0.27	4						
25	no doubt	0.13	2						
26	arguably	0.13	2						
27	essentially	0.13	2						
28	evidently	0.07	1						
29	surely	0.07	1						
30	apparently	0.07	1						
Total		32.67	492		31.91	243		31.26	637
Mean		1.09	16.40		1.60	12.15		1.36	27.70

Appendix D.4. *Overall frequencies of Epistemic Nouns (ENs)*

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	evidence	5.25	79	opinion	7.75	59	idea	3.73	76
2	fact	5.11	77	idea	3.15	24	view	3.73	76
3	claim	4.32	65	fact	2.10	16	fact	3.44	70
4	idea	4.12	62	chance	1.05	8	opinion	3.44	70
5	opinion	1.93	29	hope	0.79	6	chance	1.52	31
6	chance	1.86	28	belief	0.66	5	hope	1.13	23
7	fear	1.66	25	claim	0.53	4	fear	0.79	16
8	view	1.39	21	evidence	0.53	4	belief	0.69	14
9	theory	1.20	18	danger	0.39	3	possibility	0.54	11
10	belief	1.20	18	theory	0.13	1	danger	0.44	9
11	hope	1.13	17	explanation	0.13	1	evidence	0.39	8
12	danger	0.60	9	doubt	0.13	1	tendency	0.34	7
13	possibility	0.60	9				claim	0.25	5
14	explanation	0.53	8				doubt	0.25	5
15	tendency	0.53	8				suggestion	0.25	5
16	doubt	0.46	7				theory	0.20	4
17	indication	0.13	2				probability	0.20	4
18	likelihood	0.13	2				explanation	0.15	3
19	suggestion	0.13	2				assumption	0.10	2
20	assumption	0.07	1				likelihood	0.05	1
Total		32.34	487.00		17.33	132.00		21.60	440.00
Mean		1.62	24.35		1.44	11.00		1.08	22.00

Appendix D.5. *Overall frequencies of Epistemic Adjectives (EADJs)*

rank	**US-ARG**			**AELT**			**TR-ICLE**		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	certain	4.12	62	true	4.60	35	true	2.11	43
2	true	3.65	55	inevitable	1.44	11	certain	2.06	42
3	possible	2.79	42	possible	1.44	11	possible	1.91	39
4	obvious	1.73	26	sure	1.05	8	clear	1.28	26
5	sure	1.66	25	certain	0.66	5	sure	0.98	20
6	clear	1.66	25	clear	0.39	3	obvious	0.74	15
7	inevitable	0.53	8	obvious	0.39	3	inevitable	0.64	13
8	evident	0.46	7	probable	0.13	1	probable	0.34	7
9	convincing	0.20	3				evident	0.25	5
10	well known	0.13	2				speculative	0.05	1
11	probable	0.13	2				convincing	0.05	1
12	unlikely	0.07	1						
Total		17.13	258.00		10.11	77.00		10.41	212.00
Mean		1.43	21.50		1.26	9.63		0.95	19.27

Appendix E

SMW Analysis Results

Appendix E.1. *Overall frequencies of Epistemic degrees* ***(Strong Level)***

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	will	26.30	396	think	39.91	304	will	33.67	686
2	think	15.67	236	will	23.11	176	think	12.81	261
3	evidence	5.25	79	know	11.82	90	of course	6.72	137
4	fact	5.11	77	of course	6.17	47	know	6.58	134
5	claim	4.32	65	actually	4.73	36	in fact	4.17	85
6	certain	4.12	62	true	4.60	35	idea	3.73	76
7	idea	4.12	62	idea	3.15	24	fact	3.44	70
8	true	3.65	55	fact	2.10	16	true	2.11	43
9	show	3.12	47	in fact	1.97	15	certain	2.06	42
10	know	2.52	38	definitely	1.84	14	show	1.72	35
11	actually	2.52	38	inevitable	1.44	11	certainly	1.33	27
12	in fact	2.32	35	show	1.05	8	actually	1.28	26
13	clearly	1.73	26	sure	1.05	8	clear	1.28	26
14	obvious	1.73	26	certain	0.66	5	sure	0.98	20
15	of course	1.66	25	claim	0.53	4	must	0.93	19
16	sure	1.66	25	evidence	0.53	4	obvious	0.74	15
17	clear	1.66	25	clear	0.39	3	inevitable	0.64	13
18	certainly	1.26	19	obvious	0.39	3	indeed	0.54	11
19	definitely	1.20	18	must	0.26	2	clearly	0.49	10
20	theory	1.20	18	indeed	0.26	2	evidence	0.39	8
21	obviously	1.00	15	clearly	0.26	2	definitely	0.25	5
22	indeed	1.00	15	inevitably	0.26	2	frequently	0.25	5
23	must	0.73	11	necessarily	0.13	1	necessarily	0.25	5
24	inevitable	0.53	8	theory	0.13	1	evident	0.25	5
25	convince	0.46	7	doubt	0.39	1	claim	0.25	5
26	frequently	0.46	7				convince	0.20	4
27	necessarily	0.46	7				theory	0.20	4
28	evident	0.46	7				convincing	0.05	1
29	in reality	0.33	5						
30	inevitably	0.27	4						
31	convincing	0.20	3						
32	assure	0.13	2						
33	no doubt	0.13	2						
34	well known	0.13	2						
35	evidently	0.07	1						
36	surely	0.07	1						

Appendix E.2. *Overall frequencies of Epistemic degrees* ***(Medium Level)***

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	would	38.51	580	would	8.67	66	believe	5.55	113
2	seem	6.24	94	wouldn't	6.04	46	would	5.06	103
3	believe	5.11	77	almost	4.99	38	seem	3.44	70
4	feel	4.98	75	believe	4.20	32	almost	2.65	54
5	argue	4.45	67	probably	2.23	17	consider	2.55	52
6	consider	4.45	67	consider	1.58	12	wouldn't	2.16	44
7	wouldn't	3.19	48	argue	1.18	9	expect	1.87	38
8	probably	2.79	42	chance	1.05	8	probably	1.57	32
9	almost	1.93	29	tend	0.79	6	argue	1.52	31
10	likely	1.86	28	belief	0.66	5	chance	1.52	31
11	chance	1.86	28	should	0.26	2	should	1.37	28
12	expect	1.79	27	expect	0.26	2	suppose	1.18	24
13	fear	1.66	25	assume	0.26	2	fear	0.79	16
14	tend	1.39	21	likely	0.26	2	quite	0.69	14
15	assume	1.20	18	naturally	0.26	2	likely	0.69	14
16	belief	1.20	18	shouldn't	0.13	1	belief	0.69	14
17	should	0.86	13	seem	0.13	1	tend	0.59	12
18	about	0.73	11	approximately	0.13	1	approximately	0.49	10
19	explanation	0.53	8	essentially	0.13	1	feel	0.44	9
20	tendency	0.53	8	around	0.13	1	indicate	0.39	8
21	naturally	0.33	5	about	0.13	1	naturally	0.39	8
22	approximately	0.33	5	probable	0.13	1	probable	0.34	7
23	around	0.27	4	explanation	0.13	1	tendency	0.34	7
24	shouldn't	0.13	2				assume	0.25	5
25	indicate	0.13	2				about	0.20	4
26	infer	0.13	2				probability	0.20	4
27	arguably	0.13	2				around	0.15	3
28	essentially	0.13	2				explanation	0.15	3
29	probable	0.13	2				infer	0.10	2
30	indication	0.13	2				largely	0.10	2
31	likelihood	0.13	2				assumption	0.10	2
32	apparently	0.07	1				shouldn't	0.05	1
33	unlikely	0.07	1				likelihood	0.05	1
34	assumption	0.07	1						
	Total	87.46	1317		33.74	257		37.60	766

Appendix E.1. *Overall frequencies of Epistemic degrees* ***(Weak Level)***

rank	US-ARG			AELT			TR-ICLE		
	item	f/10,000	(no)	item	f/10,000	(no)	item	f/10,000	(no)
1	could	14.61	220	may	11.16	85	may	13.06	266
2	may	11.16	168	could	4.60	35	might	2.40	49
3	might	2.46	37	couldn't	1.84	14	could	2.06	42
4	couldn't	0.13	2	might	1.18	9	couldn't	0.34	7
5	appear	1.00	15	guess	0.92	7	suggest	0.49	10
6	suggest	0.93	14	suggest	0.26	2	guess	0.29	6
7	guess	0.53	8	maybe	4.73	36	appear	0.05	1
8	doubt	0.07	1	generally	2.63	20	speculate	0.05	1
9	usually	2.92	44	usually	0.39	3	maybe	3.83	78
10	perhaps	2.59	39	possible	1.44	11	generally	2.45	50
11	maybe	2.06	31	opinion	7.75	59	usually	1.57	32
12	possibly	1.26	19	hope	0.79	6	perhaps	1.08	22
13	generally	0.80	12	danger	0.39	3	possibly	0.15	3
14	possible	2.79	42	doubt	0.13	2	possible	1.91	39
15	opinion	1.93	29				speculative	0.05	1
16	view	1.39	21				view	3.73	76
17	hope	1.13	17				opinion	3.44	70
18	danger	0.60	9				hope	1.13	23
19	possibility	0.60	9				possibility	0.54	11
20	doubt	0.46	7				danger	0.44	9
21	suggestion	0.13	2				doubt	0.25	5
22							suggestion	0.25	5
	Total	49.54	746		38.21	291		39.56	806

Appendix F

Reliability Analysis

Appendix F.1. *Cohen's kappa statistic results for US-ARG*

rank	US-ARG			
	Item	**R1**	**R2**	***Cohen's Kappa***
1	would	116	120	0.967
2	will	79	80	0.988
3	think	47	46	0.979
4	could	44	40	0.909
5	may	33	35	0.943
6	seem	18	17	0.944
7	evidence	17	17	1.000
8	believe	15	16	0.938
9	fact	15	14	0.933
10	feel	15	14	0.933
11	argue	14	14	1.000
12	consider	14	14	1.000
13	claim	13	14	0.929
14	idea	13	14	0.929
15	certain	12	13	0.923
16	true	12	11	0.917
17	wouldn't	12	11	0.917
18	show	11	10	0.909
19	usually	9	10	0.900
20	probably	9	11	0.818
21	possible	8	9	0.889
22	perhaps	8	7	0.875
23	know	8	9	0.889
24	actually	7	6	0.857
25	might	7	6	0.857
26	in fact	7	7	1.000
27	maybe	7	7	1.000
28	almost	6	6	1.000
29	opinion	5	5	1.000
30	likely	5	5	1.000
31	chance	5	5	1.000
32	expect	5	4	0.800
33	clearly	5	5	1.000
34	obvious	5	6	0.833
35	of course	5	6	0.833
36	fear	5	4	0.800

37	sure	5	5	1.000
38	clear	5	5	1.000
39	tend	4	4	1.000
40	view	4	4	1.000
41	possibly	3	3	1.000
42	certainly	3	3	1.000
43	assume	3	3	1.000
44	definitely	3	3	1.000
45	theory	3	3	1.000
46	belief	3	3	1.000
47	hope	3	3	1.000
48	appear	3	3	1.000
49	obviously	3	3	1.000
50	indeed	3	3	1.000
51	suggest	3	3	1.000
52	should	3	3	1.000
53	generally	2	2	1.000
54	must	2	2	1.000
55	about	2	2	1.000
56	danger	1	1	1.000
57	possibility	1	1	1.000
58	guess	1	1	1.000
59	explanation	1	1	1.000
60	tendency	1	1	1.000
61	inevitable	1	1	1.000
62	convince	1	1	1.000
63	frequently	1	1	1.000
64	necessarily	1	1	1.000
65	doubt	1	1	1.000
66	evident	1	1	1.000
67	in reality	1	1	1.000
68	naturally	1	1	1.000
69	approximately	1	1	1.000
	Overall (Kappa)			**0.953**

Appendix F.2. *Cohen's kappa statistic results for AELT*

rank	AELT			
	Item	**R1**	**R2**	***Cohen's Kappa***
1	think	60	65	0.923
2	will	35	33	0.943
3	know	18	17	0.944
4	may	17	16	0.941
5	would	13	13	1.000
6	opinion	11	10	0.909
7	of course	9	11	0.818
8	wouldn't	9	8	0.889
9	almost	7	6	0.857
10	actually	7	6	0.857
11	maybe	7	6	0.857
12	could	7	6	0.857
13	true	7	7	1.000
14	believe	6	7	0.857
15	idea	4	4	1.000
16	generally	4	3	0.750
17	probably	3	2	0.667
18	fact	3	3	1.000
19	in fact	3	3	1.000
20	couldn't	2	2	1.000
21	definitely	2	2	1.000
22	consider	2	2	1.000
23	inevitable	2	2	1.000
24	possible	2	2	1.000
25	might	1	1	1.000
26	argue	1	1	1.000
27	show	1	1	1.000
28	chance	1	1	1.000
29	sure	1	1	1.000
30	guess	1	1	1.000
31	tend	1	1	1.000
32	hope	1	1	1.000
33	belief	1	1	1.000
34	certain	1	1	1.000
	Overall (Kappa)			0.924

Appendix F.3. *Cohen's kappa statistic results for TR-ICLE*

rank	TR-ICLE			
	Item	**R1**	**R2**	***Cohen's Kappa***
1	will	137	143	0.958
2	may	53	56	0.946
3	think	52	47	0.904
4	of course	27	29	0.931
5	know	26	28	0.929
6	believe	22	24	0.917
7	would	20	21	0.952
8	in fact	17	18	0.944
9	maybe	15	15	1.000
10	idea	15	14	0.933
11	view	15	15	1.000
12	seem	14	13	0.929
13	fact	14	13	0.929
14	opinion	14	15	0.933
15	almost	10	9	0.900
16	consider	10	9	0.900
17	generally	10	9	0.900
18	might	9	9	1.000
19	wouldn't	8	8	1.000
20	true	8	6	0.750
21	could	8	9	0.889
22	certain	8	8	1.000
23	possible	7	8	0.875
24	expect	7	7	1.000
25	show	7	7	1.000
26	probably	6	5	0.833
27	usually	6	5	0.833
28	argue	6	6	1.000
29	chance	6	6	1.000
30	should	5	6	0.833
31	certainly	5	4	0.800
32	actually	5	6	0.833
33	clear	5	5	1.000
34	suppose	4	4	1.000
35	hope	4	5	0.800

36	perhaps	4	4	1.000
37	sure	4	4	1.000
38	must	3	3	1.000
39	fear	3	3	1.000
40	obvious	3	3	1.000
41	quite	2	2	1.000
42	likely	2	2	1.000
43	belief	2	2	1.000
44	inevitable	2	2	1.000
45	tend	2	2	1.000
46	indeed	2	2	1.000
47	possibility	2	2	1.000
48	suggest	2	2	1.000
49	clearly	2	2	1.000
50	approximately	2	2	1.000
51	feel	1	1	1.000
52	danger	1	1	1.000
53	indicate	1	1	1.000
54	naturally	1	1	1.000
55	evidence	1	1	1.000
56	couldn't	1	1	1.000
57	tendency	1	1	1.000
58	probable	1	1	1.000
59	guess	1	1	1.000
60	assume	1	1	1.000
61	definitely	1	1	1.000
62	frequently	1	1	1.000
63	necessarily	1	1	1.000
64	claim	1	1	1.000
65	doubt	1	1	1.000
66	suggestion	1	1	1.000
67	evident	1	1	1.000
	Overall (Kappa)			0.942

Appendix G

AntConc Results

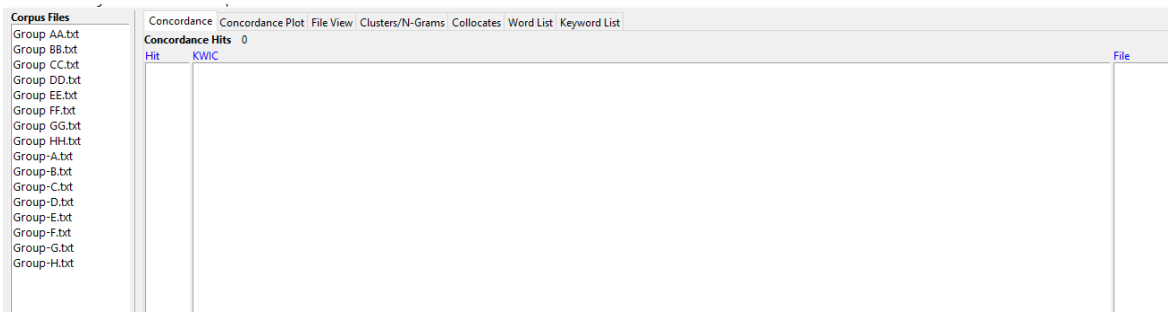
Appendix G.1. *Corcordance lines for "perhaps"*

Concordance Hits 16

Hit	KWIC		File
1	does not conform to the mold of 'everybody else."'	Perhaps, if everybody were alike, there would be no "news".	USARG.txt
2	to call the 20th Century, "The Century of Democracy."	Perhaps, it is because today is November 4th, the day	USARG.txt
3	Union is now making its transition into a democracy.	Perhaps, it is because I am thousands of miles from	USARG.txt
4	November 4th, the day after the U.S. elections.	Perhaps, it is because the former superpower of the Soviet	USARG.txt
5	torn from them because his biological father wants him.	Perhaps Kirchner's intentions are good, but if he knew	USARG.txt
6	order to make it to the League Championship Series.	Perhaps most importantly, without the wild card, baseball wo	USARG.txt
7	ative correlation between money earned and virtue obtained.	Perhaps, one might say, that the "desire" for money could	USARG.txt
8	out as more significantly changing our mode of living.	Perhaps one does stand out a little more among its	USARG.txt
9	in this circus, and a lot about making money.	Perhaps the media is the reason Colin Powell will not	USARG.txt
10	visual and performing arts, be supported by the government?	Perhaps the most general reason rests in the views of	USARG.txt
11	ttel showed that the murder rates of fourteen nations, <*>.	Perhaps the most obvious statistic for the ineffectiveness o	USARG.txt
12	people have been rescued from the torment of disease.	Perhaps the greatest invention and discovery is the polio va	USARG.txt
13	and weapons orbiting our planet, with daily, normal life.	Perhaps this increasingly common mentality is the worst effe	USARG.txt
14	n-marketplace, non-public and non-financially rewarded job.	Perhaps this is due to the fact that women have	USARG.txt
15	individual person (it, of course, the worker is married)?	Perhaps this is a solution worth its salt since it	USARG.txt
16	past is past. Let it be. Nobody is perfect.	Perhaps, we should have the same qualifications for backgrou	USARG.txt

Concordance Hits 23

Hit	KWIC		File
1	first season of play - a blow to his ego,	perhaps, but not a tragedy. And at least he would	USARG.txt
2	time that HIV and AIDS have been around hundreds,	perhaps even thousands, have been denied a job, have been	USARG.txt
3	fallibility to disease and illness. We find it surprising,	perhaps even shocking, when someone dies from anything other	USARG.txt
4	hard to equalize men and women that the efforts	perhaps have been taken a little too far when it	USARG.txt
5	referred to other sources that made facts up or	perhaps he was making things up himself. Besides the use	USARG.txt
6	? His career might not have been as lucrative, and	perhaps his family would have had to settle for a	USARG.txt
7	don't get tired and, if programmed 100% correctly (another	perhaps impossible computation), never make errors. This su	USARG.txt
8	significant factors of change in our lifetime, if not,	perhaps, in several lifetimes. As missile technology and nu	USARG.txt
9	. Maybe we were made different to stay different and	perhaps in trying to create this equality we may lose	USARG.txt
10	LE-US-IND-0008.1> This idea is completely erroneous. Money	perhaps, is a necessary evil in order to conduct the	USARG.txt
11	that is exactly why it is still needed and	perhaps made more aggressive. They say that racism exists to	USARG.txt
12	testing. Had they tested this drug on more animals,	perhaps many children born with deformations could be living	USARG.txt
13	, but at least one little boy's life and	perhaps many more will have been saved. There are also	USARG.txt
14	to cry, & often times to buy a product. Finally, &	perhaps most importantly, the citizens of America have exper	USARG.txt
15	in Congress, on the other hand, seem to think	perhaps shorter time limits and cuts in spending on some	USARG.txt
16	ion. If welfare recipients cannot fend for themselves, then	perhaps society should allow their extinction, a process tha	USARG.txt
17	longer works and the doctor must use an alternative,	perhaps stronger, antibiotic treatment. Now, Doctors are fin	USARG.txt
18	employees drink too much or abuse drugs. What is	perhaps the saddest aspect of the welfare dilemma is the	USARG.txt
19	like the idea of his wife not working then	perhaps the marriage should not have been entered into. In	USARG.txt
20	grown for food <R>. In 1914 El Paso, Texas, enacted	perhaps the first United States ordinance banning the sale o	USARG.txt



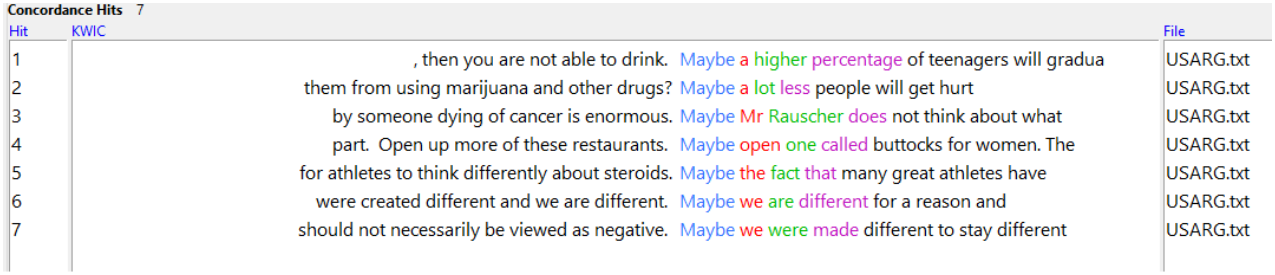
Concordance Hits 10

Hit	KWIC	File
1	, the parents will not be able to nourish them enough. Perhaps, all of them will not go to school. The older	TRCU1094.txt
2	wonder whether I let my students to cheat or not. Perhaps I find the answer when I will be a teacher.	TRCU1004.txt
3	fact that money has lots of effects in our lives. Perhaps, it simplifies our lives, or it makes our lives diff	TRCU1056.txt
4	<ICLE-TR-CUK-0049.1> Perhaps money is the worst invention of the world. From that	TRCU1049.txt
5	goes to the comfortable and happy life passes from money. Perhaps, the reason is that to be able to get the	TRCU1056.txt
6	money in your life! Well, what makes money so important? Perhaps ,the way that goes to the comfortable and happy life	TRCU1056.txt
7	citizens what is sex equality? Do you know about it? Perhaps they may not accept their sentences, answers only th	TRKE2049.txt
8	the results with the families and do whatever is necessary. Perhaps they will find the best solution for both themselves	TRCU1081.txt
9	being discussed now, will be discussed at the next time. Perhaps we can say a lot of things about this but	TRKE2063.txt
10	give them a chance to be head of the society. Perhaps, women don\x92t have the same power but it	TRKE2072.txt

Concordance Hits 12

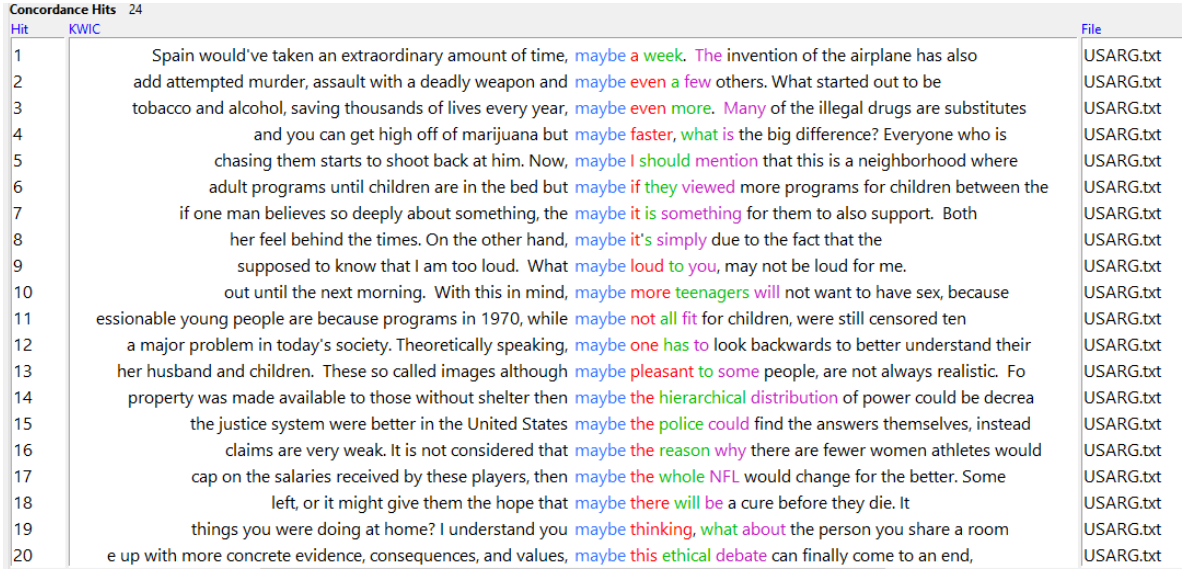
Hit	KWIC	File
1	good friend of yours. Better yet, imagine a loved one, perhaps a little brother or sister or son or daughter. Now	TRCU1103.txt
2	have to remember the very great dangers. We must choose, perhaps , between energy shortage and possible terrible dang	TRCU1077.txt
3	child who is lacking love and morality will be violent, perhaps he will commit a crime or use drugs. The society	TRCU1098.txt
4	her childhood, teenage and youth. When he become an adult, perhaps he will have psychological problems. Now, I want to	TRCU1094.txt
5	important is to be aware of your capacity. Last year, perhaps I was not able to do this but today, I	TRME3014.txt
6	. But it is not right to accuse people for this , perhaps , if there hadn't been so much need for it ,	TRCU1044.txt
7	of a sudden they become cured of such disease but perhaps less pain and problems , so they can carry out norma	TRCU1176.txt
8	e becoming smaller, and coal causes too much pollution , so perhaps nuclear power is the only way of getting the energy	TRCU1077.txt
9	families are the main reason. They say that they think perhaps of us, but actually the give us harm by leading	TRME3014.txt
10	whole. Then if we ask the equality to a woman perhaps she wants to be equal to the man and she	TRKE2049.txt
11	in it and announce it just afterward of the event, perhaps Turkey wouldn\x92t have lived so many difficult days	TRKE2012.txt
12	his is an old Chinese saying. However, researches show that perhaps women do more than their share of \x93 holding up	TRKE2070.txt

Appendix G.2. *Corcordance lines for "maybe"*



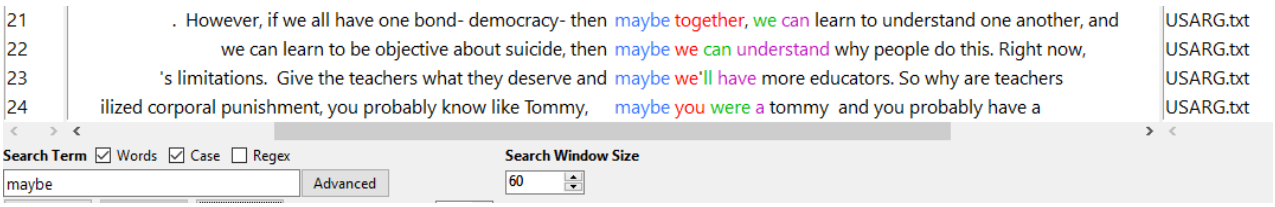
Concordance Hits 7

Hit	KWIC	File
1	, then you are not able to drink. Maybe a higher percentage of teenagers will gradua	USARG.txt
2	them from using marijuana and other drugs? Maybe a lot less people will get hurt	USARG.txt
3	by someone dying of cancer is enormous. Maybe Mr Rauscher does not think about what	USARG.txt
4	part. Open up more of these restaurants. Maybe open one called buttocks for women. The	USARG.txt
5	for athletes to think differently about steroids. Maybe the fact that many great athletes have	USARG.txt
6	were created different and we are different. Maybe we are different for a reason and	USARG.txt
7	should not necessarily be viewed as negative. Maybe we were made different to stay different	USARG.txt



Concordance Hits 24

Hit	KWIC	File
1	Spain would've taken an extraordinary amount of time, maybe a week. The invention of the airplane has also	USARG.txt
2	add attempted murder, assault with a deadly weapon and maybe even a few others. What started out to be	USARG.txt
3	tobacco and alcohol, saving thousands of lives every year, maybe even more. Many of the illegal drugs are substitutes	USARG.txt
4	and you can get high off of marijuana but maybe faster, what is the big difference? Everyone who is	USARG.txt
5	chasing them starts to shoot back at him. Now, maybe I should mention that this is a neighborhood where	USARG.txt
6	adult programs until children are in the bed but maybe if they viewed more programs for children between the	USARG.txt
7	if one man believes so deeply about something, the maybe it is something for them to also support. Both	USARG.txt
8	her feel behind the times. On the other hand, maybe it's simply due to the fact that the	USARG.txt
9	supposed to know that I am too loud. What maybe loud to you, may not be loud for me.	USARG.txt
10	out until the next morning. With this in mind, maybe more teenagers will not want to have sex, because	USARG.txt
11	essionable young people are because programs in 1970, while maybe not all fit for children, were still censored ten	USARG.txt
12	a major problem in today's society. Theoretically speaking, maybe one has to look backwards to better understand their	USARG.txt
13	her husband and children. These so called images although maybe pleasant to some people, are not always realistic. Fo	USARG.txt
14	property was made available to those without shelter then maybe the hierarchical distribution of power could be decrea	USARG.txt
15	the justice system were better in the United States maybe the police could find the answers themselves, instead	USARG.txt
16	claims are very weak. It is not considered that maybe the reason why there are fewer women athletes would	USARG.txt
17	cap on the salaries received by these players, then maybe the whole NFL would change for the better. Some	USARG.txt
18	left, or it might give them the hope that maybe there will be a cure before they die. It	USARG.txt
19	things you were doing at home? I understand you maybe thinking, what about the person you share a room	USARG.txt
20	e up with more concrete evidence, consequences, and values, maybe this ethical debate can finally come to an end,	USARG.txt



21	. However, if we all have one bond- democracy- then maybe together, we can learn to understand one another, and	USARG.txt
22	we can learn to be objective about suicide, then maybe we can understand why people do this. Right now,	USARG.txt
23	's limitations. Give the teachers what they deserve and maybe we'll have more educators. So why are teachers	USARG.txt
24	ilized corporal punishment, you probably know like Tommy, maybe you were a tommy and you probably have a	USARG.txt

Search Term ☑ Words ☑ Case ☐ Regex

maybe Advanced

Search Window Size

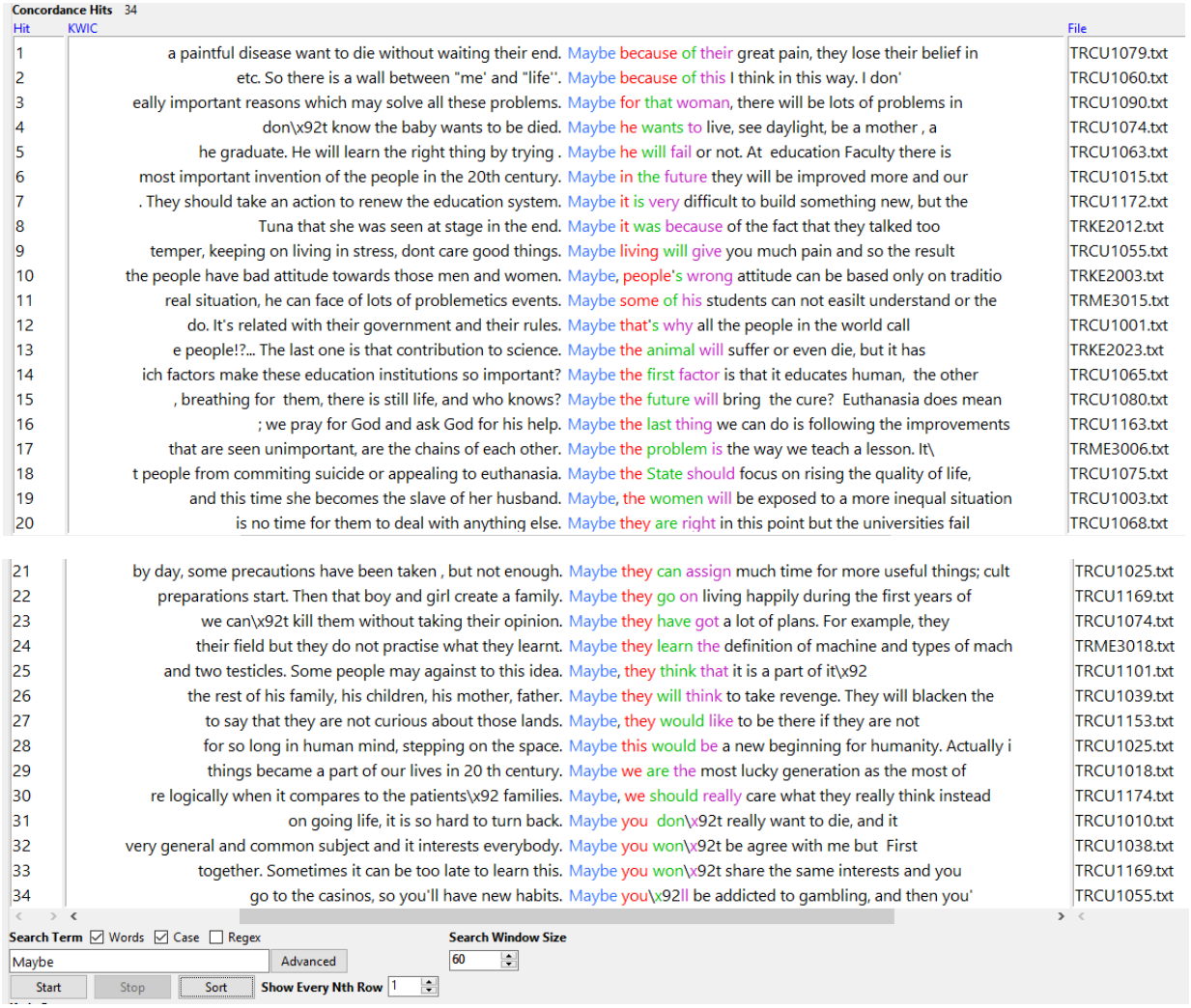
60

Concordance Hits 17

Hit	KWIC		File
1	because at hunger for money. People are controlled by money	Maybe they do know that but there is nothing to do.	Group BB.txt
2	\x92t know that still wars wouldn\x92t be.	Maybe they would be less. As a conclusion, it is a	Group BB.txt
3	ards money change. Secondly, money makes people egocentric.	Maybe not everybody has this effect on him. However, it last	Group DD.txt
4	people who say money is the root of all evil.	Maybe not all but most People kill, steal, lie, and relation	Group FF.txt
5	when people wonder about it, there might be some problems.	Maybe people don\x92t want to share this kind of	Group FF.txt
6	chnology today we can reach almost everything that we want.	Maybe this situation doesn\x92t seems to us bad but	Group-A.txt
7	we are doing and how we are living with technology.	Maybe in the future more technological development will be,	Group-A.txt
8	games but don\x92t seperate any time without tecnology.	Maybe they don\x92t dream or think something, they imagine	Group-A.txt
9	is. Is every painting painted? No new type of music?	Maybe the quantity exceeded quality. How about time? It seem	Group-B.txt
10	people may have some problem sor troubles adopting to them.	Maybe people feel strange around them and don\x92t want	Group-B.txt
11	than them today. People get used to use techno and	Maybe they can be a little right but I think the	Group-B.txt
12	our life easier but it also make us unimaginative person.	Maybe it is time to make a change to be a	Group-B.txt
13	use our imagination and we can do it more useful.	Maybe it will not wash only clothes and also wash the	Group-C.txt
14	some machines, such as fotocopy machines and fax machines.	Maybe it can be use with together. Many special use together	Group-C.txt
15	inventer of telephone) didn\x92t imagined and gave us?	Maybe telephone was going to be invented anyway but much lat	Group-C.txt
16	ature doesn\x92t contribute our imagination Powers so much.	Maybe it can improve our creative thinking, but not damage.	Group-C.txt
17	life easier. But in the future, it may get harm.	Maybe we can loose our feelings. Now, we are going to	Group-H.txt

Concordance Hits 19

Hit	KWIC		File
1	e has an access to the technology but technological devices	maybe, a lot more people are creative now. Lot more people	Group-B.txt
2	change. She/he can be arrogant and distain around people,	maybe all people can\x92t be like this but some	Group GG.txt
3	such as marijuana, alcohol. You start to bored of life,	maybe commit a suicide. In conclusion, poeple should be awa	Group CC.txt
4	have to find a way how to make them. Yes,	maybe Einstein find a way yo use atoms but Bechenbover made	Group-C.txt
5	reaming. First of all, technologies are changing day by day	maybe hour by hour. New technologies such as notebook, smart	Group-C.txt
6	all evil. This discussion has been going on for decades,	maybe hundreds of years. People think that money changes the	Group AA.txt
7	children who sit on computer at 20 hours of a day	maybe more. There is no longer spend time with family, sibli	Group-F.txt
8	never a necessity. It is just a wish. It desire	maybe. Once you dream, you will always want more and more	Group-E.txt
9	to each other again such as some of couples or	maybe some of brothers or sisters because of taking the inhe	Group FF.txt
10	ds thanks to technology. Without technology, these routines	maybe take our days. On the other hand, it can be	Group-C.txt
11	the being Whl. If it claim as to us that	maybe. The money can be theaproofed evil of our times, There	Group EE.txt
12	e technology take away our imagination, our social time and	maybe the most important thing, our time from us. We shouldn	Group-A.txt
13	life. They may start to ignore the people around them,	maybe their families and they spend their money on bad thing	Group AA.txt
14	from the technology and do their sketches on their own,	maybe they see the design in different way \xFDn this way	Group-A.txt
15	first paragraph, we can\x92t survive without dreaming. Yes,	maybe we can continue to eat or to breathe but does	Group-D.txt
16	in a technology era. It makes our lifes easier or	maybe we can say better but in addition to these benefits,	Group-A.txt
17	to say is thet without the imagination of Jules Verne,	maybe we can\x92t have a submarine now. Dreaming have	Group-F.txt
18	to be. We didn\x92t know how hard or	maybe \x91impossible\x92 to be a pilot\x85 but we	Group-C.txt
19	having a sea of pure chocolate? Go for it! But	maybe you\x92re a more rational person and want to	Group-H.txt



Concordance Hits 34

Hit	KWIC		File
1	a paintful disease want to die without waiting their end.	Maybe because of their great pain, they lose their belief in	TRCU1079.txt
2	etc. So there is a wall between "me' and "life''.	Maybe because of this I think in this way. I don'	TRCU1060.txt
3	eally important reasons which may solve all these problems.	Maybe for that woman, there will be lots of problems in	TRCU1090.txt
4	don\x92t know the baby wants to be died.	Maybe he wants to live, see daylight, be a mother , a	TRCU1074.txt
5	he graduate. He will learn the right thing by trying .	Maybe he will fail or not. At education Faculty there is	TRCU1063.txt
6	most important invention of the people in the 20th century.	Maybe in the future they will be improved more and our	TRCU1015.txt
7	. They should take an action to renew the education system.	Maybe it is very difficult to build something new, but the	TRCU1172.txt
8	Tuna that she was seen at stage in the end.	Maybe it was because of the fact that they talked too	TRKE2012.txt
9	temper, keeping on living in stress, dont care good things.	Maybe living will give you much pain and so the result	TRCU1055.txt
10	the people have bad attitude towards those men and women.	Maybe, people's wrong attitude can be based only on traditio	TRKE2003.txt
11	real situation, he can face of lots of problemetics events.	Maybe some of his students can not easilt understand or the	TRME3015.txt
12	do. It's related with their government and their rules.	Maybe that's why all the people in the world call	TRCU1001.txt
13	e people!?... The last one is that contribution to science.	Maybe the animal will suffer or even die, but it has	TRKE2023.txt
14	ich factors make these education institutions so important?	Maybe the first factor is that it educates human, the other	TRCU1065.txt
15	, breathing for them, there is still life, and who knows?	Maybe the future will bring the cure? Euthanasia does mean	TRCU1080.txt
16	; we pray for God and ask God for his help.	Maybe the last thing we can do is following the improvements	TRCU1163.txt
17	that are seen unimportant, are the chains of each other.	Maybe the problem is the way we teach a lesson. It\	TRME3006.txt
18	t people from commiting suicide or appealing to euthanasia.	Maybe the State should focus on rising the quality of life,	TRCU1075.txt
19	and this time she becomes the slave of her husband.	Maybe, the women will be exposed to a more inequal situation	TRCU1003.txt
20	is no time for them to deal with anything else.	Maybe they are right in this point but the universities fail	TRCU1068.txt
21	by day, some precautions have been taken , but not enough.	Maybe they can assign much time for more useful things; cult	TRCU1025.txt
22	preparations start. Then that boy and girl create a family.	Maybe they go on living happily during the first years of	TRCU1169.txt
23	we can\x92t kill them without taking their opinion.	Maybe they have got a lot of plans. For example, they	TRCU1074.txt
24	their field but they do not practise what they learnt.	Maybe they learn the definition of machine and types of mach	TRME3018.txt
25	and two testicles. Some people may against to this idea.	Maybe, they think that it is a part of it\x92	TRCU1101.txt
26	the rest of his family, his children, his mother, father.	Maybe they will think to take revenge. They will blacken the	TRCU1039.txt
27	to say that they are not curious about those lands.	Maybe, they would like to be there if they are not	TRCU1153.txt
28	for so long in human mind, stepping on the space.	Maybe this would be a new beginning for humanity. Actually i	TRCU1025.txt
29	things became a part of our lives in 20 th century.	Maybe we are the most lucky generation as the most of	TRCU1018.txt
30	re logically when it compares to the patients\x92 families.	Maybe, we should really care what they really think instead	TRCU1174.txt
31	on going life, it is so hard to turn back.	Maybe you don\x92t really want to die, and it	TRCU1010.txt
32	very general and common subject and it interests everybody.	Maybe you won\x92t be agree with me but First	TRCU1038.txt
33	together. Sometimes it can be too late to learn this.	Maybe you won\x92t share the same interests and you	TRCU1169.txt
34	go to the casinos, so you'll have new habits.	Maybe you\x92ll be addicted to gambling, and then you'	TRCU1055.txt

Search Term Words Case Regex

Maybe Advanced

Start Stop Sort

Search Window Size 60

Show Every Nth Row 1

Concordance Hits 44

Hit	KWIC		File
1	, expensive cars, even a yacht, but no friends, the result	maybe a disastrous situation for you. As long as people do	TRCU1057.txt
2	h of an animal. When we use cosmetic products irremediable,	maybe a mice or a monkey had died as testing the	TRKE2023.txt
3	people are used, the results might be more effectual. And	maybe, a treatment can be found for themselves. If not, as	TRCU1160.txt
4	, you can't trust people , you can't know them ,	maybe ambition for money put people this situation . But it	TRCU1044.txt
5	only works with the student job, they do not add	maybe can not add anything except this. Our second problem t	TRCU1064.txt
6	the whole lot will be led to misary, hatred and	maybe even voilance. It\x92s always said that it\x92	TRCU1171.txt
7	theratical and the salaries of lectures are very low. So,	maybe for this reason lecturers do not get motivated and the	TRME3010.txt
8	-giving a lecture, quizzing. \xDD want to teach my students	maybe funny, interesting or useful thing about the language	TRME3006.txt
9	murderer thought that he was above the law. Who knows,	maybe he or she was just bored and decided to take	TRCU1103.txt
10	he can want euthanasia . when he has his willpower again	maybe he\x92ll thank as he is alive. Morover it	TRCU1140.txt
11	say two short answers for this question: with more money,	maybe inherited from one's ancestors, or with more education	TRCU1066.txt
12	tivities because there are 35-40 students in each class and	maybe more in some schools. Of course there are schools whic	TRCU1068.txt
13	there is a beautiful woman who is driving a bus	maybe more safely than men. First, everybody criticised that	TRKE2003.txt
14	in males. They are more understanding and just. Who knows,	maybe one day this fight will end and both sexes will	TRCU1112.txt
15	are subordinate people. Men don\x92t do any work	maybe only earn money but women does whatever she can do.	TRCU1038.txt
16	r euthanasia for your relatives, you will always think that	maybe s/he could recover. So; you may feel yourself guilty	TRCU1174.txt
17	solve her problems or talked with someone else about that	maybe , she would not be dead now . But nobody knows the	TRCU1006.txt
18	. You can improve your English, you can find friends. It	maybe strange for some people but there are many people who	TRCU1015.txt
19	the rest of their life or to earn money. Here,	maybe the most important idea comes to the minds like these	TRCU1125.txt
20	<ICLE-TR-KEM-0030.2> This is the	maybe the most important topics discussed today. While the m	TRKE2030.txt

Concordance Hits 44

Hit	KWIC		File
21	. It can be an unplanned baby for the couples, and	maybe the mother could lose her job because of being pregnan	TRCU1167.txt
22	economic situation and take care of children very good. And	maybe the partners will quarrel if the both sides want to	TRCU1165.txt
23	all of the married people planned when they got married (	maybe there are some couples making such a plan while I	TRCU1163.txt
24	a result of the woman being pregnant. After the birth	maybe there would not be good conditions for it, baby's	TRCU1095.txt
25	learn about the last changes in science or diseases, or	maybe they can fight with a lion in a forest of	TRCU1029.txt
26	ready to have the responsibility in front of the God ,	maybe they do not believe in God . It is not quilt	TRCU1082.txt
27	begin to change , so people often turn to suicide because	maybe they re seeking the relief, solution from pain. There	TRCU1010.txt
28	, you are far away from the problems of the life'	maybe this is not totally true, but not totally wrong. And	TRCU1060.txt
29	too late for you to stop this bleeding pain and	maybe this will drag u to the horrible situations. Consequen	TRCU1055.txt
30	give a message to the people that he know; acquaintances,	maybe to take revenge from them for the things that they	TRCU1006.txt
31	y some precautions should be taken before the abortion. You	maybe told by the people around you "we will eliminate your	TRCU1095.txt
32	ccustomed to live this life willingly and easily. Who knows	maybe we can travel and have holidays on to another planets	TRCU1031.txt
33	for nothing. If we continue to ask the same question ,	maybe we will get similar or same answers. Therefore the uni	TRCU1125.txt
34	important and necessary information, but so necessary that	maybe we won't even use in our future in real	TRCU1060.txt
35	all tired and painful. I would prefer him died beforehand,	maybe with euthanasia. To sum up, euthanasia should be appli	TRCU1170.txt
36	university. And the best side of that diploma is that	maybe with the help of it, you will find a job.	TRCU1060.txt
37	. you know that s/he is not with you and	maybe won\x92t be again. There is no hope for	TRCU1084.txt
38	much pain and so the result might not be good,	maybe you find solution in the cold embrace of death. Anothe	TRCU1055.txt
39	affect yourself and your family in a bad way, so	maybe you'll choose the life in a basic way better	TRCU1055.txt
40	and your life become upside down. You'll be scattered,	maybe you ll consider the facts, on going events, lose money	TRCU1055.txt
41	much since you ll always be with the rich, so	maybe you'll lose your conscience. And the people around you	TRCU1055.txt
42	you re just a simple one, you have limited friends,	maybe you'll not have anyone to get help when in	TRCU1055.txt
43	effect of money is if you re a wealthy person.	maybe you will not consider other people, or wont think abou	TRCU1055.txt
44	money you can not recognize even your best friend, or	maybe yourself. Since your main goal is to get more money	TRCU1041.txt

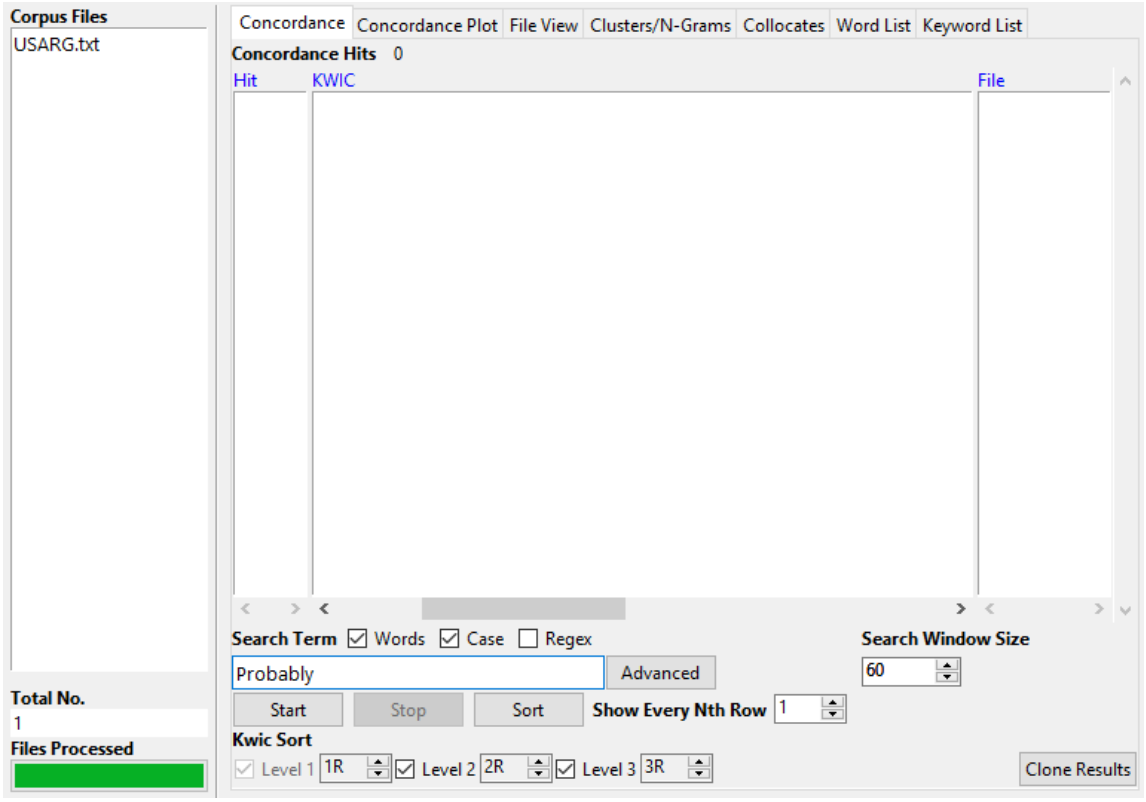
Search Term ☑ Words ☑ Case ☐ Regex

maybe | Advanced

Start | Stop | Sort | Show Every Nth Row 1

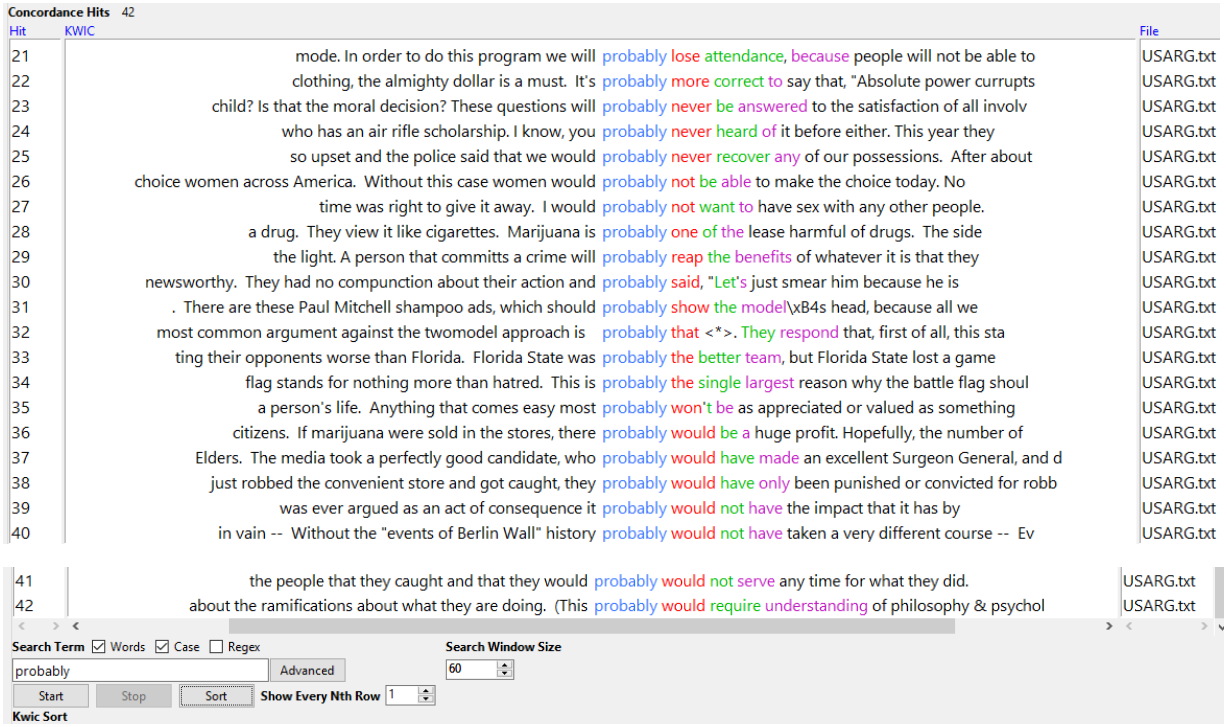
Search Window Size 60

Appendix G.3. *Corcordance lines for "probably"*



Concordance Hits 42

Hit	KWIC	File
1	an impact on people in the United States and probably all over the world because it always leads to	USARG.txt
2	the court system, prosecutors office told us there would probably be a plea bargain for the people that they	USARG.txt
3	a good idea of what the government prayer would probably be, the December 27, 1994 article in the New York T	USARG.txt
4	is the epidemic, known as AIDS. Though it has probably been around for awhile, it's presence hasn't	USARG.txt
5	way that will set an example for others, and probably cause people to think twice before committing a ser	USARG.txt
6	applied to the program- the application for which was probably computer generated- I assume my info was processed	USARG.txt
7	become alcohol abusers. Making heroin more available would probably decrease the number of alcohol abusers. If legaliz	USARG.txt
8	if I got away with that then I could probably do something a little more complex or even dangerou	USARG.txt
9	for about a cool million immediately afterwards I would probably feel really good, really financially stable and tha	USARG.txt
10	particular time. If she wears a mini-skirt, she probably feel sexy. Many people have unstable fashion identi	USARG.txt
11	its followers believe. Moreover, this whole scenario would probably fit better if it occurred a little more than	USARG.txt
12	amount, but drinking to get drunk. This scenario could probably fit the activities outside any dorm at any college	USARG.txt
13	relativity hasn't had its full impact. This is probably for several reasons: First, the notion that every p	USARG.txt
14	ke unfair generalizations, they ignore the fact that blacks probably got into these situations as a result of discrimina	USARG.txt
15	like Tommy, maybe you were a tommy and you probably have a fairly strong opinion on corporal punishment	USARG.txt
16	, not only because of their sexual preference, but they probably have AIDS too. This kind of ignorant thinking is	USARG.txt
17	out of control. Sooner or later, college football will probably have to resort to some type of playoff system	USARG.txt
18	inate alarming predictions or erroneous results. The key is probably in the classroom. People should learn more about th	USARG.txt
19	idea. However, they do not. An age limit would probably just encourage kids to see if they could still	USARG.txt
20	nded a school which still utilized corporal punishment, you probably know like Tommy, maybe you were a tommy and	USARG.txt



Concordance Hits 42

Hit	KWIC	File
21	mode. In order to do this program we will probably lose attendance, because people will not be able to	USARG.txt
22	clothing, the almighty dollar is a must. It's probably more correct to say that, "Absolute power currupts	USARG.txt
23	child? Is that the moral decision? These questions will probably never be answered to the satisfaction of all involv	USARG.txt
24	who has an air rifle scholarship. I know, you probably never heard of it before either. This year they	USARG.txt
25	so upset and the police said that we would probably never recover any of our possessions. After about	USARG.txt
26	choice women across America. Without this case women would probably not be able to make the choice today. No	USARG.txt
27	time was right to give it away. I would probably not want to have sex with any other people.	USARG.txt
28	a drug. They view it like cigarettes. Marijuana is probably one of the lease harmful of drugs. The side	USARG.txt
29	the light. A person that committs a crime will probably reap the benefits of whatever it is that they	USARG.txt
30	newsworthy. They had no compunction about their action and probably said, "Let's just smear him because he is	USARG.txt
31	. There are these Paul Mitchell shampoo ads, which should probably show the model\xB4s head, because all we	USARG.txt
32	most common argument against the twomodel approach is probably that <*>. They respond that, first of all, this sta	USARG.txt
33	ting their opponents worse than Florida. Florida State was probably the better team, but Florida State lost a game	USARG.txt
34	flag stands for nothing more than hatred. This is probably the single largest reason why the battle flag shoul	USARG.txt
35	a person's life. Anything that comes easy most probably won't be as appreciated or valued as something	USARG.txt
36	citizens. If marijuana were sold in the stores, there probably would be a huge profit. Hopefully, the number of	USARG.txt
37	Elders. The media took a perfectly good candidate, who probably would have made an excellent Surgeon General, and d	USARG.txt
38	just robbed the convenient store and got caught, they probably would have only been punished or convicted for robb	USARG.txt
39	was ever argued as an act of consequence it probably would not have the impact that it has by	USARG.txt
40	in vain -- Without the "events of Berlin Wall" history probably would not have taken a very different course -- Ev	USARG.txt
41	the people that they caught and that they would probably would not serve any time for what they did.	USARG.txt
42	about the ramifications about what they are doing. (This probably would require understanding of philosophy & psychol	USARG.txt

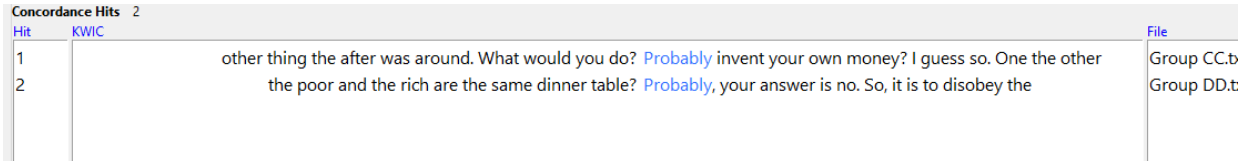
Search Term ☑ Words ☑ Case ☐ Regex

probably | Advanced

Start | Stop | Sort | Show Every Nth Row 1

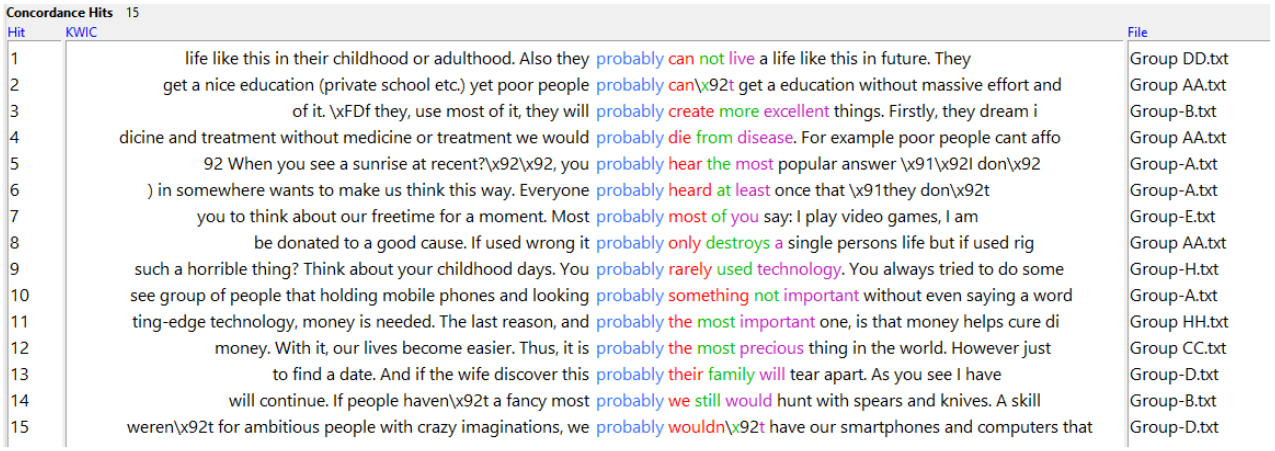
Kwic Sort

Search Window Size 60



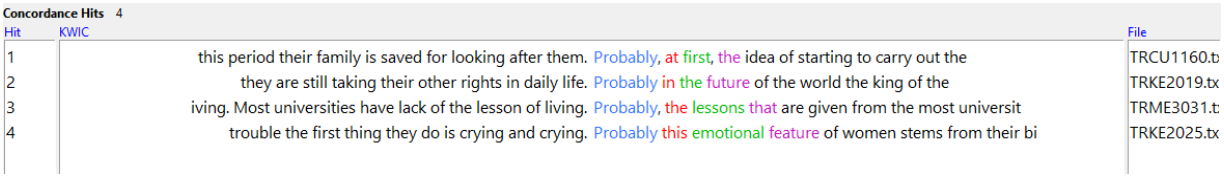
Concordance Hits 2

Hit	KWIC	File
1	other thing the after was around. What would you do? Probably invent your own money? I guess so. One the other	Group CC.t
2	the poor and the rich are the same dinner table? Probably, your answer is no. So, it is to disobey the	Group DD.t



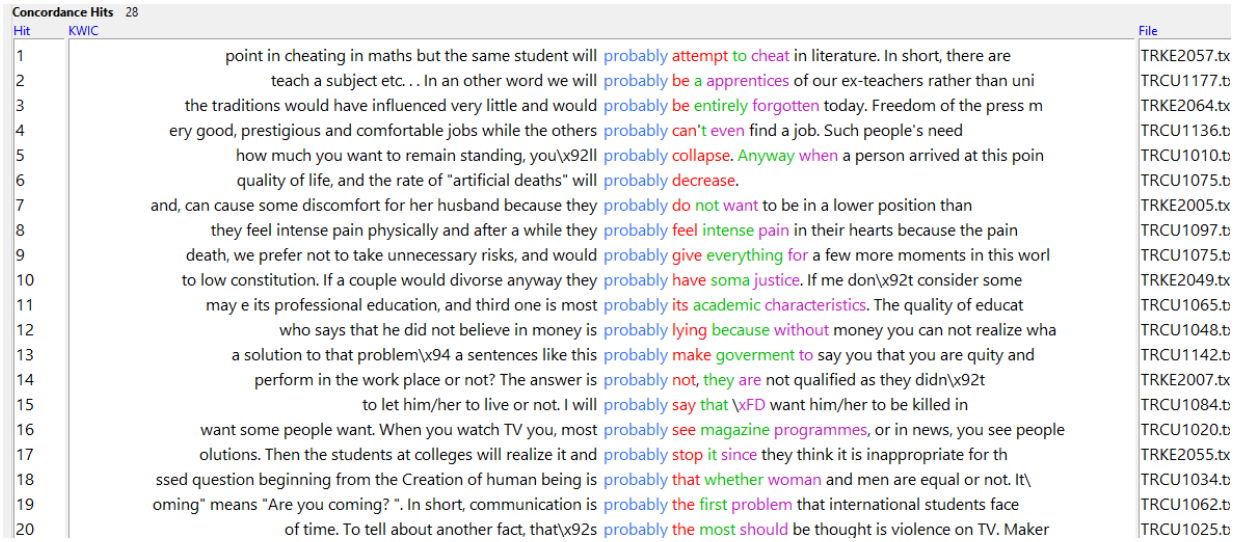
Concordance Hits 15

Hit	KWIC	File
1	life like this in their childhood or adulthood. Also they probably can not live a life like this in future. They	Group DD.txt
2	get a nice education (private school etc.) yet poor people probably can\x92t get a education without massive effort and	Group AA.txt
3	of it. \xFDf they, use most of it, they will probably create more excellent things. Firstly, they dream i	Group-B.txt
4	dicine and treatment without medicine or treatment we would probably die from disease. For example poor people cant affo	Group AA.txt
5	92 When you see a sunrise at recent?\x92\x92, you probably hear the most popular answer \x91\x92I don\x92	Group-A.txt
6	) in somewhere wants to make us think this way. Everyone probably heard at least once that \x91they don\x92t	Group-A.txt
7	you to think about our freetime for a moment. Most probably most of you say: I play video games, I am	Group-E.txt
8	be donated to a good cause. If used wrong it probably only destroys a single persons life but if used rig	Group AA.txt
9	such a horrible thing? Think about your childhood days. You probably rarely used technology. You always tried to do some	Group-H.txt
10	see group of people that holding mobile phones and looking probably something not important without even saying a word	Group-A.txt
11	ting-edge technology, money is needed. The last reason, and probably the most important one, is that money helps cure di	Group HH.txt
12	money. With it, our lives become easier. Thus, it is probably the most precious thing in the world. However just	Group CC.txt
13	to find a date. And if the wife discover this probably their family will tear apart. As you see I have	Group-D.txt
14	will continue. If people haven\x92t a fancy most probably we still would hunt with spears and knives. A skill	Group-B.txt
15	weren\x92t for ambitious people with crazy imaginations, we probably wouldn\x92t have our smartphones and computers that	Group-D.txt



Concordance Hits 4

Hit	KWIC	File
1	this period their family is saved for looking after them. Probably, at first, the idea of starting to carry out the	TRCU1160.t
2	they are still taking their other rights in daily life. Probably in the future of the world the king of the	TRKE2019.tx
3	iving. Most universities have lack of the lesson of living. Probably, the lessons that are given from the most universit	TRME3031.t
4	trouble the first thing they do is crying and crying. Probably this emotional feature of women stems from their bi	TRKE2025.tx



Concordance Hits 28

Hit	KWIC	File
1	point in cheating in maths but the same student will probably attempt to cheat in literature. In short, there are	TRKE2057.tx
2	teach a subject etc. . . In an other word we will probably be a apprentices of our ex-teachers rather than uni	TRCU1177.t
3	the traditions would have influenced very little and would probably be entirely forgotten today. Freedom of the press m	TRKE2064.tx
4	ery good, prestigious and comfortable jobs while the others probably can't even find a job. Such people's need	TRCU1136.t
5	how much you want to remain standing, you\x92ll probably collapse. Anyway when a person arrived at this poin	TRCU1010.t
6	quality of life, and the rate of "artificial deaths" will probably decrease.	TRCU1075.t
7	and, can cause some discomfort for her husband because they probably do not want to be in a lower position than	TRKE2005.tx
8	they feel intense pain physically and after a while they probably feel intense pain in their hearts because the pain	TRCU1097.t
9	death, we prefer not to take unnecessary risks, and would probably give everything for a few more moments in this worl	TRCU1075.t
10	to low constitution. If a couple would divorse anyway they probably have soma justice. If me don\x92t consider some	TRKE2049.tx
11	may e its professional education, and third one is most probably its academic characteristics. The quality of educat	TRCU1065.t
12	who says that he did not believe in money is probably lying because without money you can not realize wha	TRCU1048.t
13	a solution to that problem\x94 a sentences like this probably make goverment to say you that you are quity and	TRCU1142.t
14	perform in the work place or not? The answer is probably not, they are not qualified as they didn\x92t	TRKE2007.tx
15	to let him/her to live or not. I will probably say that \xFD want him/her to be killed in	TRCU1084.t
16	want some people want. When you watch TV you, most probably see magazine programmes, or in news, you see people	TRCU1020.t
17	olutions. Then the students at colleges will realize it and probably stop it since they think it is inappropriate for th	TRKE2055.tx
18	ssed question beginning from the Creation of human being is probably that whether woman and men are equal or not. It\	TRCU1034.t
19	oming" means "Are you coming? ". In short, communication is probably the first problem that international students face	TRCU1062.t
20	of time. To tell about another fact, that\x92s probably the most should be thought is violence on TV. Maker	TRCU1025.t
21	d good jobs as they are not educated. Most probably, they will be unemployed. Therefore, they will be b	TRCU1094.txt
22	can not find a good job for himself, he will probably try to go abroad. Because he knows that he will	TRCU1061.txt
23	rd for you, but you are not interested it will probably turn into a hell studying for the lesson and thinki	TRME3001.txt
24	n directed towords students. They don\x92t probably use these principles and ideas in their profession.	TRME3015.txt
25	about balancing expenses and incomes. Or, probably we can easily find many men who get angry with	TRCU1154.txt
26	e becomes success full after cheating, most probably will go on to cheat, and it will be a	TRKE2041.txt
27	e unnecessary theoretical knowledge most probably will not be used after graduation and the theoretic	TRCU1059.txt
28	hs and dislikes literature, as an example. He probably won\x92t see any point in cheating in maths	TRKE2057.txt

Search Term ☑ Words ☑ Case ☐ Regex

probably | Advanced

Start | Stop | Sort | Show Every Nth Row 1

Kwic Sort

Search Window Size 60

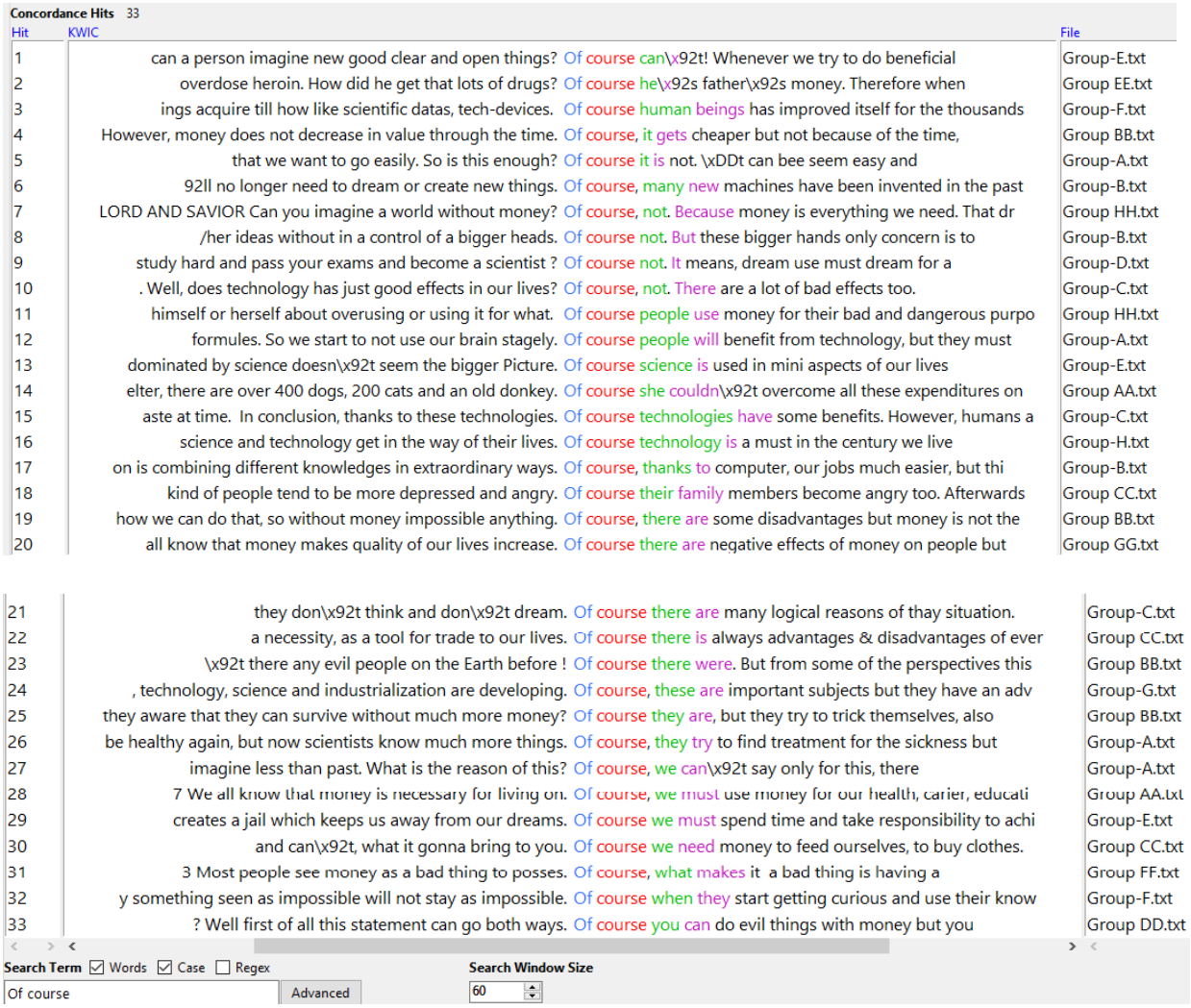
Appendix G.4. *Corcordance lines for "of course"*

Concordance Hits 13

Hit	KWIC		File
1	compared with the former version of Mr. Rockwell's.	Of course all of this can be avoided, but "19% of	USARG.txt
2	mer education secretary Bill Bennett stated, <*> <R>.	Of course, it does not seem likely that women have	USARG.txt
3	Barkley made it big through years of hard work.	Of course it is important to understand that both of	USARG.txt
4	data that provides evidence that these ideas are real.	Of course, many people will not agree to talk about	USARG.txt
5	, put them to bed, and then tackled some housework.	Of course, most men helped around the house. But many	USARG.txt
6	nning speak-eases or transporting liquor across the border.	Of course one cannot forget that the city of Los	USARG.txt
7	to public concern and effort, for instance, in Somalia.	Of course radio was already able to transmit the sound,	USARG.txt
8	impact on the lives of both men and women.	Of course, the issue of feminism is not a new	USARG.txt
9	ria -- the producer of penicillin. <ICLE-US-MICH-0016.1>	Of course their have been numerous inventions and discoverie	USARG.txt
10	ces of the victims through psychologists and psychiatrists.	Of course, there is the obstacle of patient privilege, but	USARG.txt
11	if you feel they don't want to live.	Of course this is not true. I believe the U.	USARG.txt
12	one's appearance that they interfere with living healthy.	Of course this problem is not the model's fault,	USARG.txt
13	w/ a calculator, a pen & a piece of paper.	Of course, this was very time consuming & open to error.	USARG.txt

Concordance Hits 12

Hit	KWIC		File
1	money would then be used to support orphanages. This	of course would mean taking many children away from their	USARG.txt
2	of big business; the suits, stocks and bonds, and	of course the money involved. Business is not just a	USARG.txt
3	-home female who did not demand financial compensation, and	of course, it remains an unpaid job today, whether it'	USARG.txt
4	the entire family, instead of the individual person (it,	of course, the worker is married)? Perhaps this is a	USARG.txt
5	children who have no say in the matter. No,	of course it is not fair that millions of people	USARG.txt
6	one simple computer, e.g. a calculator. There are	of course many other things computers are used for, but	USARG.txt
7	the nation and the most important `must-have' was,	of course, the television. The presence of television has	USARG.txt
8	differences to increase social well. Women and men are,	of course, different physically and emotionally. These diff	USARG.txt
9	has truly changed during that time. The major change,	of course, coming thirty-five years ago with the start	USARG.txt
10	ockwell mother, father, and 2.5 children (. 5 being the dog	of course) families are din-finishing in number. In fact, "	USARG.txt
11	rse difficulty, lack of preparation, and many other aspects	of course work. One uncontrollable obstacle students at USC	USARG.txt
12	they have Huggies for girls and Huggies for boys.	of course, the Huggies for girls are pink diapers, and	USARG.txt



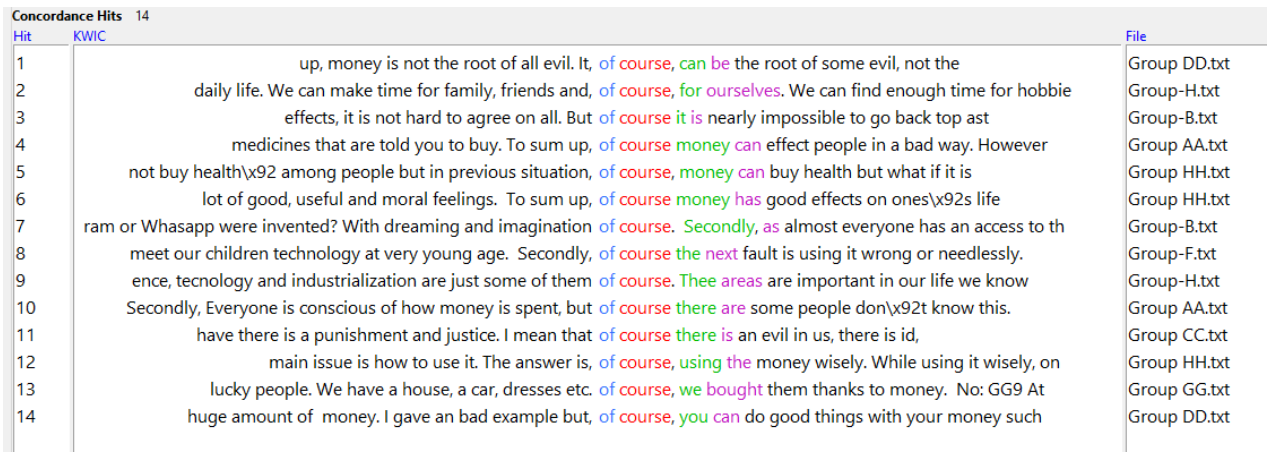
Concordance Hits 33

Hit	KWIC	File
1	can a person imagine new good clear and open things? Of course can\x92t! Whenever we try to do beneficial	Group-E.txt
2	overdose heroin. How did he get that lots of drugs? Of course he\x92s father\x92s money. Therefore when	Group EE.txt
3	ings acquire till how like scientific datas, tech-devices. Of course human beings has improved itself for the thousands	Group-F.txt
4	However, money does not decrease in value through the time. Of course, it gets cheaper but not because of the time,	Group BB.txt
5	that we want to go easily. So is this enough? Of course it is not. \xDDt can bee seem easy and	Group-A.txt
6	92ll no longer need to dream or create new things. Of course, many new machines have been invented in the past	Group-B.txt
7	LORD AND SAVIOR Can you imagine a world without money? Of course, not. Because money is everything we need. That dr	Group HH.txt
8	/her ideas without in a control of a bigger heads. Of course not. But these bigger hands only concern is to	Group-B.txt
9	study hard and pass your exams and become a scientist ? Of course not. It means, dream use must dream for a	Group-D.txt
10	. Well, does technology has just good effects in our lives? Of course, not. There are a lot of bad effects too.	Group-C.txt
11	himself or herself about overusing or using it for what. Of course people use money for their bad and dangerous purpo	Group HH.txt
12	formules. So we start to not use our brain stagely. Of course people will benefit from technology, but they must	Group-A.txt
13	dominated by science doesn\x92t seem the bigger Picture. Of course science is used in mini aspects of our lives	Group-E.txt
14	elter, there are over 400 dogs, 200 cats and an old donkey. Of course she couldn\x92t overcome all these expenditures on	Group AA.txt
15	aste at time. In conclusion, thanks to these technologies. Of course technologies have some benefits. However, humans a	Group-C.txt
16	science and technology get in the way of their lives. Of course technology is a must in the century we live	Group-H.txt
17	on is combining different knowledges in extraordinary ways. Of course, thanks to computer, our jobs much easier, but thi	Group-B.txt
18	kind of people tend to be more depressed and angry. Of course their family members become angry too. Afterwards	Group CC.txt
19	how we can do that, so without money impossible anything. Of course, there are some disadvantages but money is not the	Group BB.txt
20	all know that money makes quality of our lives increase. Of course there are negative effects of money on people but	Group GG.txt
21	they don\x92t think and don\x92t dream. Of course there are many logical reasons of thay situation.	Group-C.txt
22	a necessity, as a tool for trade to our lives. Of course there is always advantages & disadvantages of ever	Group CC.txt
23	\x92t there any evil people on the Earth before ! Of course there were. But from some of the perspectives this	Group BB.txt
24	, technology, science and industrialization are developing. Of course, these are important subjects but they have an adv	Group-G.txt
25	they aware that they can survive without much more money? Of course they are, but they try to trick themselves, also	Group BB.txt
26	be healthy again, but now scientists know much more things. Of course, they try to find treatment for the sickness but	Group-A.txt
27	imagine less than past. What is the reason of this? Of course, we can\x92t say only for this, there	Group-A.txt
28	7 We all know that money is necessary for living on. Of course, we must use money for our health, carier, educati	Group AA.txt
29	creates a jail which keeps us away from our dreams. Of course we must spend time and take responsibility to achi	Group-E.txt
30	and can\x92t, what it gonna bring to you. Of course we need money to feed ourselves, to buy clothes.	Group CC.txt
31	3 Most people see money as a bad thing to posses. Of course, what makes it a bad thing is having a	Group FF.txt
32	y something seen as impossible will not stay as impossible. Of course when they start getting curious and use their know	Group-F.txt
33	? Well first of all this statement can go both ways. Of course you can do evil things with money but you	Group DD.txt

Search Term ☑ Words ☑ Case ☐ Regex

Search Window Size

Of course | Advanced | 60



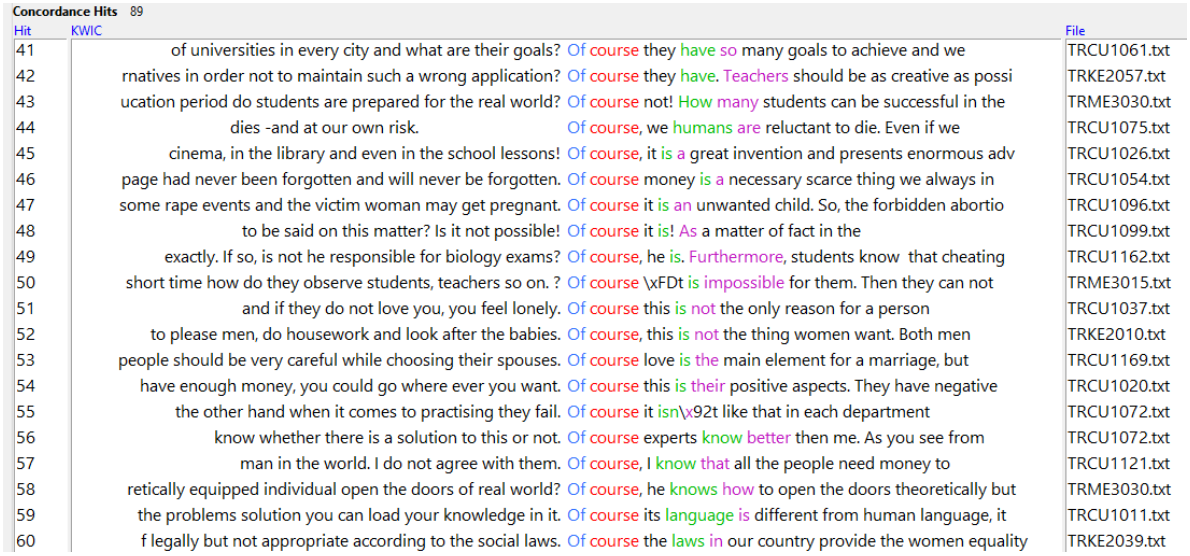
Concordance Hits 14

Hit	KWIC	File
1	up, money is not the root of all evil. It, of course, can be the root of some evil, not the	Group DD.txt
2	daily life. We can make time for family, friends and, of course, for ourselves. We can find enough time for hobbie	Group-H.txt
3	effects, it is not hard to agree on all. But of course it is nearly impossible to go back top ast	Group-B.txt
4	medicines that are told you to buy. To sum up, of course money can effect people in a bad way. However	Group AA.txt
5	not buy health\x92 among people but in previous situation, of course, money can buy health but what if it is	Group HH.txt
6	lot of good, useful and moral feelings. To sum up, of course money has good effects on ones\x92s life	Group HH.txt
7	ram or Whasapp were invented? With dreaming and imagination of course. Secondly, as almost everyone has an access to th	Group-B.txt
8	meet our children technology at very young age. Secondly, of course the next fault is using it wrong or needlessly.	Group-F.txt
9	ence, tecnology and industrialization are just some of them of course. Thee areas are important in our life we know	Group-H.txt
10	Secondly, Everyone is conscious of how money is spent, but of course there are some people don\x92t know this.	Group AA.txt
11	have there is a punishment and justice. I mean that of course there is an evil in us, there is id,	Group CC.txt
12	main issue is how to use it. The answer is, of course, using the money wisely. While using it wisely, on	Group HH.txt
13	lucky people. We have a house, a car, dresses etc. of course, we bought them thanks to money. No: GG9 At	Group GG.txt
14	huge amount of money. I gave an bad example but, of course, you can do good things with your money such	Group DD.txt

Concordance Hits 89

Hit	KWIC	File
1	thinks that they feel terrible or feel like a murderer. Of course I accept the situations difficulty because it is l	TRCU1078.txt
2	do many things in a very short time even simultaneously. Of course we all know that the producers have useful aims	TRKE2051.txt
3	thougt about his son\x92s feature which was good. Of course he also felt unbearable suffer, but he managed to	TRKE2020.txt
4	. Do you think female and male people have common points? Of course yes, and now it is time to discuss the	TRKE2028.txt
5	Physically, there is not much more difference between them. Of course, men are a bit more powerful because the nature	TRKE2043.txt
6	Physically, there is not much more difference between them. Of course, then are a bit more powerful because the nature	TRKE2069.txt
7	my country such as its geography, history, literature etc. Of course these are all concerned with scientific ideas not	TRCU1129.txt
8	inue their life loving all the people and being humanistic. Of course, there are good values and consequences of school	TRKE2048.txt
9	not mean more than what a piece of paper means. Of course, there are good universities, the education of whi	TRME3017.txt
10	class, when the students answer the questions in the exam? Of course, they are in the class in order to obstruct	TRCU1111.txt
11	. I mean there they haven\x92t achieved these developments. Of course, men are in a very good position and they	TRKE2053.txt
12	the factual state, or speak/ write the truth at all. Of course, there are laws that regulate that. but a skillful	TRKE2024.txt
13	best way of improvement in medicine and so in technology. Of course, we are not alone in the world and we	TRKE2032.txt
14	5-40 students in each class and maybe more in some schools. Of course there are schools which have many opportunities fo	TRCU1068.txt
15	92: You have given me all thing except love\x92\x92 Of course, they are simple sentences, but these events are r	TRCU1146.txt
16	with the help of other people throughout his/her life. Of course there are some people who help poor people but	TRCU1136.txt
17	s solely said orally, unfortunately, it\x92s not performed. Of course, there are some reasons that enable this situation	TRKE2056.txt
18	n to their problems? Who will concern with their education? Of course nobody. . . as there won't be any experienced per	TRCU1165.txt
19	, cars and comfort life. Is it just all this thinks? Of course not. At this century money is everything, if you	TRCU1039.txt
20	decide to such a thing if your child would die. Of course not! Because the most difficult thing for a people	TRCU1174.txt

Hit	KWIC	File
21	equality is to be democratic and to believe in it. Of course to believe in democracy is not enough, one should	TRKE2031.txt
22	use what they get from dreamlands in the real world? Of course none!!! But why? Because most university degrees a	TRME3030.txt
23	not as important as they think in someone's life. Of course you can be happy when you have a lot	TRCU1057.txt
24	arts for the transmission of the social values. The values. Of course, it can be true, but they ignore the students\	TRKE2046.txt
25	useful aspects and throw the bad aspects to the basket. Of course we can do it by being the one who	TRCU1029.txt
26	is the last day for it. What will you do? Of course you can do al of these things just by	TRCU1030.txt
27	he emotional and physical relationship between two person? Of course you can easily make sense out of this sentence	TRCU1099.txt
28	in politics? Or Why are there a few female authors? Of course we can not say \x93 because they have less	TRCU1139.txt
29	which is releted to food, cleaning of house or washing. Of course we can not say these works are unimportant but	TRKE2009.txt
30	of breeding. She is the productive side of the union. Of course she cannot give birth to a child on her	TRCU1115.txt
31	they see, hear on TV, radio and read in newspapers. Of course, to control and direct this informed society is pr	TRCU1126.txt
32	not be cure and if it gives him terrible pain. Of course this decision should be given by the patient (if	TRCU1078.txt
33	every technological invention internet also can be misused. Of course, to decrease the misuse depends on us. The advanta	TRCU1027.txt
34	rks related to cooking, washing up, or something like that. Of course I do not mean that these are unimportant works,	TRKE2020.txt
35	question. How much does a woman differ from a man? Of course, she does differ from men. Her genital organs are	TRCU1115.txt
36	d. Abortion is also contributes to the population planning. Of course it does not be a population planning method but	TRCU1096.txt
37	must be considered that there is the doctors\x92 side. Of course they don\x92t think it is easy to	TRCU1159.txt
38	he information for using them in university enterance exam. Of course, so far at least sometimes our teachers or another	TRCU1147.txt
39	living for their children. Doesn't this annoy the parents. Of course they feel sad not to be able to do	TRCU1047.txt
40	life they wanted , they begin to look for a job . Of course nobody gives a job to a child except some	TRCU1118.txt



Concordance Hits 89

Hit	KWIC	File
41	of universities in every city and what are their goals? Of course they have so many goals to achieve and we	TRCU1061.txt
42	rnatives in order not to maintain such a wrong application? Of course they have. Teachers should be as creative as possi	TRKE2057.txt
43	ucation period do students are prepared for the real world? Of course not! How many students can be successful in the	TRME3030.txt
44	dies -and at our own risk. Of course, we humans are reluctant to die. Even if we	TRCU1075.txt
45	cinema, in the library and even in the school lessons! Of course, it is a great invention and presents enormous adv	TRCU1026.txt
46	page had never been forgotten and will never be forgotten. Of course money is a necessary scarce thing we always in	TRCU1054.txt
47	some rape events and the victim woman may get pregnant. Of course it is an unwanted child. So, the forbidden abortio	TRCU1096.txt
48	to be said on this matter? Is it not possible! Of course it is! As a matter of fact in the	TRCU1099.txt
49	exactly. If so, is not he responsible for biology exams? Of course, he is. Furthermore, students know that cheating	TRCU1162.txt
50	short time how do they observe students, teachers so on. ? Of course \xFDt is impossible for them. Then they can not	TRME3015.txt
51	and if they do not love you, you feel lonely. Of course this is not the only reason for a person	TRCU1037.txt
52	to please men, do housework and look after the babies. Of course, this is not the thing women want. Both men	TRKE2010.txt
53	people should be very careful while choosing their spouses. Of course love is the main element for a marriage, but	TRCU1169.txt
54	have enough money, you could go where ever you want. Of course this is their positive aspects. They have negative	TRCU1020.txt
55	the other hand when it comes to practising they fail. Of course it isn\x92t like that in each department	TRCU1072.txt
56	know whether there is a solution to this or not. Of course experts know better then me. As you see from	TRCU1072.txt
57	man in the world. I do not agree with them. Of course, I know that all the people need money to	TRCU1121.txt
58	retically equipped individual open the doors of real world? Of course, he knows how to open the doors theoretically but	TRME3030.txt
59	the problems solution you can load your knowledge in it. Of course its language is different from human language, it	TRCU1011.txt
60	f legally but not appropriate according to the social laws. Of course the laws in our country provide the women equality	TRKE2039.txt

Concordance Hits 89

Hit	KWIC	File
61	on given in university years is unnecessary or unimportant. Of course we learn much. all lessons given in university are	TRCU1071.txt
62	ons. So the education becomes winning rather than learning. Of course the life has some competitive ways, but life throu	TRKE2014.txt
63	,no time they satisfied with the things in their hands. Of course a life without money can not be thought. But	TRCU1049.txt
64	will agree. Can we think or a life without money? Of course no. Nothing can be done without money. If you	TRCU1047.txt
65	nd people is getting more satisfied because of the sharing. Of course, one of the sexes is more skilled for some	TRCU1102.txt
66	coal or oil. Thus, our resources would last much longer. Of course these ones are not working yet but they are	TRCU1127.txt
67	also. And what are the ways to be rich quickly. Of course stealing or killing for money. People would rob, s	TRCU1047.txt
68	erent courses in the schedule and most them are obligatory. Of course in order to be a good English teacher, we	TRCU1061.txt
69	those advantages, I do not support to use this power. Of course, this power is a new sort of energy but	TRCU1133.txt
70	atom would be cheap, efficient, clean and above all, safe. Of course some protest compaigns occured for this project. T	TRCU1127.txt
71	s of murder events everyday because of unimportant reasons. Of course the reason is not only violence on TV but	TRCU1008.txt
72	to say that I don\x92t believe sex equality. Of course, there should be equality between them but in real	TRCU1038.txt
73	manner or lack of feelings ; it is meaningless to live. Of course hope should be exist all the times, we should	TRCU1078.txt
74	the poor standards of the country that they live in. Of course there should be solutions to these problems. First	TRME3014.txt
75	the books they are asked to memorize for an examination. Of course, students should provide the knowledge they need f	TRME3016.txt
76	want to ask 'Is it easy to establish a family? ' Of course no. So divorce mustn't also be so easy.	TRCU1165.txt
77	, beginning to disappear from our language and our country. Of course, in some parts of the country it is likely	TRCU1034.txt
78	same class. there are lack of materials in the schools. Of course in some schools all these are perfect but those	TRCU1071.txt
79	at university students should only learn practical lessons. Of course. we study our lessons therotically. and the area w	TRCU1130.txt
80	you what makes them to do such a bad thing? Of course, money. They lose their minds and start to behave	TRCU1121.txt
81	chers. Teachers do not think about other results of coping. Of course these things are not true for all teachers there	TRCU1007.txt
82	he want. to buy the things that his children want. Of course, he wants and I'm sure that the thought	TRCU1040.txt
83	ainly have interrogated whether their sex is better or not. Of course, today we all consider and try to find the	TRCU1113.txt
84	take part in any areas except for these for centuries. Of course there were exceptions but majority of women had no	TRKE2037.txt
85	ing, assisting suicide should be admitted in the same way. Of course, people who are depressed or who feel they are	TRCU1170.txt
86	live with them. They will suffer so much. And men. . . . Of course they will have some difficulties, too. They have g	TRCU1165.txt
87	my life if I am suffering from a fatal illness. Of course this will make my family and the other people	TRCU1134.txt
88	, will be killed as the people had been killed before. Of course people will take the shelter in the country and	TRCU1132.txt
89	? I can say that I can hear your answers, \x94 Of course , yes! \x94 And then you will answer me with	TRCU1161.txt

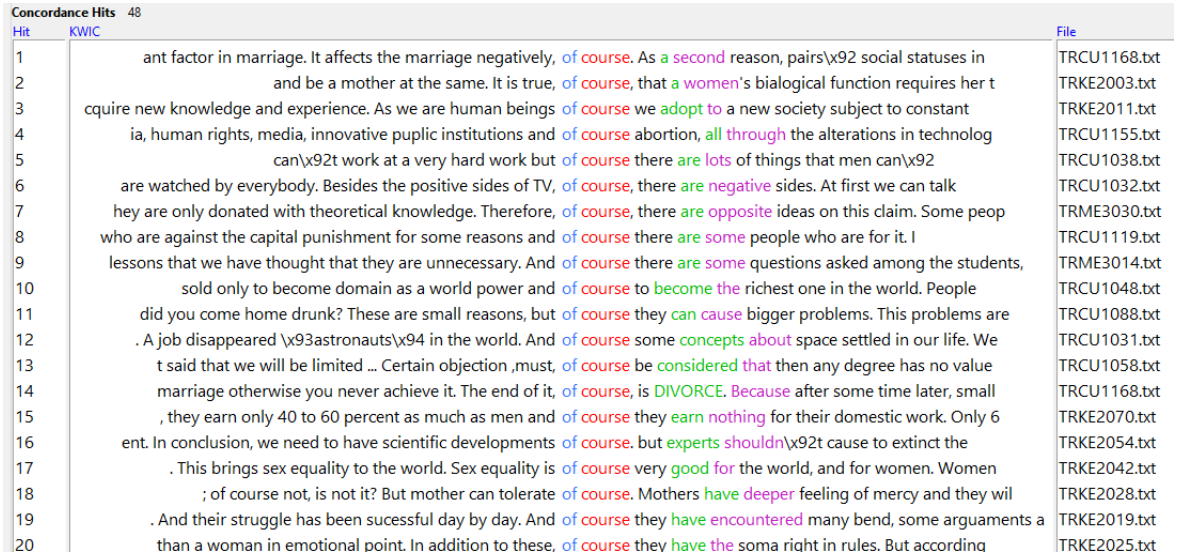
Search Term ☑ Words ☑ Case ☐ Regex

Search Window Size

Of course | Advanced | 60

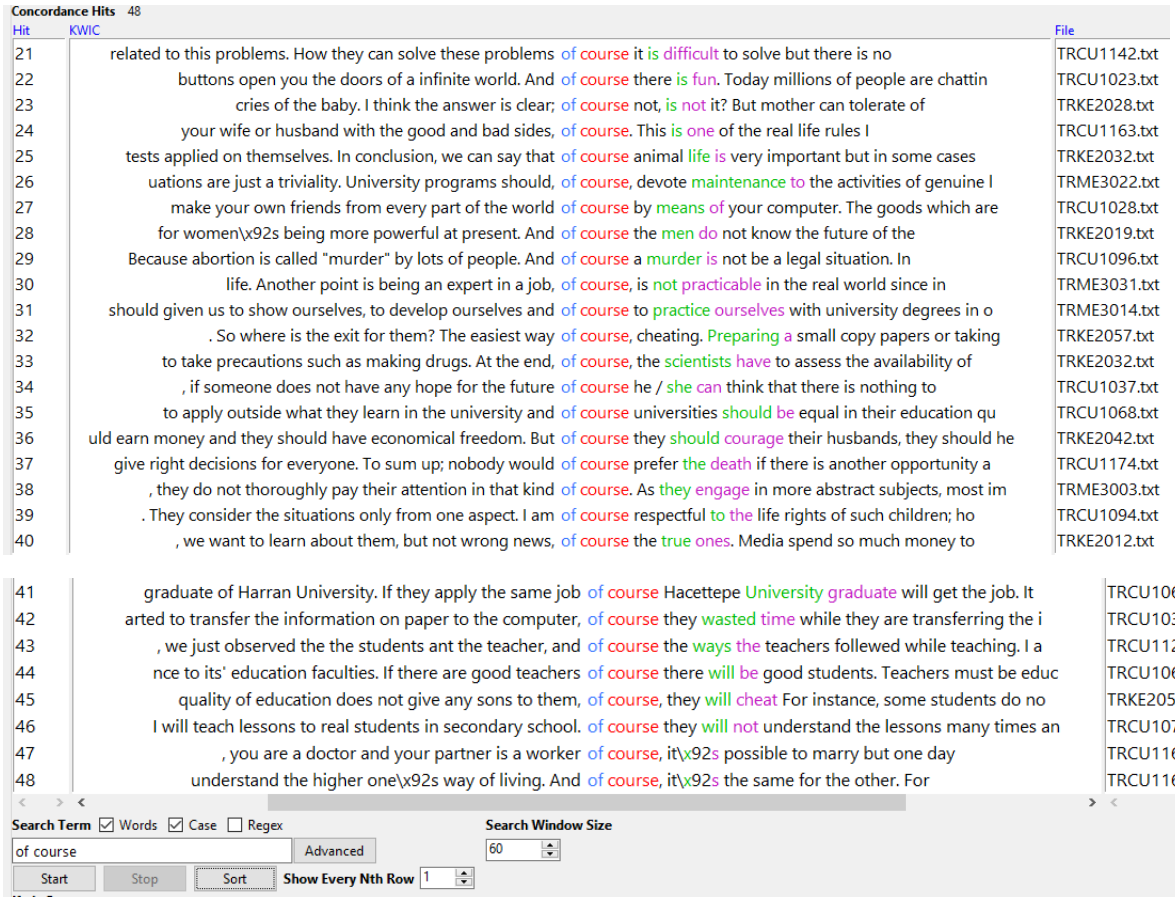
Start | Stop | Sort | Show Every Nth Row 1

Kwic Sort



Concordance Hits 48

Hit	KWIC	File
1	ant factor in marriage. It affects the marriage negatively, of course. As a second reason, pairs\x92 social statuses in	TRCU1168.txt
2	and be a mother at the same. It is true, of course, that a women's bialogical function requires her t	TRKE2003.txt
3	cquire new knowledge and experience. As we are human beings of course we adopt to a new society subject to constant	TRKE2011.txt
4	ia, human rights, media, innovative puplic institutions and of course abortion, all through the alterations in technolog	TRCU1155.txt
5	can\x92t work at a very hard work but of course there are lots of things that men can\x92	TRCU1038.txt
6	are watched by everybody. Besides the positive sides of TV, of course, there are negative sides. At first we can talk	TRCU1032.txt
7	hey are only donated with theoretical knowledge. Therefore, of course, there are opposite ideas on this claim. Some peop	TRME3030.txt
8	who are against the capital punishment for some reasons and of course there are some people who are for it. I	TRCU1119.txt
9	lessons that we have thought that they are unnecessary. And of course there are some questions asked among the students,	TRME3014.txt
10	sold only to become domain as a world power and of course to become the richest one in the world. People	TRCU1048.txt
11	did you come home drunk? These are small reasons, but of course they can cause bigger problems. This problems are	TRCU1088.txt
12	. A job disappeared \x93astronauts\x94 in the world. And of course some concepts about space settled in our life. We	TRCU1031.txt
13	t said that we will be limited ... Certain objection ,must, of course be considered that then any degree has no value	TRCU1058.txt
14	marriage otherwise you never achieve it. The end of it, of course, is DIVORCE. Because after some time later, small	TRCU1168.txt
15	, they earn only 40 to 60 percent as much as men and of course they earn nothing for their domestic work. Only 6	TRKE2070.txt
16	ent. In conclusion, we need to have scientific developments of course. but experts shouldn\x92t cause to extinct the	TRKE2054.txt
17	. This brings sex equality to the world. Sex equality is of course very good for the world, and for women. Women	TRKE2042.txt
18	; of course not, is not it? But mother can tolerate of course. Mothers have deeper feeling of mercy and they wil	TRKE2028.txt
19	. And their struggle has been sucessful day by day. And of course they have encountered many bend, some arguaments a	TRKE2019.txt
20	than a woman in emotional point. In addition to these, of course they have the soma right in rules. But according	TRKE2025.txt



Concordance Hits 48

Hit	KWIC	File
21	related to this problems. How they can solve these problems of course it is difficult to solve but there is no	TRCU1142.txt
22	buttons open you the doors of a infinite world. And of course there is fun. Today millions of people are chattin	TRCU1023.txt
23	cries of the baby. I think the answer is clear; of course not, is not it? But mother can tolerate of	TRKE2028.txt
24	your wife or husband with the good and bad sides, of course. This is one of the real life rules I	TRCU1163.txt
25	tests applied on themselves. In conclusion, we can say that of course animal life is very important but in some cases	TRKE2032.txt
26	uations are just a triviality. University programs should, of course, devote maintenance to the activities of genuine l	TRME3022.txt
27	make your own friends from every part of the world of course by means of your computer. The goods which are	TRCU1028.txt
28	for women\x92s being more powerful at present. And of course the men do not know the future of the	TRKE2019.txt
29	Because abortion is called "murder" by lots of people. And of course a murder is not be a legal situation. In	TRCU1096.txt
30	life. Another point is being an expert in a job, of course, is not practicable in the real world since in	TRME3031.txt
31	should given us to show ourselves, to develop ourselves and of course to practice ourselves with university degrees in o	TRME3014.txt
32	. So where is the exit for them? The easiest way of course, cheating. Preparing a small copy papers or taking	TRKE2057.txt
33	to take precautions such as making drugs. At the end, of course, the scientists have to assess the availability of	TRKE2032.txt
34	, if someone does not have any hope for the future of course he / she can think that there is nothing to	TRCU1037.txt
35	to apply outside what they learn in the university and of course universities should be equal in their education qu	TRCU1068.txt
36	uld earn money and they should have economical freedom. But of course they should courage their husbands, they should he	TRKE2042.txt
37	give right decisions for everyone. To sum up; nobody would of course prefer the death if there is another opportunity a	TRCU1174.txt
38	, they do not thoroughly pay their attention in that kind of course. As they engage in more abstract subjects, most im	TRME3003.txt
39	. They consider the situations only from one aspect. I am of course respectful to the life rights of such children; ho	TRCU1094.txt
40	, we want to learn about them, but not wrong news, of course the true ones. Media spend so much money to	TRKE2012.txt
41	graduate of Harran University. If they apply the same job of course Hacettepe University graduate will get the job. It	TRCU1068.txt
42	arted to transfer the information on paper to the computer, of course they wasted time while they are transferring the i	TRCU1032.txt
43	, we just observed the the students ant the teacher, and of course the ways the teachers followed while teaching. I a	TRCU1123.txt
44	nce to its' education faculties. If there are good teachers of course there will be good students. Teachers must be educ	TRCU1061.txt
45	quality of education does not give any sons to them, of course, they will cheat For instance, some students do no	TRKE2050.txt
46	I will teach lessons to real students in secondary school. of course they will not understand the lessons many times an	TRCU1071.txt
47	, you are a doctor and your partner is a worker of course, it\x92s possible to marry but one day	TRCU1168.txt
48	understand the higher one\x92s way of living. And of course, it\x92s the same for the other. For	TRCU1168.txt

Search Term ☑ Words ☑ Case ☐ Regex

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