

# The effects of essay topics on modal verb uses in L1 and L2 academic writing

Eli Hinkel

*Seattle University, United States*

Received 9 May 2006; received in revised form 25 November 2007; accepted 22 September 2008

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## Abstract

This study analyzes modal verb use in a small corpus of L1 and L2 writing (718 essays/201,601 words) on five topics written by speakers of English, Chinese, Korean, and Japanese. The results demonstrate that median frequency rates of modal verbs in L2 essays are significantly affected by the writing topic, depending on the writers' L1s and the contextual meanings and functions of obligation and necessity modals. On the whole, the frequency rates of possibility and ability modals appear to be less topic-dependent than obligation and necessity modals in the L2 writing of Chinese, Japanese, and Korean speakers. In many cases, writing prompts/topics are generally designed to be accessible to young adults of any cultural and linguistic background. However, broad-based topic accessibility also implies reliance on writers' personal experiences and socio-cultural background knowledge that can lead to a greater topic-effect on L2 writing and overuse of such language features as obligation and necessity modals. The study concludes that more personally distant topics elicit fewer disparities between L1 and L2 prose than topics in which the student writers are expected to draw on their personal experiences.

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*Keywords:* Modal verbs; Nonnative speakers of English; Second language writing; Writing assessment; Cultural values; Topic effect; Written corpus

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## 1. Introduction

Since at least the 1980s, in the U.S., the direct assessment of writing has gained popularity in colleges and universities, as well as school districts, and is more prevalent in standardized tests, such as the TOEFL and Michigan English Language Assessment Battery (MELAB), and more recently, SAT. During the past several decades, a good deal of research has been carried out to identify the effects of writing prompts and topics on the quality of student writing. A majority of these studies have analyzed the ratings of student essays or scores assigned by trained raters and teachers. The published reports deal with similarities or differences in rater evaluations of student compositions written on particular topics. To date, most such investigations have predominantly focused on the writing of native speakers of English (NSs). In addition, however, a small number of publications have addressed the influence of topics on the scores assigned to L2 writing by essay evaluators.

Although most studies of the effects of topics and prompts on L2 writing analyze reader-assigned ratings, so far, only a handful of publications have emerged that address the uses of syntactic and lexical features in L2 essays on different topics. It is important to note, however, that just as the analyses of essay ratings say little about the uses of

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*E-mail address:* [elihinkel@yahoo.com](mailto:elihinkel@yahoo.com).

language in L2 writing, examinations of syntactic and lexical properties of L2 text provide a limited indication of the writing quality. From this perspective, examinations of the influence of topics and prompts on reader ratings and on the usage of linguistic features in essay texts represent two distinct research venues.

The studies of topic effect on L1 and L2 writing diverge considerably in their research methodologies, goals, and findings, resulting in a substantial, although somewhat disparate, body of work. Among the many publications on the influence of the topic on student writing, the following research venues have been particularly prominent: (1) rater evaluations of L1 university essays on different topics, (2) the consistency and reliability of ratings assigned to L2 writing on standardized tests, and (3) differences and similarities in the uses of a few specific linguistic features in L1 and L2 writing. This introduction will take a look at a number of relevant publications thematically in order to present a coherent picture of what is currently known about topic effects on L1 and L2 writing.

### *1.1. Topic effect on L1 essay evaluations*

By far most investigations of the effect of particular topics on essay ratings have been carried out by individual researchers in their respective colleges and universities in connection with institutional assessments of students' writing quality. A number of large-scale studies with hundreds or even thousands of essays examine the impact of such characteristics of writing prompts as specific wording, informational content, and amount of detail (e.g. a phrase or a full paragraph), and topic personalization or depersonalization (e.g. Brossell, 1983; Brossell and Ash, 1984; Freedman, 1981; Hoetker, 1982; Hoetker and Brossell, 1989). Practically all these studies report no significant differences in the scores assigned to essays written to prompts with varied wording, a minimal or an expanded amount of information, or varied extent of personalization. In an influential overview of the research published between 1975 and 1990 in direct assessment of NS L1 writing, Huot (1990) concludes that research has not established a clear-cut relationship between the type of written discourse produced for assessment and writing quality.

On the other hand, Brown et al. (1991) report statistically significant differences in the ratings of essays written in response to topics based on readings with varied levels of complexity. Unfortunately, these authors do not provide any information on the topics of readings or the specifics of the essay prompts to explain the reasons for the differences in the ratings. Based on the study results, Brown et al. (1991) emphasize that it is not possible to tell “whether the difference resides primarily with writers or readers,” or how, in fact, prompts make a difference in the quality of student writing (p. 547). The authors comment that “it is quite possible that we will never be able to map variables in ways that will allow us to understand fully how prompts affect writers” or readers.

In addition to the scoring of essays in institutional assessments, significant topic effects have also been identified in the scoring of L1 writing on the standardized tests administered by the College Entrance Examination Board (Pomplun et al., 1992). A detailed study of essay prompts on the English Composition Achievement Test showed different levels of difficulty and cultural bias in essay topics. For example, of the seven topics administered by the College Board, two were shown to disfavor ethnic Asian and Hispanic writers. The authors conclude that “the topic of heroes and values may have favored groups more familiar with cultural values” (p. 9), as well as “the combination of an abstract topic with an ironic tone may have caused differential performance for those with lower language skills” (p. 17).

To address the issues of score reliability in large scale writing assessment, Breland et al. (2004) carried out an examination of the scores of SAT II essays written by a total of 2400 students in four ethnic groups: African Americans, Asian Americans, Hispanics, and whites. One third of the entire cohort consisted of ESL writers, but unfortunately, the report does not provide the linguistic breakdown for this group. The study of essay scores found that the essays of African American students written on one of the four prompts received significantly higher scores than those on the other prompts. On the other hand, ESL writers “performed worst on this prompt” (p. 6). Regrettably, the researchers were not able to identify the reasons for these disparities in the essay scores: “it is not clear why the African American group performed better on prompt A1 than on the other three prompts.” According to Breland et al., because there was no indication that African American students who received this particular prompt were “of higher ability” and “because this anomaly occurred within both genders of African American students, it would not appear to be due to sampling error” (p. 8).

### 1.2. Topic effect on L2 essay scores

In addition to the issues of essay topics in L1 writing, research has also delved into the effects of topic on L2 writing scores on such high stakes tests as the TOEFL, MELAB, and SAT. In the late 1980s and early 1990s, in the fledgling direct assessment of L2 writing, investigations were also concerned with the effects of prompts and topics on the quality and ratings of essays. Similar to the research in the assessment of NS writing, Carlson et al. (1985) investigated a relationship between TOEFL scores of applicants to U.S. universities and the rating of their GRE essays. These authors report that the ratings correlated highly across different topic types and that the variations in topics and the wording of prompts did not lead to measurable differences in the raters' evaluations of L2 writing performance. Carlson et al. (1985) note, however, that the differences in essay ratings do not necessarily imply that topics and prompts elicited a similar quality of writing and that the high degree of reader reliability did not mean that readers evaluated the same aspects of writing in different essays.

The results of another large-scale study with approximately 80,000 Test of Written English (TWE) essays confirm that it is often impossible to determine how evaluations of L2 writing can be influenced by the specifics of prompts and topics (Golub-Smith et al., 1993). The TWE investigation found, for example, that essays on prompts with explicit comparisons received significantly higher scores than those on prompts with implicit comparisons. Also, in the case of certain types of prompts, such as analyses of charts and graphs, the disparities among reader ratings were significantly higher for essays written by female L2 writers than among the ratings of essays produced by males.

Along these lines, Hamp-Lyons (1991a) takes a closer look at the many issues that continue to confound L2 writing assessment. She points out that little is known specifically about how raters assess the quality of L2 essays written on different topics, what makes some topics and prompt wordings more difficult for L2 writers, or how nonnative speakers of English (NNSs) evaluate a prompt and its elements. In a follow-up study, Hamp-Lyons and Mathias (1994) examined writing scores of over 8000 MELAB essays, written on 64 prompts, classified by type from expository/private to argumentative/public. The goal of the investigation was to identify the topic types that were likely to result in higher or lower essay ratings. The trained expert raters who took part in the study anticipated that the essays on expository/private topics would be more accessible to L2 writers and, for this reason, would receive higher scores than those written on argumentative/public topics. A subsequent statistical analysis of the actual scores revealed, however, that the opposite relationship existed between the scores and essay topics: in practically all cases, L2 essays on personal topics received significantly lower scores than those written on public topics. Hamp-Lyons and Mathias hypothesized that, because many L2 writers set out to pursue academic careers, they have less exposure to personal than academic topics and may not be adept at using personal experience and knowledge as evidence.

More recently, Educational Testing Service (ETS) has published a research report (Lee et al., 2004) that compares the scores of TWE essays on 81 prompts, written by over 200,000 TOEFL takers. These L2 writers consisted of Europeans, who were speakers of French, German, and Spanish, and East Asians, who were speakers of Chinese, Japanese, and Korean. The comparisons of scores showed that 27 of the 81 prompts, i.e. one third of all TWE topics administered between 1998 and 2000, were significantly biased in favor of one group or the other, even when the statistical analyses controlled for the writers' language proficiencies. Unfortunately, the report does not reveal practically any information about the actual essay topics or the possible sources of the prompt bias.

### 1.3. Topic effect on features of L2 text

Virtually all studies of topic influence on L2 language use have found that writing on different topics elicits markedly divergent features of text. One of the first such analyses was Carlson's (1988) study of standardized test essays written by NSs and speakers of Chinese and Spanish on the topics of space exploration and farming. The essays on space exploration written by Chinese speakers contained markedly more *be*-verbs but significantly fewer prepositions and passive voice constructions than did the essays of English or Spanish speakers. On the other hand, the writing of Spanish speakers included more adjectives than did the essays of Chinese and English speakers. On the topic of farming, the fewest occurrences of the passive voice were noted in the writing of Spanish speakers, but more *be*-verbs, passives, and adjectives were found in NS texts. In other analyses of topic effects on L2 prose,

significant differences have been noted between L1 and L2 frequency rates of various syntactic and lexical constructions, such as several types of nouns and verbs, pronouns, and conjunctions (Park, 1988; Reid, 1990, 1992).

In the 1980s and 1990s, with the advent of research in L2 learner corpora, a small number of reports were published to address the effects of topics on NS and NNS uses of modal verbs. The interest of researchers in modal verbs has been motivated by their frequency, prominence, and complexity in English and the fact that they often represent a difficult area for learners (e.g. Biber et al., 2002; Holmes, 1988; Ringbom, 1998). Among other investigations, for example, Hinkel (1995, 2002) showed that, in L2 writing, a preponderance of modal verb uses can be culture- and topic-dependent.

Other researchers have similarly emphasized that in L2 writing, modal verb uses are also affected by contexts and different systems of cultural values and norms, as well as expectations of discourse and persuasion (e.g. Byrd and Reid, 1998; Holmes, 1988). For example, Basham and Kwachka (1989, 1991) and Kwachka and Basham (1990) investigated the uses and functions of such modal verbs as *can*, *could*, *may*, and *should* in the academic writing of Eskimo and Athabaskan students, compared to those encountered in the writing of other first-year students. Based on the findings of their four-year research project, Basham and Kwachka (1991, p. 44) concluded that, in academic writing in undergraduate courses, Native Alaskan students consistently “extended the standard functions of modals to encode their own cultural values.” According to these researchers, “the problem for Eskimo students in dealing with university culture is determining the extent to which their assumptions and experiences are sufficiently different from those of the SAE culture,” specifically in the contexts of family relationships and responsibilities, personal autonomy and accountability, and accepted behavioral norms (Basham and Kwachka, 1989, p. 137). The authors indicate that, in the case of ethnic and cultural minorities, as well as L2 writers, instruction in academic writing and standard English needs to take into account L1 socio-cultural influences, social values, and pragmatic perspectives.

In light of the research findings to date, it seems important to establish whether L1 and L2 writing on identical topics elicits similar or divergent frequency rates of modal verbs, with an overarching goal of informing and refining topic and prompt development. The overarching purpose of this study is to examine NS and NNS uses of possibility/ability and obligation/necessity modal verbs in a small corpus of L1 and L2 academic essays (718 essays/201,601 words). The L1 and L2 essays included in the corpus were written in response to five prompts in five different topic areas, thus permitting valid comparisons of frequency rates and identification of possible topic effects on L1 and L2 frequency rates of modal verbs.

In the past several decades, similar to the research on topic effects on L1 and L2 writing, linguistic examinations and empirical studies of modal verbs have been numerous. Today, much is known about the meanings, uses, and functions of modal verbs in discourse (e.g. Butler, 1990; Nuyts, 2006; Traugott, 2006). For this reason, a brief overview of modal verb classifications, the impact of language change on their meanings and uses, and their pragmatic properties and functions in written discourse seems instrumental for an examination of the contextual roles the modals play in NS and NNs academic writing.

## 2. Classifications, language change, and the pragmatic effects of modals in written text

The large body of research into the meanings and uses of English modal verbs reflects the complexity of their grammatical, pragmatic, and contextual functions. Such influential publications as Coates (1983, 1995), Huebner (1983), Hoye (1997), Leech (2003, 2005), and Palmer (1986, 1990, 2001) are largely concerned with linguistic analyses of modal verbs in spoken and written discourse. Many detailed studies of modal verbs have led to numerous descriptions, classifications, and re-classifications of their semantic, syntactic, or pragmatic properties. In his review of the burgeoning research on modals, Hoye (2005a) refers to Bolinger’s (1977, p. 554) remark on the “endless flow of terminology” that has continued to pervade the study of modal verbs, as well as other markers of modality.

### 2.1. Classifications of modals in research and reference grammars

Typically, research and reference grammars identify central (or core or principal or nuclear) modal verbs (also called “modal auxiliaries,” “verbal modality markers,” or simply “modals”) that are used to express modality, and

these usually (but certainly not always) include *can*, *could*, *may*, *might*, *shall*, *should*, *will*, *would*, and *must*. In addition, depending on the classification system, there are marginal modals, such as *need (to)*, *have(got) to*, or *ought to*. These are also called semi-modals, semi-auxiliaries, quasi-modals, periphrastic modals, or, occasionally, modal idioms or fixed idiomatic modals. To further complicate matters, in the analyses of corpus-based real-life data, researchers have found that “the boundary between modals and lexical verbs taking infinitive complementation is in some cases unclear” (Biber et al., 1999, p. 483; see also Hoye (1997) for a thorough discussion).

The traditional descriptions of modals classify their meanings as root (or deontic<sup>1</sup> or agent-oriented or extrinsic) and epistemic (or intrinsic), where the former are associated with “an element of will” and “action, by others or by the speaker himself,” and the latter with “belief, knowledge, truth . . . in relation to proposition” (Palmer, 1986, p. 96) or “speaker stance” (Biber et al., 1999, p. 485). In contemporary analyses, however, despite the numerous differences in terminology and the classifications of modals in semantic and pragmatic categories, there is largely a consensus among researchers that modal meanings are often indeterminate, vague, and subjective to an extent that, “the meanings of modals cannot be described in terms of wholly discrete categories” (Palmer, 1990, p. 21). Quirk et al. (1985, pp. 138–139) describe the meanings of modals as gradient, scalar, ambivalent, and “blended.” Similarly, Coates (1983) comments that the prototypical meanings of modals are often merged, “culturally stereotyped” and “continually graded” (pp. 13–14). In her subsequent examination (Coates, 1995, p. 146), she also refers to “blurring” and “confusion” about the traditional meaning distinctions of modals in research. More recently, Palmer (2001) has postulated “realis” or “irrealis,” as well as propositional and event modality in place of the traditional epistemic-deontic division because, as he noted a decade earlier, “this is strictly inaccurate since most of the modals are used in both senses, and are not themselves either epistemic or deontic” (Palmer, 1990, p. 8).

In recent reference grammars and corpus-based research in uses of English, an extensive array of classifications has been developed to account for indeterminacy, gradience, subjectivity, and dialectal variations in modal meanings (see, for example, Biber et al. (1999), Coates (1983, 1995), Collins (1991), Leech (2003, 2005); Huddleston and Pullum (2002), or Smith (2003)). For instance, based on their gradient and scalar strength of meaning, Huddleston and Pullum (2002, pp. 175–177) classify modal verbs as “strong,” “medium,” and “weak” (see also Nuyts, 2006, for a discussion of “strong” and “weak” modals).

On the other hand, Leech (2005, p. 88) refers to “a logical and a practical (or pragmatic) element” in the meanings of modals “in terms of logical notions,” such as possibility, ability, necessity, and obligation. Biber et al. (1999, p. 485) describe the meanings of modal verbs in spoken and written English as intrinsic and extrinsic. These authors similarly classify the modals into “three major categories according to their main meanings”: permission/possibility/ability, obligation/necessity, and volition/prediction. According to Biber et al., the three classifications “show the clearest contrasts” among the meanings of modals (p. 491) and account for their actual meanings, as they are encountered in their corpus of real-life language usage (see also Hoye’s (2005a, p. 1298) summation of the current research on modality as the study of “the linguistic expression of . . . how the modal concepts of possibility, probability, certainty, and necessity are actually deployed in everyday human thought and talk”).

## 2.2. Socio-linguistic change in modal uses and meanings

In part, the reasons that the terminology and classification principles of modals have continued to evolve is that, in very real terms, the usage frequencies, meanings, and discourse functions have of modals have been undergoing a process of socio-linguistic change (Biber et al., 1999; Coates, 1995; Facchinetti et al., 2003; Hoye, 2005a,b; Huddleston and Pullum, 2002; Leech, 1971, 2003; Nuyts, 2006). In his overview of English language corpora and their findings on modal verbs across dialects and during the thirty year span between 1962 and 1992, Leech (2003) identifies several distinct trends that are likely to affect the future of research on modality. According to his comparisons of modal verb data in four spoken and written corpora of American and British English, the frequency of the core modal uses has been declining, but at different rates. Specifically, the frequencies of *will* and *can* have remained relatively

<sup>1</sup> In his detailed historic overview of the modal verb typology and terminology, de Haan (2006) points out that the term *deontic* adopted by logicians, such as von Wright, in the 1950s has been gradually replaced by the term *root* in linguistics and language studies since the 1960s. According to de Haan, the term *deontic modal* is still occasionally used in reference to the meanings of obligations exclusively. However, the key difference between the terms *deontic* and *root* modals is that the latter term refers to the meanings of both obligation and ability identified in the discourse pragmatic functions of various modals. These include, for example, *must* and *can*, as in *John must learn how to use the new software* (see also Coates (1983) for an extensive discussion).

stable in both dialects; *may*, *must*, *ought to* and *need* have declined sharply; there is “a tendency for modals to become ‘more monosemous’” where “one sense tends to dominate, in frequency over others”; and in general terms, “semi-modal usage is increasing,” although some individual semi-modals, such as *ought to*, are declining (pp. 234–235). Leech also reports that “the obligational sense of *must*” and *may* with the meaning of permission show a strongly declining usage, while the frequencies of *should* have been steadily rising (p. 237).

According to Leech (2003), in the socio-linguistic change associated specifically with modal verbs, the prevailing trends toward colloquialization and Americanization in their frequencies and meanings are likely to continue for at least the foreseeable future. He comments that the decline in the uses of *must* and a shift to *need to* and *should*, as well as a reduced frequency of *may* in favor of *can*, is possibly “associated with a tendency to suppress or avoid overt claims to power and authority by the speaker or writer,” a tendency that “may be called ‘democratization’” (p. 237). In his earlier exploration of modal verb uses, Collins (1991) similarly identifies the divergent and variable meanings assigned to “modals of obligation and necessity,” such as “*must*, *should*, *ought*, *need*, *have to*, *have got to*,” in both spoken and written corpora of Australian, British, and American dialects of English. He explains that the root meanings of *must* did not occur at all in spoken “democratic” (p. 154) Australian English, while the uses of *need* expressed exclusively root meanings, but never epistemic.

### 2.3. The pragmatic properties of modals in academic writing and instruction

The pragmatic meanings and functions of possibility/ability,<sup>2</sup> and obligation/necessity modals have received a great deal of attention in research. Comparatively fewer studies have addressed the uses of these modals specifically in student L1 or L2 writing, with a likely exception of their uses as hedges, qualifiers, or markers of (un)certainly (e.g. Hyland, 1996; Hyland and Milton, 1997). It is necessary to note at the outset, however, that this brief overview of modal verb meanings is not intended to be a comprehensive examination. The outline of the pragmatic and discourse functions of modals here focuses narrowly on their discourse-pragmatic functions in student L1 and L2 academic writing and instruction, with a practical orientation toward the discussion in this study.

#### 2.3.1. Possibility and ability modals in academic writing

Speaking generally, the uses of possibility and ability modals, such as *can*, *may*, *might*, *could*, and *to be able to*<sup>3</sup> in written academic discourse, contribute to the broad range of syntactic and lexical means of hedging. These verbs have a range of textual and pragmatic functions, and together with other linguistic elements, modals often serve to mark evidentiality, possibility and likelihood, strategic vagueness, and politeness in discourse (Chafe, 1986; Channell, 1994; Markkanen and Schroeder, 1997; Perkins, 1983). As evidentials, possibility/ability modals refer to “matters of knowledge or belief” and serve as a basis for writers to “express their judgments about states of affairs, events, and actions” (Hoye, 1997, p. 42). In this sense, according to Quirk et al. (1985, p. 219), possibility/ability modals represent gradient markers of possibility and “tend to have overlapping meanings” that can be interchangeable in some contexts. In discourse, these verbs can qualify the meaning of the sentence and reflect the speaker’s/ writer’s “judgment of the likelihood of the proposition it expresses being true.”

In formal academic prose, the concept of vagueness is also closely associated with the uses of modals, as well as other means of hedging, and typically L1 and L2 writers are expected to master “appropriate use of precision and vagueness” and “acquire judgment of where” and how to be “appropriately” imprecise (Channell, 1994, p. 21). Markkanen and Schroeder (1997) note that, from a perspective of cross-cultural pragmatics, L2 writers need to become familiar with how to employ modals to project politeness in written discourse. How to be imprecise and appear polite in formal writing is delineated by culturally and “socially determined” conventions, and “the author and the reader [may] not share the same norms and expectations” (p. 10). To date, much research in written discourse and text has demonstrated that the culturally-determined uses of modals as hedges and politeness devices considered requisite in academic writing have to be persistently taught in L2 writing instruction (e.g. Greenbaum and Quirk, 1990; Leech, 2005; Leech and Svartvik, 2003; Mauranen, 1997).

<sup>2</sup> Modal verbs that have the meaning of permission are not discussed in this paper because, based on linguistic examinations (Huddleston, 1971) and the findings of corpus analyses, “permission is rarely expressed in academic writing” (Biber et al., 1999, p. 491).

<sup>3</sup> Palmer (1990) points out that *be able to* always indicates ability that is subject-oriented and is frequently used as an implicative case of *can*.

### 2.3.2. Obligation and necessity modals in academic writing

Unlike the pragmatic functions and uses of possibility and ability modals, the employment of obligation/necessity modals has received comparatively less attention in academic writing research. One important reason for this disparity lies in the fact that the latter are simply not as prevalent in formal academic prose. In fact, according to Biber et al. (1999), the overall frequency of obligation and necessity modals, such as *must*, *should*, *ought to*, *need (to)*, and *have to* in academic writing is around half of that of possibility and ability modals.

In general terms, the uses of obligation/necessity modals convey the meaning of obligation and compulsion or act, “perhaps through a sense of duty, through self-discipline, or merely through the sense of expediency” (Leech, 2005, p. 94). Additionally, according to Leech (2005), these modals refer to logical (that is, inferential and reasoned) necessity, based on logical deduction (as in *the heater should/has to/ought to work now*). Sweetser (1990) explains that obligation and necessity modals typically refer to the necessity of actions and events and “real-world obligations” that can be social, moral, physical, psychological, or emotional and “that compel one to act” (pp. 49–50), while “*need* also refers to the necessity for some specific action or object”<sup>4</sup> (p. 54). Sweetser also comments that *have to*, *need to*, and *ought to* “resemble *must* in denoting obligation and necessity” that can be externally or internally imposed because “anything that represents a force can impose the relevant modality” (pp. 66–67). In her view, the differences in the meanings of these verbs lie largely in their gradient “strength” (p. 53). Many researchers have found, however, that, in context, the concepts entailed in the meanings of obligation and necessity may be difficult to separate (e.g. Coates, 1983; Perkins, 1983; Leech, 2005; Smith, 2003). In written academic discourse, obligation and necessity modals have several pragmatic functions. Based on this examination of an extensive corpus of written academic text, Meyer (1997) reports that they can be used to strengthen the writer’s claim and impart an element of objectivity (as in *education must/should/has to be reformed*).

Like Leech (2003) (see the discussion earlier in this paper), Smith (2003) traces the changes in the frequencies of obligation and necessity modals during the thirty-year period between 1962 and 1992 in the data from three language corpora of British and American English. Smith (2003) reports that, in academic prose and other written genres in both dialects, the frequencies of *have to* have fallen slightly, and the usage of *must* has undergone a dramatic decline, which, however, has been greatly outpaced by the rise of *need to*. The author explains that the socio-linguistic changes in the uses of obligation/necessity markers are likely outcomes of broad-based socio-linguistic trends. A changing society that places an increasing value on “at least the appearance of equality of power” and the informality have led to the rise of linguistic features associated with colloquial speech, informal discourse, and the democratization of both written and spoken language, where “authoritarian-sounding markers” are avoided (p. 259).

### 2.3.3. Modals in student writing guides and grammar instruction

Although examinations of modals in research “remain one of the most pervasive . . . areas” of linguistic inquiry (Hoye, 1997, p. 1), it is in fact surprising that in the teaching of academic writing in English little is said about the discourse and textual functions of these common language features. A brief synopsis of sections of modal verbs in a few instructional texts for L1 and L2 writers alike points to a prominent dichotomy in the treatment of these markers in research and writing pedagogy. In the teaching of academic writing, the complex and culturally-bound functions of modals in written discourse are usually not discussed, save a cursory nod. For example, students are typically instructed to employ modal verbs “appropriately,” “indicate doubt and certainty” by means of *can*, *could*, *may*, *might*, make their statements “more polite” and “less assertive,” use *can*, *may*, *should*, and avoid *must* (Lunsford, 2005, pp. 506–507). Given that modals can be difficult for L2 writers to employ according to the “conventional” academic style (p. 464), practically every writing guide includes a short section, usually between two paragraphs and two pages with similar vague instructions and a couple of exercises (Swales and Feak, 2000, 2004; Axelrod and Cooper, 2007). For example, Smoke (2005) and Raimes (2004) comment that in university-level writing, the line between the meanings of possibility, necessity, and prediction modals can be blurred, and hence students should use and edit these with care.

On the other hand, pedagogical grammars for L2 learners are generally more thorough and detailed than the writing guides, and in some cases, grammar instruction in L2 modal verb meanings and functions incorporates the findings of current research. The prototypical descriptions of modals in student grammars, however, are frequently based on those

<sup>4</sup> According to Leech (2004, p. 118), *need* and *need to* “scarcely differ in effect on many occasions,” while “in other contexts one can draw a clear distinction between them.”

originally developed in Quirk et al. (1985) and subsequently adapted for ESL/EFL teaching (Greenbaum and Quirk, 1990; Leech and Svartvik, 2003).

More recently, based on the findings of the corpus analyses carried out by Biber et al. (1999), Biber et al. (2002) also developed an instructional text “for advanced students of English and their teachers” to illuminate “how the language is used for communication” (pp. 2–3), including the usage of modals. Like the reference grammar (Biber et al., 1999), the student text also groups modals into three categories based on their meanings: permission/ability, obligation/necessity, and volition/prediction where “each modal can have two different types of meaning: “personal or logical,” also called “intrinsic and extrinsic” (p. 176). A personal modal meaning “refers to control of actions and events by human or other agents” and encompasses personal permission, obligation, and volition or intention. A logical meaning refers to “the logical states of states or events,” and it “usually refers to levels of certainty, likelihood, or logical necessity.” The text provides three or four examples to illustrate these meanings of modals, although it is likely that such descriptions of modal meanings are more suitable for teachers than their students.

In regard to the uses of modals in academic writing specifically, Biber et al. (2002) explain that “*could*, *may*, and *might* are used almost exclusively to mark logical possibility,” and *can* additionally expresses ability, although “it is often ambiguous with a logical possibility meaning” (p. 179). Obligation/necessity modals “express personal obligation . . . even though writers of academic prose usually suppress their own personal feelings in their writing, they also use these modals to express personal obligation rather than logical necessity” (p. 180).

### 3. The study

#### 3.1. The students

The essays analyzed in this study were written by 718 students during 50-min placement and diagnostic tests, administered to NS and NNS students alike in four U.S. universities. All students were admitted to various degree programs and were enrolled in mainstream classes.

The NNSs had achieved a relatively high level of English language proficiency, and their TOEFL scores ranged from 563 to 617, with a mean of 597. Of the 523 NNS students, 89% were holders of U.S. associate degrees earned in various community colleges, and were admitted as transfers at the junior level in four-year comprehensive universities. These individuals had received at least 3 years of ESL and composition instruction in the U.S., because practically all had completed at least a year in academic intensive programs, prior to receiving 2 years of instruction in community colleges. Other L2 writers included 5% first-year students, who were graduates of U.S. high schools, and 8% graduate students, who had similarly completed their ESL studies in U.S. EAP programs. These students had resided in English-speaking environments for periods between 19 and 28 months.

Of the 523 NNS students, 186 were speakers of Chinese, 173 of Japanese, and 164 of Korean. The 195 NS students were enrolled in required first-year composition classes and included graduates of U.S. high schools on the east and west coasts and the Midwest.

#### 3.2. The essays

The prompts for NS and NNS essays were identical in every way (see below). The essay corpus simply consists of placement and diagnostic tests routinely administered to all students, and for this reason, no attempt was made to differentiate NSs or NNSs by gender or age. All students were given one class period (50 min) to write the essays.

The students wrote their essays in response to assigned prompts that were modeled on those found on standardized tests and common in direct writing assessment carried out by the College Board and ETS, such as SAT, TWE, and MELAB, as well as many composition/writing programs (see, for example, Cooper and Odell, 1999; White et al., 1996; Wolcott and Legg, 1998). In such prompts, as in those in this study, the intention is to elicit writing samples by providing context based on experiences typical of most young adults beginning their studies in U.S. universities. All essay prompts were designed to elicit essays in the rhetorical mode of argument/exposition with the purpose of convincing/informing an unspecified general audience. Typically, such experience-centered prompts elicit essays and statements of opinion and belief and are not lend themselves to fact-based argumentation.

In keeping with the practice established by ETS for TWE administrations, the essays were written in response to one assigned prompt of five prompts employed in rotation:



- (1) Some people believe that when parents make their children's lives too easy, they can actually harm their children instead. Explain your views on this issue. Use detailed reasons and examples.
- (2) Many people believe that grades do not encourage learning. Do you agree or disagree with this opinion? Be sure to explain your answer using specific reasons and examples.
- (3) Some people choose their major field of study based on their personal interests and are less concerned about future employment possibilities. Others choose majors in fields with a large number of jobs and options for employment. What position do you support? Use detailed reasons and examples.
- (4) Some people learn best when a classroom lesson is presented in a serious, formal manner. Others prefer a lesson that is enjoyable and entertaining. Explain your views on this issue. Use detailed reasons and examples.
- (5) Some of the wealthiest, most famous people in the world are musicians, singers, movies stars, and athletes. Do you think these performers and athletes deserve high salaries such as millions of dollars every year? Support your position with detailed reasons and examples.

Of the total, 147 essays were written on Prompt 1, 143 on Prompt 2, 156 on Prompt 3, 146 on Prompt 4, and 126 on Prompt 5. The distribution of essays among the five prompts were comparable for all student groups, as presented in Table 1.

### 3.3. Data analysis

The modal verbs in the L1 and L2 essays were counted separately by semantic type to obtain median frequency rates of use in the essays for each group of speakers: NSs, Chinese, Japanese, and Korean. To determine whether NS and NNS students similarly employed modals of possibility and ability, and obligation and necessity in their writing, the number of words in each of the 718 essays was counted, followed by a count of the occurrences of each modal type. For example, NS essay #1 for Prompt 1 consisted of 250 words and included one obligation modal (*should*) and four total possibility/ability modals (*can* and *may*). To determine the percentage rate of modals used in the essay, a computation was performed, i.e.  $1/250 = 0.4\%$ , and then repeated for the four occurrences of possibility/ability modals in the essay ( $4/250 = 1.6\%$ ). The computations were performed separately for possibility and ability, and obligation and necessity modals in each of the NS and NNS essays.<sup>5</sup>

Because the number of essays written to each prompt by each group of students was comparable, the analysis of modal verb uses in students' texts was carried out separately for essays written on each of the five topics: Parents, Grades, Major, Manner, and Wealth. Non-parametric statistical comparisons of the NS and NNS data were employed because the majority of the percentage rates were not normally distributed. The Mann–Whitney *U* test was selected as a conservative measure of differences between the NS and NNS data. The Mann–Whitney *U* test compares two sets of data based on their ranks below and above the median (e.g. NS percentage rates of obligation and necessity modals in essays written to the same prompt and those of Chinese speakers, then those of NS and Japanese speakers, then NS and Korean speakers, etc.).

## 4. Results and discussion

### 4.1. Possibility and ability modals in L1 and L2 student writing

The results of the analysis of possibility and ability modals in essays written on the five topics are presented in Table 2. The data demonstrate that, in general terms, the median frequency rates of these modals were similar among most groups of L1 and L2 essays. The only two exceptions are noted in the median frequency rates in the essays of Japanese speakers on the topics Parents and Major (median rates of 1.75 and 2.00, respectively), which significantly exceeded those in NS writing (1.03 and 1.13, respectively). It is important to note, however, the Japanese writers' high rates of possibility and ability modals in Parents and Major essays were largely due to the preponderance of *can* in the present tense and *could* in the past tense contexts.

<sup>5</sup> Quantitative analyses of corpora, unlike qualitative analyses, rely on counts of specific linguistic features as they occur in text, e.g. such analyses are based on the frequencies with which particular modals occur in NS and NNS student essays. Corpus analyses typically deal thousands of specific language elements encountered in real-life data, and they do not permit detailed examinations of individual occurrences of specific linguistic features.

Table 1  
Distribution of student essays by prompt.

L1 group	Prompt 1 parents	Prompt 2 grades	Prompt 3 major	Prompt 4 manner	Prompt 5 wealth	Mean ( $\bar{X}$ ) essay length
NSs	44	36	39	40	36	297
Chinese	39	39	39	39	30	297
Japanese	32	35	42	34	30	265
Korean	32	33	36	33	30	260
Totals	148	145	159	150	131	

According to Maynard (1993), Japanese discourse modality is fundamentally based on several principles, all of which entail deference and overt markers of pragmatic possibility, potentiality, and ambiguity conveyed by means of particles and qualifiers that are an intrinsic part of Japanese discourse. Maynard comments that these expressions combined with markers of hesitation “are reflections of the Japanese desire” for the social acceptance of one’s opinions, sensitivity to the opinions of others, and interpersonal caution (p. 263). In Maynard’s view, lexical markers such as “*I think, I suppose, can, probably, possible*” have the discourse goal of indicating “the lack of speaker’s confidence in the truth of the relevant proposition” and distinguishing “between opinions rather than fact” (pp. 52–53). In this regard, the prevalence of the relatively simple *can* and *could* in the essays of Japanese students achieves the pragmatic goal of conveying potentiality and ambiguity requisite in expressing one’s opinions when the writer “must be extra cautious” and hesitant to assure the other’s “positive response” Maynard (1993).

For example, the text excerpt in (1) makes the case for a choice of major determined by one’s employability, rather than personal interest. Although the text appears rather ambiguous and vague, the writer’s goal seems to be to account for many different possible paths that can lead different individuals to choices of careers and education. In this context, the repeated uses of the possibility and ability modals *can* and *could* may not be entirely out of place, even if not always idiomatic.

- (1) *Where can people learn new things? Each person can have a different way to choose their major. Some people can decide their career instantly, and on the other hand, others can discover their interests in college. It can be easier to find one’s field when people can try different subjects. Educational institution is an environment where students can develop their life-skills. I believe that people can learn by themselves if they like to learn. Education and a major can be a part of their goal for some people, but for other people, their career is more important. I had this similar problem when I was deciding my major in sophomore year. I could major in voice, but I couldn’t think of a job I can get because there are many very talented singers in Japan who can’t get a job. So, I ended up studying business but never liked it. Therefore, my grades were not very pleasant even though I could get A in all voice classes. (Japanese)*

Table 2  
Median frequency rates for possibility and ability modals in NS and NNS academic essays (%).

Prompt	NSs	CH	JP	KR
Parents	1.03	1.40	1.75*	1.50
Range	4.29	3.79	5.26	3.78
Grades	0.83	0.91	0.85	1.39
Range	4.40	4.17	3.64	4.39
Major	1.13	1.54	2.00*	1.33
Range	3.57	4.44	5.08	4.00
Manner	1.07	1.52	1.06	1.69
Range	4.35	7.14	3.65	4.07
Wealth	0.78	0.83	1.00	1.02
Range	3.83	3.21	2.92	2.66

\* 2-tailed;  $p \leq 0.05$ .

This 167-word excerpt employs the verb *can* 11 times and *could* 3 times, i.e. one modal of possibility/ability for approximately every 12 words of text. To a large extent, the comparatively high median rates of possibility/ability modals in Parents and Major essays of Japanese speakers possibly reflect the relative pragmatic, syntactic, and contextual simplicity of *can* and *could*. Izutsu (1998) points out that in Japanese a broad range of verbal markers and affixes express potentiality, possibility, ability, and a degree of likelihood with the discourse-pragmatic function of overt evidentials that are considered requisite when speakers express their own judgment of a particular event or situation. According to Izutsu, such markers are commonly translated into English as *to be able to*, *can*, *possibly*, or *perhaps*, and their uses have goal of qualifying “the weakness of personal judgment,” and “delimitedness” of one’s view of “an event’s realization” (p. 221). In light of the fact that such markers are highly prevalent in Japanese discourse (e.g. Izutsu, 1998; Maynard, 1993, 1996), it may well be that the Japanese speakers in this study employed the possibility/ability modals *can* and *could* at high rates to account for the “delimitedness” and potentiality of their judgments in their essays on difficult personal choices of academic majors and possibilities for employment.

On the other hand, congruent with the findings of earlier research, the writing of Chinese and Korean speakers included possibility and ability modals at frequency rates similar to those in NSs’ prose (e.g. Hinkel, 2002; Hwang, 1987). In fact, in similar contexts in the essays on Parents and Major, many NSs did not seem to employ high rates of possibility and ability modals. In the cases when these were encountered in L1 writing, *may* and *might* were employed slightly more frequently than *can* and *could*, as has been noted in earlier studies of formal academic prose (Butler, 1990), as in (2):

- (2) *The decision in which major each student will study is very important. When a person goes to college, the main focus is what area to choose. This is probably what a person will be doing their entire life. I support those who choose their major field based on personal interests because it is important to enjoy what you do. Many people may not agree on this decision, but I feel that this is the best course of action. There may be more opportunities for a person in another field of study, but what if he or she is not happy with that field. This person is likely to be stressed out and moody, and the others around him or her will probably be upset as well. I just do not see the point of this strenuous ordeal. On the other hand, choosing a job that makes you happy will lead to a much better life. A good way to make this decision is to follow your heart. (NS)*

In the excerpt in (2), the NS writer seems to utilize a variety of lexical and syntactic devices without relying on the modal verbs of possibility/ability to discuss a possible scenario and its outcomes in the context of the essay. Although clearly basic, the text in (2) includes such hedging devices as *likely* and *probably*, collocations (e.g. *the best course of action*, *see the point*, *follow your heart*), and multiple embedded constructions (e.g. *what if he or she is not happy*), in addition to the two occurrences of the modal *may*. As has been mentioned, in general terms, NS essays included high median frequencies of possibility/ability modals *may* and *might* with the pragmatic functions of hedges, vagueness, and indeterminate possibility distinguished, for instance, from the concept of physical ability in written discourse (see Butler (1990) and Perkins (1983) for detailed examinations). Likewise, various corpus-based studies of spoken and written English have demonstrated that *may* is predominantly employed as a marker of logical possibility and doubt usually expected in formal academic prose (e.g. Biber et al., 2002). From the data in Table 2, it is apparent that the essay topic can influence the L2 usage of possibility and ability modals in a few specific contexts, although on the whole the uses of these verbs do not seem to be greatly topic-sensitive.

#### 4.1.1. Obligation and necessity modals

The L1 and L2 uses of obligation and necessity modals (Table 3), however, present a different picture. In the essays on the topics of Parents, Grades, Major, and Manner, speakers of Chinese, Japanese, and Korean (median frequency rates between 1.01 and 1.85), employed significantly higher rates of these verbs than NSs did (median rates from 0.43 to 0.57).

The finding that many NNSs employ modals of obligation and necessity at significantly higher rates than NSs do is not particularly new. According to the results of other studies (e.g. Hinkel, 1995; Kwachka and Basham, 1990), the uses of obligation/ necessity modals in the writing of Chinese, Japanese, and Korean speakers can be particularly culture- and topic-dependent. In Hinkel’s analysis, the topics of family, academics, and traditions elicit significantly higher frequencies of obligation/necessity modals in the essays of speakers of these languages than in NS prose. In regard to the linguistic manifestations of socio-cultural values in discourse, according to Scollon and Scollon (2001, p. 101),

Table 3

Median frequency rates for obligation and necessity modals in NS and NNS academic essays (%).

Prompt	NSs	CH	JP	KR
Parents	0.43	1.85*	1.45*	1.16*
Range	2.17	7.62	5.80	4.76
Grades	0.47	1.18*	1.17*	1.37*
Range	2.20	5.00	4.94	6.43
Major	0.54	1.16*	1.30*	1.42*
Range	2.26	5.56	5.41	6.00
Manner	0.46	1.11*	1.15*	1.01*
Range	2.94	5.14	5.26	5.00
Wealth	0.57	0.79	0.36	0.58
Range	3.76	3.72	2.50	5.56

\* 2-tailed;  $p \leq 0.05$ .

Chinese, Korean, and Japanese social norms have largely remained “post-Confucian.” That is, in language uses and socio-cultural frameworks, “there is a strong carry-over from Confucianism” with its hierarchical view of social and kinship roles, responsibilities, and obligations, such as those within a family and in student-teacher relationships. According to Zhang (1995, pp. 54–55), the status differential between parents and children or teachers and students is prominently reflected in the uses of such modals as *must*, *should*, and *have to*, combined with intensifiers and “moralizing statements,” e.g. *The quality of the paper should depend on the content, not the length* (p. 62). In this study, as well, the obligation and necessity modals are prevalent in the L2 essays that discuss the role of parents in raising children, the importance of studying and receiving high grades, the responsibility entailed in choosing majors, and the characteristics of effective teaching.

It is important to keep in mind, however, that on standardized high-stakes tests, culturally-constrained essay topics can and do lead to significantly lower evaluations of writing quality that disadvantage specific ethnic groups of students (Lee et al., 2004; Pomplun et al., 1992). In their teacher-training textbook, for example, Byrd and Reid (1998, p. 117) caution that native speakers who evaluate student writing may “find a student’s choice of modals strangely off-key, overly emphatic in some contexts and not very strongly felt in others.” Like Basham and Kwachka (1989, 1991) and Kwachka and Basham (1990) mentioned earlier, Byrd and Reid further emphasize that if the L2 writing quality is to be judged by native speakers, in some cases, the NNS writers may not provide arguments that fit the evaluators’ expectations of discourse and persuasion. This concern is also repeatedly emphasized in Young (1994, p. 121). In interactions with “Westerners,” the persuasive elements of Chinese, Japanese, and Korean discourse are often misunderstood and misjudged because they rely on the Confucian model of social and mutual responsibility and collaboration that are typically “conspicuously different from Western expectations” of intellectual and somewhat confrontational argumentation.

The following two examples from L2 writing illustrate a strong sense of responsibility and obligation entailed in the duties of parents in (3) and the young people’s choices of academic majors constrained by their family obligations and responsibilities in (4).

- (3) *Parents must help their children to become independent because they have to learn how to take care of themselves. The children need to work and earn some money to live in this society, but they don’t have practical skills. So, parents have to let them because the parents’ support may end by bad economy or parents’ death. Parents must teach their children, and they should let the children feel disappointment. Parents don’t want to see their children suffer, but their duty is to teach their children instead of avoiding problems. (Japanese)*

The text excerpt in (3) explains clearly that parents’ obligation is to give their children opportunities to learn the necessary work and coping skills. The sense of obligation is conveyed explicitly by means of repeatedly used modals, such as *must*, *have to*, and *should*, as well as the overt statement that the parents’ “duty is to teach their children.” According to Scollon and Scollon (2001), “in Asia, as in any other society in which traditional kinship relationships are emphasized, any individual is acutely aware of his or her obligations and responsibilities to those who have come

before as well as those who come after” (p. 148). On the other hand, while most NS essays on these topics also explained that it is not a good idea for parents to make their children’s lives too easy, L1 writers employed obligation/necessity modals at significantly lower rates, as in (4).

- (4) *A parent wants to provide for what is best for the welfare of their child, trying to keep them healthy and happy. Some parents go overboard and spoil their children by buying them what they ask for, but those parents are missing several important lessons that can help the child be ready for adulthood. The lesson of earning, saving, and knowing when not to indulge oneself in luxuries is important for all children to learn. Parents can avoid many complications later on if they do simple things, like, say no to their children when they want something. (NS)*

In both (3) and (4), both students advocate similar positions that parents need to prepare their children for life as adults and, for this purpose, children have to be taught the necessary skills. However, in (3), the NNS writer argues that parents have a responsibility for teaching their children, and hence, the excerpt in (3) includes six obligation/necessity modals, e.g. *must, should, need to*. On the other hand, in (4), the NS approaches the issue of parental roles in their children’s upbringing in terms of general suggestions and possibilities (e.g. *wants, can help, can avoid, important to learn, important lessons*), rather than as duties and obligations.

Another perspective that elicited high median frequency rates of obligation and necessity modals was that students also have to take responsibility and choose majors in order to support their families, i.e. mutual and reciprocal familial duties and responsibilities (Scollon and Scollon, 2001; Young, 1994), as is explained in (5).

- (5) *We can say that money is not mighty, but without money, people cannot do anything. When people go out and buy things, they need money. When people stay home, they still need money to maintain the air conditioner. People know that money is one of the most important things in life. When choosing the major, the financial side must be put into consideration because people have to learn responsibility. Then one should choose the major that can bring money to him. It goes without saying that people also have to take care of their families. So, students must make choices of major and decisions for the long term because they have to think of others. They should think further for the brighter future for themselves and for their families. (Chinese)*

In (5), the writer argues that, in many cases, students’ choices of majors deal with their long term goals and duties directly tied to their families. In fact, the text in (5) is worded in terms of obligation and responsibility even without using the modal verbs, e.g. *it goes without saying, decisions for the long term, think of others, and the brighter future*. In many ways, the excerpts in (3) and (5) project the sense of obligation and duty that is often absent in NSs’ essays on choices of academic careers. It stands to reason, however, that the social roles and culturally-dependent constructs of obligation and necessity entailed in the meanings of, for example, *must, have to, or need to*, may find divergent realizations in NS and NNS students’ text.

In NSs essays, the sense of obligation was notably missing, and in fact, most NS writers presented their positions on choosing a major in terms of a person’s individual interests and personal outcomes. In (6), the writer makes it clear that her choices of majors has the goal of meeting her needs exclusively.

- (6) *There are many reasons to go into a field of study based on personal interest and not future employment. However, the topic that I am going to focus on is that you will have no regrets if you like what you do, and you will always do your best. Working in a field of study that interests you will hold your attention because if it’s something you like, you will apply yourself completely. You don’t mind doing that extra project or going the extra mile because you enjoy what you are doing and you know that if you do your best, you won’t look back with regrets. Employment opportunities will come and go, but I believe that a person should pick a career that caters to the interests of an individual. While choosing a career, people decide to go to college to become educated and expand their horizons. I don’t think that there are restrictions to one’s future, and no one should sell themselves short. (NS)*

In (6), the NS writer explains her views on the best way to choose a career based strictly on her individual preferences and without socially and culturally-imposed constraints and obligations. In fact, the two occurrences of *should* in (6)

are employed in the contexts of individual priorities and self-worth (e.g. *a person should pick a career that caters to the interests of an individual, no one should sell themselves short*). The prose in (6) seems clearly basic, even though the range of collocations is probably more extensive than can be found in most NNS essays (e.g. *go the extra mile, cater to the needs, expand their horizons, sell short*). However, the two occurrences of *should* in (6) contrast with the nine encountered in (4), despite the fact that both excerpts are of similar lengths.

In general terms, the L2 uses of obligation/necessity modals on the topics of family obligations and responsibilities, education, and the choices of an individual in “a society of people in a hierarchy of relationships and reciprocal obligations” (Young, 1994, p. 107) seem to reflect the Confucian norms of duty and responsibility. To this end, in their L2 essays, the speakers of Chinese, Japanese, and Korean employ the verbs of obligation and necessity significantly more frequently than NSs do in similar discourse contexts. Although in light of the research findings to date this conclusion is not particularly surprising with the essay prompts associated with family and education, the high rates of NNS use of obligation and necessity verbs may have been induced by the essay topics. It is important to mention, however, that overall, topics dealing with education and family are quite common on standardized tests because they are believed to be easily accessible to L2 writers in various geographic locations around the world (ETS, 1996).

In contrast with the NNSs’ writing about such culturally-bound and personal matters, the L1 and L2 essays on the topic of wealthy athletes and entertainers do not contain high rates of obligation and necessity modals. Most NS and NNS essays about sports stars and popular singers largely consist of fact-based argumentation and popularly accessible details about successful entertainment figures. Thus, in most Wealth essays, the widely available tangible facts and concrete information do not necessitate a high number of modals of any kind. In fact, the comparatively similar NS and NNS frequency rates for obligation and necessity modals on the Wealth topic may simply have to do with personally-distant, third-party accounts and facts without writers’ direct personal involvement or culture-dependent constructs.

## 5. Conclusions

In the past 20 or 30 years, in the assessment and evaluation of writing, a number of investigations have been carried out to determine whether a writing topic or the wording of a prompt have an effect on the essay ratings and the evaluations of writing quality. In the 1980s and 1990s, based on institutional evaluations of placement and diagnostic essays in various universities, studies consistently reported that ratings of NS essays were not affected by either the topics or the wording of prompts (Freedman, 1981; Huot, 1990). On the other hand, the research into prompt comparability on standardized tests, such as the SAT essay test (which replaced both English Composition Achievement Test and Writing Test) and the TOEFL, has shown that culturally-bound writing topics often lead to content and language bias that affects L2 writers’ essay scores (e.g. Golub-Smith et al., 1993; Hamp-Lyons and Mathias, 1994; Lee et al., 2004; Pomplun et al., 1992).

Since the mid-1980s, the effects of topics on the frequencies and uses of syntactic and lexical features in L2 writing have begun to attract the attention of researchers. To date, however, such studies have been comparatively few, and a great deal more research is needed to identify the impact of essay topics, as well as prompt wording, on the L2 text produced by speakers of different languages. The initial forays into this relatively unexplored territory have shown that important amounts of variability in linguistic properties of text can be found in L1 and L2 essays written on different prompts (e.g. Carlson, 1988; Hinkel, 2002; Reid, 1992).

The results of this study demonstrate that frequency rates of obligation and necessity modals in L2 essays are, in fact, affected by the writing topic to a great extent. Specifically, when writing on parental roles and responsibilities, familial duties and obligations entailed in making choices of majors, and teaching and studying, Chinese, Japanese, and Korean speakers employ modals of obligation and necessity significantly more frequently than NSs do. As Scollon and Scollon (2001, pp. 152–153) comment, “in the western tradition,” “the separation of the individual from” various social commitments has long been emphasized, while the Asian “concept of person” assumes that “such relationships of those with one’s parents and children are considered inseparable aspects of the self.” On the other hand, with the possible exception of Japanese speakers’ essays on Parents and Major, the frequency rates of possibility and ability modals appear to be less topic- and context-dependent.

In research on writing assessment, the issue of background knowledge and topic familiarity to writers has long been a subject of much debate and controversy. For decades, the discussions of topic relevance to students’ personal experiences or academic backgrounds have been an important mainstay of numerous publications (e.g. Carlson, 1988;

Carlson et al., 1985; Hamp-Lyons, 1991b, 1991c; Ruth and Murphy, 1988; Weigle, 2002). In many cases, as, for example, on the TOEFL TWE, the topics have the goal of enabling a typical test-taker to express and support an opinion (or a position on an issue) without any sources of information external to his or her own knowledge and experience. As the ETS guidelines state, TWE topics are designed to be accessible to young adults of any cultural and linguistic background (ETS, 1996).

However, one of the pitfalls of such broad-based topic accessibility is that reliance on one's own experience and knowledge in lieu of factual or demonstrable evidence can lead to greater cultural boundedness and personalization of writing and overuse of such language features as obligation and necessity modals. The analysis of modal verbs in essays written on five topics by speakers of four different languages indicates that more personally distant and less culture-bound topics, such as, for example, the earnings and widely publicized travails of popular stars, elicit fewer disparities between L1 and L2 prose than the other four topics do, even though all five were designed to be accessible to a broad range of NNS writers.

By way of a final recommendation, it seems clear that the development of writing topics needs to balance topic accessibility with a reduced potential for implicit pragmalinguistic and cultural biases. In the case of college-age writers, for example, personal involvement with famous athletes or movie stars would seem to be highly unlikely, but around the world, many young people today have a great deal of exposure to popular media, music, and movies. Most young people know a great deal about the lives of the rich and famous (probably much more than middle-aged topic-developers realize). Writing topics that deal with, for instance, popular sports and world-wide competitions (e.g. World Cup Soccer or the Olympic Games), fashion, music, videos, movies, the Internet, computer and digital technology, or TV shows may present a wealth of choices for developing new topics and prompts. Speaking generally, essay topics removed from the writers' "concept of the self" (Scollon and Scollon, 2001, p. 152), as well as a reliance on their own personal experiences, opinions, and dilemmas can lead to less topic-sensitive and culturally-dependent uses of language in L2 writing.

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