

The Grammar-Vocabulary Abilities of Japanese University Freshmen on the TOEIC

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This paper expands on research recently carried out in the field of applied English linguistics, describing the written grammar and vocabulary abilities of Japanese university underclassmen. For example, Ikeda (1999) found that Japanese freshmen have a high understanding of additive connectors (e.g., *also*, *in addition*, *furthermore*, *to begin with*, *likewise*, *similarly*), but have significantly more difficulty with sequential connectors (e.g., *when*, *after that*, *before*, *prior to*). Lauer (2005) found that sophomores have problems with expressions such as *initial*, *to grin from ear to ear*, *price dropped*, and *in the long run*.

The present study found that freshmen in the Faculty of Medicine at Hiroshima University often have difficulties with the following grammar structures: noun-verb agreement, verb tense agreement in compound sentences, plurals, articles, and prepositions. Also, those same students were frequently troubled by word form meanings (such as *wide*, *width*, *widen*), set expressions (such as *at an all-time high* and *joint venture*) and other vocabulary items (such as *bankruptcy* and *accountable*).

These research findings, and others mentioned in this paper, are important because thousands of Japanese students of English want and need to improve their Test of English for International Communication (TOEIC) scores. If teachers understand the linguistic strengths and weaknesses of learners, those teachers can help speed up the students' second language acquisition processes. In 2006 these findings are being used to create high-quality TOEIC-like practice questions which are being put on line as part of a Japanese Ministry of Education grant (No. 16520342).

Background to the Study

In recent years, applied linguists have begun to construct a complicated but intriguing portrait, describing the English linguistic abilities of Japanese university students. For example, with respect to the notorious grammatical articles *the* and *a*, Asano (1996) found that freshmen have the most problems with idiomatic expressions (e.g., "At that hotel, you can rent rooms *by the week*") and with putting no article before abstract nouns (e.g., "*Sadness* filled the room when..."). Takahashi (2000) found that college students of various ages could decide faster and more accurately whether an indefinite article was needed or nothing was needed when the noun was countable (e.g., *book*) than when it was uncountable (e.g., *food*). Those students had a lot of trouble with articles when nouns were abstract or not clearly countable (e.g., *chicken*, *iron*).

Kawaguchi (2000) found evidence of language transfer with respect to verb tense usage; Japanese college sophomores sometimes used present tense even though past tense was appropriate when writing essays. One of the factors that causes this error is the influence of the historical present in Japanese narratives, said Kawaguchi.

Another infamous area in which first language transfer has been observed comes in the area of typology. Japanese is basically a topic-prominent language, whereas English is a subject-prominent language. Consequently, low-level Japanese college freshmen have been found to use the dummy subjects *there* and *it* incorrectly or with less frequency, and to have problems with subject-verb agreement (Inoi, 1998; Shiori, 1991; Sasaki, 1990).

Lauer (2002) tested 130 Japanese freshmen from four Hiroshima University faculties, finding that they have a lot of difficulty identifying both the sentence pattern S + V (non-be verb) + C (present participle/ past participle), and participle constructions. (Thus, *He seemed satisfied with the result* and *Her work done, Jill sat down...* are difficult.) On the other hand, students do quite well recognizing both the sentence pattern *It + be* or *seem* + clause beginning with *that*, and the pronoun *it* substituting for a noun phrase/clause.

Lauer (2005) found that 109 sophomores from two different universities seem to have more problems with idioms and vocabulary expressions than with structures that are often associated with traditional grammar. For example, TOEIC-like questions involving the following vocabulary expressions were answered correctly by an average of merely 13% of students: *in all directions*, *to initial*, *grin from ear to ear*, *price dropped*, and *in the long run*. Indeed, these are difficult expressions. But most students did not even know the expression *to build* (something) *by hand*; only 31% recognized that “by the hand” is wrong. These findings suggest that there may be an even greater need to teach these types of vocabulary expressions than to teach traditional grammar-type expressions.

But, in the 2005 study, some purely grammatical items did cause problems. For instance, students had great difficulties recognizing the passive voice in the following dependent clause: *When seen through a telescope, Venus appears...*; just over 80% of students thought that it should be *Seeing*.

Also in that study, adjectives were fairly difficult for the students. For example, only 17% percent of students recognized that the expression *making more than two million... annual* should end with *annually*; Likewise, only 36% of students knew that *original developed* was wrong. And only 36% of students knew that *wealthy* is usually an adjective and cannot be used in the expression *gross national product is one... measurement of a nation's wealthy*; of course, the noun *wealth* is required here.

Pronoun agreement was also found to be tricky; only 33% of students recognized the incorrect pronoun in *...analyze... transactions and decide how to classify it*.

Finally, verb conjugation caused some problems. Only 33% of students were able to put *spent* into this phrase: *the time that Washington _____ in Valley Forge...*; numerous students chose *spend*, or *was spent*, or *has been spent*. Similarly, only 33% of students could recognize the incorrect subject-verb agreement in *...molecules that breaks apart...*

Conversely, in the 2005 study, students did well with a number of items. They scored well using the vocabulary expressions *each other*, *go skiing*, *except*, and *was established*. Also they seemed to understand passive voice (e.g., *is called*) and did well with a *There are* construction.

With other items, students had mixed results, sometimes understanding the items and at other times mistaking usages. For example, 61% of students had trouble with one relative clause, mistakenly thinking the following expression was correct: *Jackson, where is the capital of Mississippi, is...*; but 67% of students correctly noted that the following pattern is wrong: *A neutrino is a subatomic particle it has no electrical charge.*

The goal of the present paper is to describe, in further detail, the English grammar and vocabulary abilities of Japanese university undergraduates so that they can improve their scores on the TOEIC. At Hiroshima University today, all freshmen are required to take the TOEIC. The average score in the first semester of 2005 was 443 (Standard Deviation = 113). Usually executives in major Japanese companies prefer to hire employees who score over 600 points. For details about the TOEIC itself, see <http://www.toEIC.or.jp>

Method

Freshmen from Hiroshima University's Faculty of Medicine took a series of three Part 5 and Part 6 TOEIC-like multiple-choice tests spread over a period of three months as part of an English writing course. Twenty-six students took the first and second tests, while 21 of the same students took the third test. The first and third tests resembled Part 5 of the TOEIC, asking students to choose the best word or phrase from among four choices; these two tests were adapted from N. A. (2002) and Steinberg (1998), respectively. The second test resembled Part 6 of the TOEIC, asking students to identify an error in a sentence from among four underlined parts; this test was adapted from Loughheed (1996). To view the actual test items, see the pages cited in the references of this paper.

There were a total of 120 test items, 40 on each test. The questions represented a broad range of grammatical and vocabulary items often found on the actual TOEIC. Students answered on cards which were fed into a card reader, and the answers were analyzed using Marugoto-kun and Excel software.

Student answer accuracy rates were grouped into three levels. Each level contained roughly the same number of test items. *Very Difficult* means the test items were answered correctly by 50% or fewer of the students, OR the items were distracters (incorrect answers) which attracted over 30% of students. This latter action was taken because it was thought that any incorrect test item which attracted over 30% of the students must, in itself, not be well understood by the students in the context of that sentence. *Moderately Difficult* means the items were answered correctly by 51%–74% of students OR they were distracters which attracted 20–29% of students. *Relatively Easy* means the items were answered correctly by 75% or more of students. The items at each level are NOT listed in any particular order.

Results

Very Difficult

The following italicized items were answered correctly by 50% or fewer of the students, OR they were distracters (incorrect answers) which attracted over 30% of the students. (Underlining means there is more than one instance in the data in this section. *means the expression is ungrammatical.)

Grammar

1. Noun-verb agreement: **investigation show*, **display... (few words) have*, **were violent demonstration*, **requests (few words) has*, **the investigation show, results of the test have proven*.
2. as...as... (separated by either just an adjective or by several words).
3. Plural or article error: **must be error in his earlier calculations*, **a effective*, **Black Forest, the weaknesses* (students may think either *the* is not needed, or this noun cannot be pluralized).
4. Prepositions: saved *from* (vs. saved *for*), divide x *by* y (62% of students thought *to*), *for* the first half *of* the year (students thought only *in* or *during* were possible?), the window display *for* the new products, landed *at* Heathrow Airport.
5. Verb tense agreement in a compound sentence: **has... when... landed*
6. Contraction *it's*
7. *recommend* (verb)-*ing*
8. *the majority of...* (50% of students thought **the most of..* was correct)
9. Adverb *still* (vs. *though, even*)
10. "*Better* conditions couldn't be asked for..." (62% thought "*Best* conditions...")
11. Referential *them* referring to *Ms. Toch*
12. *the same as*
13. *less* (vs. *fewer*)
14. *has agreed* (students did not recognize present perfect tense?)
15. Passive voice's *must be paid* after a long relative clause
16. *see* (someone) *do* (something)
17. *have to* (used with reference to a future obligation)
18. *of all* the firms surveyed
19. Verb phrase: be pleased *to announce*
20. *both* vs. *neither*

Vocabulary

1. Word form meanings (word endings): *wide* (vs. *width* or *widen*), *grown* (vs. *growth*), rescued from the **burned* house (should be *burning*), **renewing confidence* (should be *renewed*), **advertisement* agency (should be *advertising*), **a promised* future (should be *promising*), *solvent* (vs. *solvable*), *luxurious* (vs. *luxury*), *nationwide* vs. *nationality*.

2. Set expressions: *an all-time high, on second thought, joint venture, second only to* (oddly, 48% of students thought **is by second to* was possible), *look through the brochure, look around, bid...farewell to, double occupancy, for the week, be scheduled to* (vs. *arranged and planned*).
3. Other vocabulary: *liquidator, acceptable* (vs. *accountable*), *studies* (meaning “research”), *especially, outstanding, initiate, ceremony, payment, bankruptcy*, in his *earlier* calculations, *presently, continuity, accounts, secondly* (33% of students thought **on second hand* might be possible).

Moderately Difficult

The following italicized items were answered correctly by 51%–74% of the students OR they were distracters which attracted 20–29% of the students. (Underlining means there is more than one instance in the data. * means the expression is ungrammatical.)

Grammar

1. Prepositions: *around* the city, ...tax rate last year *of* 36%..., troubled *by* (noun), *at* the theater, *in* danger.
2. Verb tense: Present continuous with *twice a day*, using past perfect with *last night*.
3. Referentials: *their* referring to a noun on the right, *his* referring to a noun on the right.
4. Conjunctions: *despite* (vs. *nevertheless*), *even though* (vs. *however*), *because of*.
5. Verb phrases: **avoid to make mistakes, *decide (verb)-ing*.
6. Noun-Verb Agreement: **court, which have*.
7. Verb Tense Agreement in a compound sentence: *has been decided that... had to...*
8. Plural or article error: *at the theater*
9. Word Order: **contributions deductible*
10. Comparisons: **more earlier*
11. Conditional: **I wish I would...*
12. Relative Clause: Recognize *which was* is cut
13. Modals: *should have made* (vs. *should be made*)
14. **to sampling*
15. *the same* (noun) *that*
16. Nominalizing a verb for the subject position: **Get the job done is...*
17. Causative: *have* (someone) *do* (something)
18. *recommend that Paul get* (vs. **gets*)

Vocabulary

1. Word form meanings: *lawyer, development, *the terminate of, continuous, snowstorm, accountants* (vs. *accounts*).
2. Set expressions: *seven days a week* (vs. **in a week*), *come up with* (vs. *come over*), *every other month* (vs. *one another*), *as was the case, thought to be based on, a few more*

months, *look forward to*.

3. Other vocabulary: *anyone* (vs. *everyone, someone*), *neither, praise* (vs. *command*), *watch closely* (vs. *tightly*), *ticket sales* (vs. *sold*), *another, ten years ago, proofread, head of the committee, available, predict, eager*.

Relatively Easy

The following items were answered correctly by 75% or more of the students. (Underlining means there is more than one instance in the data. *means the expression is ungrammatical.)

Grammar:

1. Word order: *due to his lack of experience, put in a good word, *higher were*.
2. Verb agreement in two parts of sentence: **It's time that we will leave, be alphabetized... be packaged, *worked to... and (verb)-ing, had left... by the time... had been sounded*.
3. Prepositions: the difference *between*, sent *to*.
4. Conjunction: *until*
5. Reflexive "by *himself*"
6. Article: No *a* before "coffee"
7. Comparison *more ...than* separated by several words
8. *Neither... nor*
9. *The more... the more*
10. Causative *have* (someone) *do* (something)
11. Relative pronoun *whose*
12. Encourage (someone) *to give* vs. **giving*
13. Relative clause: *which is* has been cut
14. Noun phrase after of: **the result of he swims*
15. Possessives: *her, friend of mine*
16. *So* (adjective) *that*
17. *Already* compared to *still* and *yet*
18. Dictionary verb form after modal *should*
19. After *decide* need to plus verb, not verb-*ing*

Vocabulary

1. Word form meanings: *interesting, reduced, agree* (verb form), *attend* (verb form), *investigation, inspiration, natural, fine* (vs. *finer*), *flight attendants*.
2. Set expressions: *on the average, break down, be inferior to* (vs. *worse, lower beneath*), *gross profits* (vs. *indexes, money, national product* when referring to "agents" in the subject), *on time*.
3. Other vocabulary: the *next* meeting (vs. *follow, then, after*), *alike, convention, be requested to do, employees rotate offices* (vs. *circle, take turns, exercise, together* (vs.

arranged, surrounding, beside).

Discussion and Conclusions

This paper has identified a number of grammatical structures which cause problems for Japanese learners of English. In particular, there were several instances of noun-verb agreement errors, echoing the findings of previous researchers (Lauer, 2005; Inoi, 1998; Shiori, 1991; Sasaki, 1990). Also, there were numerous mistakes concerning grammatical articles and plurals, especially when the nouns were not clearly countable (i.e., *weakness, Black Forest*); this supports the findings of previous studies (Lauer, 2005; Takahashi, 2000; Asano, 1996). Finally, prepositions caused serious difficulties.

This paper also found that word form meanings and set expressions cause at least as many problems as individual vocabulary items, reiterating previous findings (Lauer, 2005; Asano, 1996). *At an all-time high, on second thought, a joint venture, second only to, and bid farewell to* are some of those expressions.

On the contrary, certain structures and vocabulary were found to be relatively well-understood by the freshmen. For instance, students did well with both word order and vocabulary items such as *interesting, attend, natural, and be requested to*.

This research has some limitations. First, the TOEIC questions very superficially covered a broad range of grammar and vocabulary items. Future research should test each linguistic structure in multiple ways. Second, the three divisions of difficulty made in this paper are, admittedly, arbitrary. For example, items answered correctly by 51% of students were grouped together with items answered correctly by 74% of students. Similarly, grouping distracters along with main test items may have masked linguistic phenomena.

The findings of this paper will be used to put high-quality TOEIC-like practice exercises onto the Web. Anyone will be able to access these exercises for no fee. This project will be completed by early 2007.

In the meantime, Japanese students wishing to improve their English grammar skills are encouraged to use, at no fee, some of the Internet English grammar-learning sites listed at <http://home.hiroshima-u.ac.jp/flare/EnglishStudySite2005.html>. These include sites set up by ESL Partyland, BBC World Service, and the Internet TESL Journal.

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要 約

日本人大学生の TOEIC のための文法的・語彙的能力に関する考察

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本論文は日本人大学生の英語を書くための文法知識と単語力について議論し、近年の外国語教授に関する研究成果をさらに前進させようとするものである。例えば、池田 (1990) は日本の大学1年生は附加連結語 (additive connectors) (例 *also, in addition, furthermore, to begin with, likewise, similarly* など) をよく理解できているが、連続連結語 (sequential connectors) (例 *when, after that, before, prior to* など) についてはよく理解できていないと指摘した。また、Lauer (2005) では大学2年生が *initial, to grin from ear to ear, price dropped, in the long run* などのような表現を上手く使えないと報告している。

本研究を通して、勤務校の医学部1年生は次のような文法的・語彙的問題点が顕著であることが分かった。つまり、名詞と動詞の呼応、複文における動詞テンス呼応、複数・冠詞・前置詞の使い方などである。さらに、これらの学生には単語の語尾変化 (*wide, width, widen* など)、定型表現 (*at an all-time high, joint venture* など)、そしてある特定の単語 (*bankruptcy, accountable* など) に関して、うまく運用ができない状況が散見された。

この研究の結果は他の研究で報告された結果と同様に重要である。なぜなら日本人学生の多くが TOEIC などのスコアを上げたいと考えており、もし教師が学生の英語コミュニケーション能力に関して強い部分と弱い部分をよく理解していれば、教師は学生をより効果的に援助し、より良く指導できるからである。(なお、この研究結果をもとに、平成19年には「日本人学生を対象としたオンライン型 TOEIC・TOEFL 模擬試験」を完成させ、WEB 上に公開し学生の利便性を図る予定である。