

## Comparing the Order of Difficulty and the Order of Appearance in Textbooks

- Do Easy Grammar Points Appear Early in Textbooks? -

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### The Background of the Study

Grammatical knowledge has been tested in various ways, but the relative difficulty of different grammatical structures has not been investigated or established yet (DeKeyser, 2005; Ellis, 2006). As Ellis (2001) pointed out, language testers tend to write grammar items based on their intuition or general and vague perception of difficulty of different grammatical structures, which is obviously unsatisfactory. My previous study (Nishitani, 2014), therefore, investigated the difficulty order of different English grammatical structures.

### My Previous Study

A total of 872 Japanese university students, 442 male and 430 female students, from six universities in Osaka, Kyoto, Kobe, and Nagoya participated in the study. Two hundred and thirty-eight students had TOEIC and/or TOEFL ITP scores, and their TOEIC scores ( $n = 121$ ) ranged from 200 to 875, and their TOEFL ITP scores ( $n = 172$ ) ranged from 313 to 543, which suggests that the participants' English proficiency was mixed, ranging from false beginners to advanced proficiency learners.

In order to investigate the difficulty of different grammatical structures, five tests were administered. All of the tests used a multiple-choice format with one correct answer and three distractors. Each test had two or three parallel forms that were made up of items testing the same grammatical structures; however, different lexis was used in the sentences testing the same structure. The assumption was that the items testing the same structure would have similar Rasch difficulty estimates. Pairs of the items that did not show similar difficulty estimates were revised and retested. In other words, the items that did not work on Test 1 were revised and tested on Test 2. The items that did not work on Test 2 were revised and tested on Test 3, and so on. All the data were combined using anchor items to place the items from the different test forms onto a common scale using the Rasch model, and the mean estimates of each pair were calculated to examine the difficulty order of 38 grammatical structures. Table 1 shows the means of difficulty estimates of 38 pairs of structures.

Table 1. Mean Difficulty Estimates of 38 Structures (from Most to Least Difficult)

Structure	Example	Mean
Subjunctive	Tom has suggested that his classmates (be) invited to the party.	2.775
Relative pronoun <i>which</i> (vs. <i>where</i> )	My cousin will move to New York, (which) is one of the biggest cities in the world.	1.520
Adjective: be adverb ( )	Most of the people who lost weight found that the raw food diet was especially (beneficial).	1.370
Past perfect	By the end of last week, Linda (had written) 10 essays on Japanese culture.	.980
Present tense	This book (tells) how I have worked with difficult people who complain about everything.	.870
Adjective: be ( )	You need to be (active) when you participate in a discussion	.605
Adjective: sensory verb ( )	Peter felt (happy) when he heard he passed the test.	.590
S-V agreement	The products you can order from the store (are) listed in the catalogue.	.570
Adverb: S ( ) V	The manager (periodically) blamed the economy for his section's poor performance.	.410
Future tense	The next meeting has been scheduled for next Monday, and a new project (will be) then.	.395
Conjunction: ( ) SV, SV. (only one conjunction in the choices)	(Because) she lost her English textbook, she had to buy another one.	.385
Passive + Present tense	The highway will be closed for maintenance this weekend. We are sorry for any inconvenience that (is caused) by the closing.	.365
Conjunction (two or more conjunctions in the choices)	Ms. Lee changed the sales policy (while) she was the director of the department.	.360
Causative <i>-ed</i>	It is necessary to have your speech (checked) by a native speaker.	.355
Noun: SV ( )	The owner has checked (locations) for franchise stores.	.285
Adverb: be ( ) adjective	Eating only apples to lose weight seems to be (seriously) wrong.	.225
Adverb: be ( ) past participle	The babies' hands have been (cleanly) washed by their mothers.	.220
Past progressive (with another past tense verb in the sentence)	When we saw Jason in the cafeteria, he (was buying) sandwiches for lunch.	.110
Subject pronoun	In order for Ms. Jackson to win the game, (she) has to practice harder.	.005
Preposition (vs. conjunction)	(Despite) his age, my grandfather tried to climb Mt. Fuji.	-.025
Present participle: noun ( )	People (waiting) for the next bus should buy a ticket first.	-.105
Noun: article ( ) preposition	The company plans to build a factory for the (production) of a new model.	-.115

Past participle: be ( )	A new energy policy seems to have been (agreed) on by EU leaders.	-.120
Possessive pronoun	Although Internet shopping is easy and convenient, there still are people who are worried about using (their) credit cards online.	-.195
Past participle: noun ( )	In this area, there are a lot of buildings (designed) for older people.	-.260
Relative pronoun <i>that</i>	My sister sold the car (that) ran on both electricity and gasoline.	-.335
Adverb: SVO ( )	You should understand the textbooks (completely).	-.380
Adjective: ( ) noun	Ms. Taylor is known as a strict teacher and also as an (attractive) person in the city.	-.385
Base form: to ( )	In order to (act) the role of Romeo, he will have to go on a diet.	-.455
Reflexive pronoun: by ( )	Ms. Ford said she used to take care of five dogs by (herself) before getting married.	-.605
Infinitive: VO ( )	He told his assistant (to attend) the party because he didn't want to make a speech there.	-.690
Noun: verb adjective ( )	Our new computer will offer high (performance) when the new operating system is installed.	-.950
Gerund	My brother has improved his English by (listening) to rock music.	-.950
Verb: S ( ) O	According to the report, India (creates) the cheapest car in the world.	-1.040
Relative pronoun <i>who</i>	Students (who) want to pass the test should study at home too.	-1.230
Object pronoun	If students wish, the final grade will be emailed to (them) in a week.	-1.260
Past tense (with keywords such as <i>last year</i> )	The baseball players (took) a bus to Tokyo last month.	-1.585
Present perfect (with <i>since</i> )	Jennifer (has lived) in Osaka since she moved from L.A. in 1998.	-1.710

*Note.* Correct answers are shown in parentheses.

### The Purpose of the Study

The purpose of this study is to compare the difficulty order derived from my previous study with the order in which the grammatical structures appear in junior and senior high school English textbooks approved by the Japanese Ministry of Education (MEXT). The research question is as follows. To what extent does the difficulty order obtained from multiple-choice tests accord with the order in which the grammatical structures are taught in junior and senior high schools? Although simpler structures seem to appear early and more complex structures seem to appear later in textbooks, perceived simplicity might not be indicative of the actual degree of difficulty, and large differences might indicate that the textbook order is not optimal in terms of learnability.

## Methods

Three top-selling junior high school textbooks, *New Horizon* (Kasajima, et al., 2006), *Sunshine* (Sano, et al., 2005), and *New Crown* (Takahashi, et al., 2005), and three top-selling senior high school textbooks, *Crown* (Shimozaki, et al., 2006), *Pro-Vision* (Haraguchi, et al., 2006), and *Unicorn* (Ichikawa, et al., 2006), were chosen. Then the mean Rasch difficulty estimates of the 38 pairs of items tested in my previous study were compared with the order in which each item appears in the selected junior and senior high school English textbooks.

## Results

Tables 2 to 6 show grammar contents in the textbooks selected for this study. Of the 38 grammar points tested in my previous study, eight grammar points were not found in the textbooks. For example, none of the textbooks explain adverbs explicitly. One junior high school textbook uses the sentence “I study hard” but a grammatical explanation of *hard* is not presented. Excluding such items, I compared the order in which 30 grammar points appear in the textbooks and the order of their Rasch difficulty estimates. (See Table 7.) Spearman’s rank order correlation was used to calculate the relationship between the two orders. The correlation was low ( $\rho = .19$ ) and not significant. In other words, the difficulty order of grammar points obtained from multiple-choice tests is quite different from the order in which the grammar points appear in junior and senior high school textbooks in Japan.

Table 2. *Contents for the First Year of Junior High School*

Unit	New Horizon	New Crown	Sunshine
1	I am~/You are~. Are you~? Yes, I am./No, I am not.	I am~/You are~. Are you~?	I am~. Are you~? This is~.
2	This (That) is~. / Is this~? Yes, it is./No, it is not. It is ~/He (She) is~.	This is~. Is this~? What is this?	Is this~? He (She) is~. What is~.
3	I like~. / Do you~? Yes, I do./No, I do not. I do not ~.	I have~. / Do you have~? What do you have~?	I play~. / Do you~? What do you~?
4	What is this? / It is~. ~ is interesting/not easy. What do you have~? I have~.	Three girls How many~? Look at~.	brothers How many~? Who is~?
5	Two hamburgers. How many~? I have five CDs. Let’s ~. / Use ~.	He (She) is~. Who is~? I like him/her.	Speak~. Which bag is~? Where is~?
6	She likes~. / Does she~? Yes, she does./No, she does not. He does not ~.	She plays~./Does she play~? She does not play~.	He loves~. / Does he~? When do you~?

7	Who is~? He is my brother. What time is it? It is eight o'clock.	She is eating~. Is she eating~? What is she doing?	I played~. Did you~? How long~?
8	Where is~? / It is on~. Whose~? / It is mine. Do you know him/her?	I can speak~. Can you speak~? I cannot speak~.	my brother's car Whose bag~? him/her
9	He is -ing. / Is he -ing? Yes, he is./No, he is not. What is he doing? Don't ~. Be careful.	I visited~. Did you visit~? I went to~.	I can~. Can you~? How do you~?
10	We can/cannot~. / Can we~? Yes, we can./No, we cannot. When can we~?		I am -ing~. Are you -ing~? What are you doing?
11	I walked~ yesterday. Did you~? Yes, I did./No, I did not. I did not~.		

Table 3. *Contents for the Second Year of Junior High School*

Unit	New Horizon	New Crown	Sunshine
1	This cap was~. / Was this~? Yes, it was./No, it was not. I was -ing~. You look happy	I played~. Did you play~? I went to~.	Did you~? I went~. Were you~? I was~.
2	I am going to~. Are you going to~? Yes, I am./No, I am not. Show me~. We call it~.	I was~/We were~. Was he~?/Were you~? I was -ing~. When I came~, ....	He was -ing~. There is/are~. When~, ....
3	I use a computer to play~. I want to find~.	They will~. / Will they~? They will not~.	I'm going to~/I will~. We have to~.
4	I have to~. I do not have to~. I will~. You must/must not~.	There is/are~. Is there~? I think (that)~.	(Review)
5	If/When/Because~, .... I think (that)~.	I want to play~. I go to the park to play~. I have many things to do.	She looks happy. I'll give him~. I think that~.
6	There is/are~. / Is there~? Yes, there is./No, there is not. I finished -ing~. Singing is~.	I like -ing~. I will give you a book. You look happy.	I want to go~. I went there to play~. a lot of thing to do
7	stronger than~ the strongest of~ more interesting than~ the most interesting~ as high as~	longer than~ the longest~ more popular than~ the most popular~ as big as	I finished -ing. He became a ~. If~, ....
8		This ball is used~. Was the car cleaned~? The table was made by~.	younger than~ the tallest~ as big as~

9			more difficult than~ the most famous better than~, the best
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Table 4. Contents for the Third Year of Junior High School

Unit	New Horizon	New Crown	Sunshine
1	Braille is used by~. Was~ invented by~? The letters make us happy.	This camera was made in~.	I have just finished~. Have you ever visited~? I've lived in Japan for~.
2	I have/She has lied~. Have you lived~? How long have you played~? They have been here~.	I have lived~. Have you lived~? How long have you lived~?	have been to~ It's hard for me to get up~. know how to play~
3	Have you ever heard of~? I have just finished~. Have you finished~? I have a lot of work to do. We are glad to have~.	I have just finished~. I have seen~. Have you seen~?	(Review)
4	I know how to use~. It is difficult for me to~.	It is~ for you to~. We call him Kazu. The book made me sad.	ask him to join~ call him Jim make me happy
5	This is a picture taken~. The people answering~. I do not know what you mean.	the boy dancing~ a bike made in~ The place I want to visit~.	the boy running~ a hotel built~
6	a book I bought~ Relative pronoun: <i>who</i> (subject) <i>that</i> (subject/object)	Relative pronoun: <i>that</i> (subject/object) <i>who</i> (subject) <i>which</i> (object)	I know how~. Relative pronoun: <i>who</i> (subject) <i>which</i> (subject)
7		Tom wanted me to~. I don't know why Amy is~.	Relative pronoun: <i>that</i> (subject/object) <i>which</i> (object)
8		Koji is learning how to~. Miki taught me how to~.	

Table 5. Contents for the First Year of High School

Unit	Unicorn	Crown	Pro-Vision
1	Sentence patterns	Sentence patterns to-Infinitive	Sentence patterns Verb forms to-Infinitive, Gerund
2	Tense Progressive form Present perfect	Present perfect to-Infinitive, Gerund SVO (=interrogative/if~)	It is + adjective/noun that~. Present perfect Relative pronoun ( <i>who</i> , <i>which</i> , <i>that</i> )
3	Passive Modal	Relative pronoun Present/Past participle after noun S is C (= that~)	SVOO (that~) Present/Past participle after noun Present perfect + progressive/passive
4	to-Infinitive Gerund	Past perfect SVOC (= bare infinitive) <i>seem</i>	Past perfect SV(O)O (= what/if/whether~) Relative pronoun <i>what</i>

5	Present/Past participle after noun Relative pronoun	Relative adverb SVOC (= participle) Passive + Perfect	Past perfect progressive SV(be)C (= that~/ because~) SV(O)O (= how/wh- + to~)
6	Relative adverb Comparative It is (noun/adjective) that~.	Participle construction it ~ that ~ SV agreement	SVOC (= sensory verb + bare infinitive/present participle) Relative adverb ( <i>where, when, why</i> ) Modal + Passive
7	SV(O)O (= if/whether~) SV(O)O (= interrogative to~) SV(=be)C (= interrogative to~)	Conditional (past form) SVOO (= interrogative clause) <i>with</i> + noun + adjective	Participle construction SVOC (= causative verb + bare infinitive) Infinitive + Perfect Infinitive + Negative
8	Conditional Future progressive I wish + conditional	Conditional (past perfect form) <i>no matter</i> + interrogative <i>be to</i> + verb	Conditional (past form) It ~ what/whether~. Modal + have PP
9	Past perfect, Future perfect Passive + Progressive/Perfect		S seem to~./It seems that~. Superlative It is~ that (who)~.
10	Modal + have PP SVOC (= present participle/ bare infinitive) Participle construction		Formal object <i>it</i> Conditional (past perfect form) SVOC (= past participle)

Table 6. Contents for the Second Year of High School

Unit	Unicorn	Crown	Pro-Vision
1	to-Infinitive + Negative to-Infinitive + Perfect /Passive S seem to~.	Relative pronoun (non-restrictive) Relative adverb (non-restrictive) Modal + Passive	Relative pronoun ( <i>who/whom/which</i> , non-restrictive) SV(be)C (= what/whether~) <i>with</i> + noun + present/past participle
2	Bone's visiting us is~. Gerund + Perfect/Passive Gerund + Negative	Participle construction It~ that~. Formal object <i>it</i>	SVC (=present/past participle) Appositive <i>that</i> Relative pronoun ( <i>where/when</i> , non-restrictive)
3	SVOC (= past participle) SV(≠be)C (= participle) There is/are~ participle.	SVO (= whether~) Perfect + Progressive Infinitive + Preposition	suggest/recommend/ demand + that + S (should) V (plain form) Passive + Progressive (be being PP) Inanimate subject
4	Participle construction (+ Perfect/Negative)	Preposition + Relative pronoun Infinitive + Passive S is C (= whether~)	What do you think~? Participle construction (past participle) Gerund + Passive/Negative His being late is~.
5	Relative pronoun (non-restrictive)	Future perfect Future progressive Infinitive (results)	Sentence modifier It is adjective + of ~ to~. Conditional I wish~.

6	It is + noun/adjective + whether~. SV it + noun + that~. Comparative	Inversion -ever Comparative	be + to-Infinitive Preposition + Relative pronoun Participle construction (perfect form)
7	SV(= be)C (= that-clause) It is said that~. It seems that~.	Subjunctive Conditional (future) Modal + Perfect Modal <i>would</i>	Future progressive whatever/whenever/ wherever/however Conditional (without <i>if</i> )
8	Conditional (past perfect) as if I wish Subjunctive	Participle construction + Perfect Infinitive + Perfect Passive + Progressive	Future perfect Infinitive (results) Conditional (as if-)
9	Inversion Indirect speech	Participle construction Conditional (without <i>if</i> ) It is~ for her to ~.	Insertion Partial negation Gerund + Perfect
10	Appositive Inanimate subject	seem John's forgetting~ Gerund + Passive	Inversion Abbreviation there

Table 7. *Difficulty Level of 30 Grammar Points and the Order in Which They Appear in Junior and Senior High School Textbooks*

Grammar Point	Difficulty Level	Textbook Order
Subjunctive	30	28
Relative pronoun <i>which</i> (vs. <i>where</i> )	29	28
Past perfect	28	27
Present tense	27	8
Adjective: be ( )	26	4
Adjective: sensory verb ( )	25	13
Future tense	24	16
Conjunction: ( ) SV, SV. (only one conjunction in the choices)	23	13
Passive + Present tense	22	18
Conjunction (two or more conjunctions in the choices)	21	13
Causative <i>-ed</i>	20	30
Noun: SV ( )	19	4
Past progressive (with another past tense verb in the sentence)	18	12
Subject pronoun	17	4
Present participle: noun ( )	16	22
Noun: article ( ) preposition	15	3
Past participle: be ( )	14	18
Possessive pronoun	13	10
Past participle: noun ( )	12	22
Relative pronoun <i>that</i>	11	24
Adjective: ( ) noun	10	1
Base form: to ( )	9	17
Infinitive: VO ( )	8	25



Noun: verb adjective ( )	6	1
Gerund: preposition ( )	6	18
Verb: S ( ) O	5	4
Relative pronoun <i>who</i>	4	25
Object pronoun	3	8
Past tense (with keywords such as <i>last year</i> )	2	11
Present perfect (with <i>since</i> )	1	21

*Note.* The easiest and the earliest grammar points are ranked as one.

## Discussion

The result that the difficulty order of grammar points obtained from multiple-choice tests differed significantly from the order in which the grammar points appear in junior and senior high school textbooks in Japan was predictable and not surprising. However, it was surprising that adverbs were not explained explicitly in any textbooks examined in this study. Also, one junior high school textbook taught infinitives after a verb such as *want to* but not after a verb and an object such as *want you to*. It has been a while since communicative language teaching with its decreased emphasis on grammar became more widely implemented in Japan, but I was surprised that grammar has been de-emphasized to this degree in textbooks. Fewer pages in current textbooks are used for grammatical explanations than in the textbooks I used when I was a junior and senior high school student. This could be because of the introduction and promotion of a more relaxed educational policy, which caused a general decline in academic ability compared to the past. Thus, it is unsurprising that many universities have started to argue for the need for remedial grammar classes. It would be useful for English teachers in Japanese universities to look at junior and senior high school textbooks and know how they differ from the ones they used when they were secondary school students in order to better understand and teach their students. However, I am not suggesting that we return to a traditional form-focused, grammar-translation curriculum. What I suggest is that university teachers should know what their students have learned and have not learned before they come to university English classes.

The extremely low correlation ( $rho = .19$ ) also suggests that there is no empirical basis for the ordering of grammar points in secondary school textbooks. The MEXT guideline only shows what grammar points should be covered in three years and does not provide any justification for the ordering. In other words, the validity of the assumptions that the textbook makers/writers are working with is not supported empirically. Therefore, either the MEXT or the textbook makers should conduct research on this issue and reconsider the order in which grammar points appear in textbooks.

## Conclusion

In this study, I investigated the degree to which the difficulty order obtained in my previous study would be in accord with the order in which the structures appear in junior and senior high school textbooks. The difficulty order of the grammar points obtained from the multiple-choice tests differed significantly from the order in which the grammar points appear in the junior and senior high school textbooks in Japan. Their correlation was extremely low, which suggests that there is no empirical basis for textbook makers'/writers' policy regarding the ordering of grammar points. It is also found that grammar has been greatly de-emphasized, and adverbs, for example, were not explained explicitly in any of the textbooks examined in this study. For future studies, a wider variety of participants should be involved, more structures should be tested, and more textbooks should be examined. Such studies could help English teachers teach grammar more efficiently and effectively.

## References

- DeKeyser, R. M. (2005). What makes learning second-language grammar difficult? A review of issues. *Language Learning*, 55, 1-25.
- Ellis, R. (2001). Some thoughts on testing grammar: an SLA perspective. In C. Elder, A. Brown, E. Grove, K. Hill, N. Iwashita, T. Lumley, T. McNamara, & K. O'Loughlin (Eds.), *Experimenting with uncertainty: Essays in honour of Alan Davies* (pp. 251-263). Cambridge, England: Cambridge University Press.
- Ellis, R. (2006). Modelling learning difficulty and second language proficiency: The differential contributions of implicit and explicit knowledge. *Applied Linguistics*, 27, 431-463.
- Haraguchi, S., Tanaka, S., Takeda, S., Kawahara, K., Sato, Y., Hosoi, K., . . . Yoshihara, M. (2006). *Pro-Vision English Course New Edition I-II*. Tokyo, Japan: Kirihara Shoten.
- Ichikawa, Y., Hestand, J. R., Shiokawa, H., Kobayashi, C., Hagino, S., & Yasuyoshi, I. (2006). *Unicorn English Course New Edition I-II*. Tokyo, Japan: Bun-eido.
- Kasajima, J., Asano, H., Shimomura, Y., Makino, T., Ikeda, M., Akashi, T., . . . Peck, B. M. (2006). *New Horizon English Course 1-3*, Tokyo, Japan: Tokyo Shoseki.
- Nishitani, A. (2014). A Rasch analysis of grammatical difficulty: What influences item difficulty? *JACET Kansai Journal*, 16, 50-70.
- Sano, M., Yamaoka, T., Matsumoto, S., Sato, Y., Ushiro, Y., Oshiro, K., . . . Cannon, T. (2005). *Sunshine English Course 1-3*. Tokyo, Japan: Kairyudo.
- Shimozaki, M., Iida, R., Iwasa, Y., Kuroiwa, Y., Sasaki, H., Sugeno, A., . . . Taylor, G. (2006). *Crown English Course I-II*. Tokyo, Japan: Sanseido.
- Takahashi, S., Hardy, T., Negishi, M., Hidai, S., Mikami, A. Ikeno, O., . . . Parmenter, L. (2005). *New Crown English Series New Edition 1-3*. Tokyo, Japan: Sanseido.