Attitudes towards Grammar at a Japanese University

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Introduction

Before Japanese students reach university they have usually already had six years of English instruction, three years at junior high school, followed by three years at high school. Although communication classes in English are now a common feature in pre-university educational establishments, the majority of English instruction still involves the grammar translation method. This method, called "yakudoku" in Japan, originated from the rationale of reading large amounts of literature in English, and it works on the principle that English study comprises of intellectual development (Richard & Rodgers 2001). This method uses the sentence as the basic unit of teaching, and knowledge is dispensed to students through a series of detailed syntactic rules. Retention of these rules is important to pass university entrance examinations in Japan. In other words the basic goal of studying grammar in Japan is to pass these exams and get into a university of choice.

With such a pre-occupation on passing tests before university, what seems to be left to drive students at university to study grammar? In Japan, the extensive use of the grammar translation method to achieve a high pass rate into universities does seem to have some influence on the affective factors that orientate the learning feelings, attitudes and motivation towards studying grammar. The peak of motivation to study appears to be concentrated on the third year of high school, the year when most students are studying to sit the exams. Once students have entered university the necessity to study grammar with strong intensity has dropped. What seems to be left are people who become apathetic towards grammar study, people who enjoyed studying grammar, and still do, or wish to continue studying grammar for national qualifications, like TOEIC or TOEFL that could lead to better job prospects and possible study abroad, and people who believe that grammar will help them to communicate better with foreign people. The aim of this paper is to explore attitudes towards grammar of university students who have passed the stage of entrance examinations and are studying in university without the specter of passing more national grammar-based tests.

For this paper I have designed a survey to measure attitudes to grammar and what underlie these attitudes as they relate to subject of grammar in grammar-translation, and not in relation to other facets of English study. In other words, excluding listening, reading, speaking, writing, vocabulary and pronunciation, I want

to find out what students feel and think about grammar.

Literature review

In order to measure attitudes to grammar the measurement tool has to effectively reach the psychological construct that makes up these attitudes. Most attitudes are a combination of smaller meaningful sub-constructs, which I shall refer to as factors. In most attitude survey studies in second language, surveys and questions were usually taken from previous studies that had already identified essential factors. The questions were slightly modified to fit the particular group or situation that a researcher wanted to focus on. For the survey in this paper, I intend to justify important factors from the literature, and make questions on the survey that would appear to read how people feel about that part of the attitude. The factors I have identified are called extrinsic and intrinsic, integration and motivational intensity.

Extrinsic and intrinsic motivational factors are related to motivation to study for external and personal rewards. Ryan and Deci (2000), proposed the self-determination continuum, recognizing motivation as a product of varying forms of intrinsic, or "…the inherent tendency to seek out novelty and challenge" (p. 4), and extrinsic motivation that affects behavior to "…attain some separable outcome" (p. 6). In other words, intrinsic motivation meant doing something for the pure enjoyment of doing it. Extrinsic motivation, on the other hand, signified doing something to get a tangible reward, such as a better job or qualification. This theory claimed that motivation did not have mutually exclusive groupings of specific motivation, but people could display a variety of different forms of motivation. This theoretical model, however, showed only orientations and outcomes, and application to a specific learning situation did not exist in that work.

Following the Ryan and Deci model, Noels et. al. (2000), sought to apply this model to L2 learners of French at a bi-lingual university in Canada. This revised model took the separate parts of the Ryan and Deci model and applied them to a specific L2 learning situation. The Noels et. al. version of the self-determination model employed seven different sections of the determination continuum, ranging from a lack of self-determination to the most self-determined. For this study I shall only be applying extrinsic and intrinsic motivation as two broad categories from the Noels et. al. study, and not using all of the seven individual categories.

In their present state, the three orientations that make up the extrinsic part of this model are inappropriate because they are specifically related to a bilingual situation, as opposed to the monolingual culture of Japan. The only part of the model that I shall maintain is the external regulation part. Noels et. al. described this as "… *activities that are determined by sources external to the person, such as tangible benefits and costs*" (p. 62). This broad definition could cover the idea of extrinsic factors for studying in Japan, such as to understand a language better, future job

prospects and passing exams. The last point, some researchers claimed, creates strong extrinsic goals in Japanese students (Kamada, 1987; Lo Castro, 1996).

The intrinsic part of the Noels et. al. self-determination model, which they described as students who "…seek interesting situations where they can rise to the challenges that the activity presents", also recognized three forms of intrinsic motivation, related to knowledge, accomplishment and stimulation. The intrinsically orientated students I hope to measure in my study will be students who might enjoy activities like solving grammar problems and may also believe that grammar is the most enriching and enjoyable part of the whole of English study. A study by Benson (1991), found groups of Japanese learners who he referred to as "personal" that seemed to fit the intrinsic orientation, and were people who studied English to enjoy activities like reading in English. I do not expect the intrinsic factor to be as strong as the extrinsic factor for the attitudes towards studying grammar in Japan.

For my study, I felt a need to put the three parts of the intrinsic model under one broad intrinsic heading and create my own questions, rather than use questions from the original survey. I did this partly because I believed that the participants in the Noels et. al. study could show a greater range of types of intrinsic motivation because of the wider age group (18-60) and larger N size, 159, compared to my study (18-20), with an N size of 104. Furthermore, as mentioned already, my study focuses only on Japan, whereas the Noels at. al. study focused purely on English speakers of French.

Along with extrinsic and intrinsic factors, it was also necessary to consider integration and motivational intensity factors as separate factors that could add to the construct of attitudes to grammar in Japanese students. Both of these factors can be seen in Gardner and Smythe's (1981) model of L2 acquisition based, as was the Noels et. al. study, on native-English speakers learning French in Canada. In this study integration referred to "… affective reactions of the individual towards francophones, his/her desire to learn French for integrative (social) reasons", and motivational intensity described a measure of the "…student's motivation to learn French in terms of work done for the classroom assignments, future plans to make use of and study the language". The problem of transferability of these two issues into the Japanese learning paradigm have been addressed through the (WTC) Willingness to Communicate model (Yashima, 2002). In an earlier study Yashima (2000), identified an orientation in Japanese college-level learners similar to the integration orientation, but different because the orientation represented English as part of a community that was not clearly defined, unlike English speakers of French in Canada. She called this orientation intercultural friendship. Even though this paper is addressing grammar attitudes, I believe that the inclusion of this factor is important because Yashima claims that attention should be given to "…attitudes to prospective communication partners when communication becomes an objective in

learning English" (Yashima, 2002, p. 63). I perceive this to mean that at some point in the study of grammar at high school, along with a need to pass entrance examinations, students began to equate better grammar proficiency with a need to communicate with speakers of the English language. This may lead students to have underlying motives controlling attitudes to grammar, in part, influenced by a need to excel in grammar in order to make communication possible with native-speakers of English. As with the extrinsic and intrinsic motivation factors, the factor from Yashima's model, which I am calling the integration factor in this paper, is being used as a general heading under attitudes towards grammar, and I am relying less on the questions used in the Yashima study.

The last factor, motivational intensity was taken from another Gardner study, Gardner & Lambert (1972), and adapted for Japanese college students in the Yashima model. Yashima slightly altered the original version of questions to fit Japanese learners, but her version still maintained a close fit to the original, and in my study the motivational intensity refers specifically to intensity of grammar study, at home, school, and for the future. Of the four factors, I have tried to keep the last factor as close an approximation as possible with questions in the Yashima model, but changed the form to focus on grammar, and not English study in general.

In this study, I will create a survey to measure the four factors of extrinsic and intrinsic motivation, integration orientation and motivational intensity as they relate to Japanese learners' attitudes to grammar. The first three factors mentioned, extrinsic and intrinsic motivation, and integration orientation have been given wide definitions from the literature, and in my survey I will not use questions directly from the studies where they came. The last factor, motivational intensity, has been kept in a similar form to studies from previous literature. These four factors will go into making an exploratory survey to establish the existence of the factors in attitudes towards grammar at a Japanese university. The exploratory nature of the factors in my survey necessitates a need for confirmation of both reliability and validity after data has been collected through the survey. Reliability is the ability of the survey to produce consistent results when given to other similar groups of Japanese students, and will be measured by Cronbach Alpha (α). Validity is the ability to effectively measure the construct in question, attitudes to grammar, and will be measured by analysis using the Rasch model. The one question this study seeks to answer is the following.

1) Do the items used in the attitudes towards grammar survey correlate on the four predicted factors of intrinsic, extrinsic, motivational intensity and integration with acceptable reliability and validity?

Participants

The participants in this study were 104 males and females from part of the first year population studying Tourism at a Japanese university for the new semester that started in April of 2005. This group is comprised of four whole teaching classes that I taught Tourism English to and consisted entirely of students who had graduated from high schools in Japan in the same year. Out of nine possible placement classes for Tourism English, these four classes were assigned to classes two, three, four and five on the basis of a placement test they took at the beginning of the academic year. The lower the number of the class indicates a higher score from the placement test, so class two would be the highest level class. During the course of the year these four classes were given a proficiency test of grammar that consisted of 23 items. This test recorded a reliability value of α = .94, with the mean of 11.26, and standard deviation of 2.7. This test showed basically consistent homogeneity between the four groups in terms of grammar knowledge.

Procedure

The English version of attitudes to grammar survey used in this paper can be seen in Appendix A. A translation into Japanese from the English version was made of the 24 items, which was then checked by two native speakers of Japanese. Of the 24 items, questions one to seven covered the intrinsic motivation factor, as described in Noels et. al. (2000), but the questions were written by myself with little guidance from the study. Questions eight to 11 made up the integration factor, and were taken from the Yashima, (2000) Willingness to Communicate study. As with the intrinsic factor, the questions were written more from my experience, than as a reflection of the original questions of that study. Questions 12 to 17 were for the extrinsic factor, also from the Noels et. al. model, and again, written from my experience. Lastly, questions 18 to 24 covered the motivational intensity factor and were taken from the Yashima model. In that study the six questions achieved reliability of α = .90. In my study there were seven questions, which were adopted from the six in the Yashima model, and altered to focus on grammar attitudes. The test was administered to the four classes towards the end of the second semester of the first year at the university, and the results were analyzed below.

Results

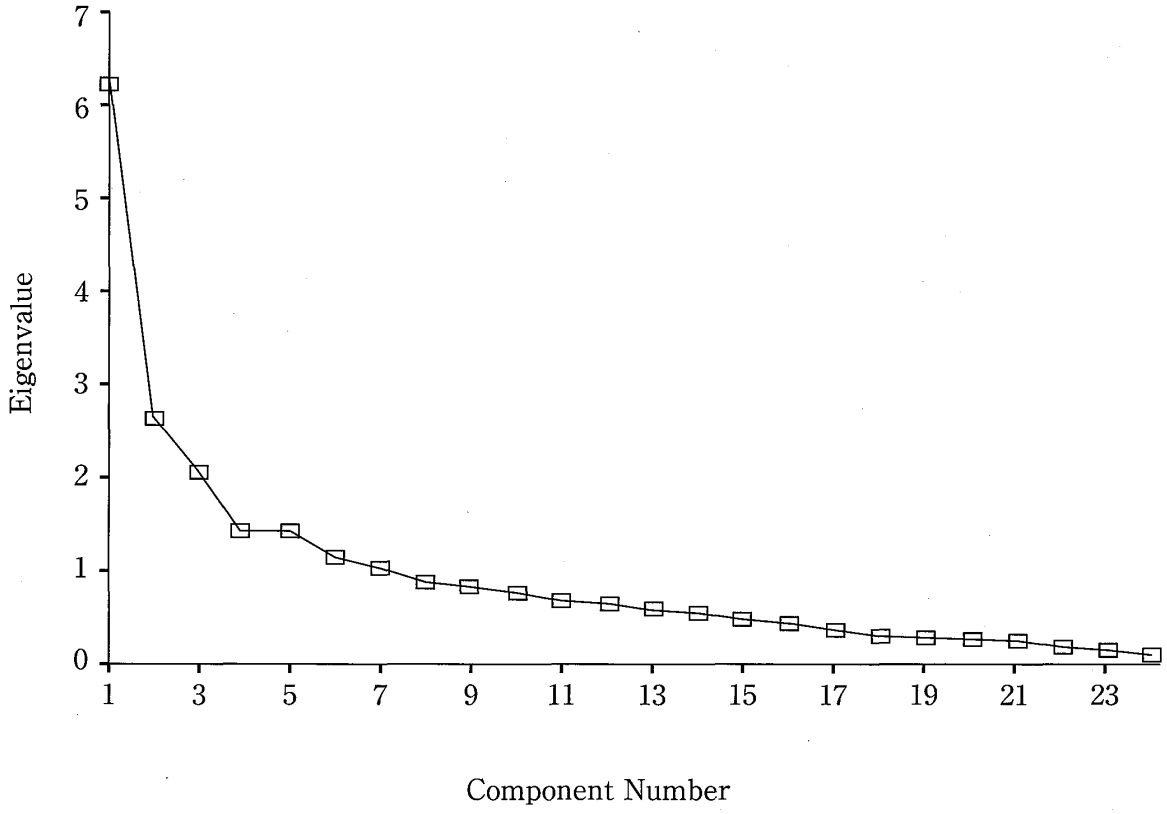
After administering the survey to the students the results were analyzed to address three different issues arising from the survey. In the first part, I addressed how well the students reacted to the four factors in the survey, secondly, I dealt with whether the survey as a whole could be the basis of a reliable measurement tool, and finally, I addressed the results themselves.

Before analyzing the results, the assumptions were checked. Firstly, using a

criterion of ±1.96, we could assume normality of kurtosis and skewness for all the items, and secondly, in order to run the factor analysis the assumptions checks were made for Bartlett's Test of Sphericity ($p>0.001$) and KMO .77, both of which were acceptable. After checking the assumptions the data were put through SPSS and a principal components analysis was used to verify the four factors. Using the standard set by Catrell (1966), the cut off point for the number of factors should be where the curve in the scree plot chart in Figure 1 inflexes. The initial hypothesis of four factors was correct, and these factors were rotated using the Varimax rotation procedure because there was an assumption that some of these factors might not be intercorrelated. This lack of correlation was confirmed by the component correlation matrix run through the Oblimin rotation procedure that showed all inter-factor correlations weak at below 0.24. The rotated solution in Table 1 yielded the four predicted factors, with only item 5 not loading successfully on the intrinsic factor. In

Figure 1

Scree Plot Of Main Factors For Attitude To Grammar Survey



fact, this item also showed loading on factors 3 and 1, meaning that the item had variance with three separate factors, and was not such a good item to use it its present form. All the rest of these item factor loadings were over the acceptable factor value of .512, as recognized by Stevens, (1992), for n sizes over 100. The four

factors accounted for a total variance of 50.9%, with extrinsic being the largest of the four factors at 14.69%. Slightly less variance was taken by the intrinsic factor (14.3%), followed by the motivational intensity factor (13.15%), and the smallest total variance, at 8.8%, was taken by the integration factor. All four of the items, except item five, loaded well onto the predicted factors with good levels of variance being accounted for, however 49.1% of the total variance was still unaccounted by using these four factors.

Table 1
Table of Rotated Matrix For Four Factors

Items	Factor One Extrinsic	Factor Two Intrinsic	Factor Three Mot. Intensity	Factor Four Integration
1		.513		
2		.814		
3		.730		
4		.718		
5		.308		
6		.713		
7		.669		
8				.558
9				.731
10				.624
11				.511
12	.541			
13	.697			
14	.669			
15	.675			
16	.620			
17	.597			
18			.743	
19			.573	
20			.576	
21			.630	
22			.528	
23			.535	
24			.549	

After confirming the importance of each of the four factors within the attitudes to grammar survey, the factors were individually checked for reliability using Cronbach

Alpha (α). Alpha values above .7 can be seen as acceptable in some situations when measuring constructs (Kline, 1999). At this level of acceptability the seven items in factor two, intrinsic, passed easily, with α at .82. Even by removing the low-factoring item 5, the same level of reliability was maintained. The next highest α value at .79, was recorded for the seven items in factor one, extrinsic. Next, at α .76 came the seven items in factor three, motivational intensity. Finally, factor four, integration, with four items had the lowest alpha at α .67. This last factor may have had a low reliability because of the smaller number of items that were put under the factor, and the small amount of variance it accounted for. Factors one, two and three had acceptable reliability, and with some adjustment, or increase in the number of items, factor four should also yield a more acceptable reliability level.

Along with establishing factors and checking the reliability of the factors, I also used the Rasch model to build a developmental pathway for all the items in the survey as can be seen in Figure 2 in Appendix B. The Rasch model took the items and built a hypothetical model of item difficulty based on the responses of the people who took the survey. Item difficulty in surveys means endorsability, or the ability of the people taking the test to agree with, or endorse items in the survey. Using the five point scale from the survey (1 = strongly agree to 5 = strongly disagree) the Rasch model built a pathway of item difficulty based on the fact that some items were harder to endorse than others. According to Figure 2, item 17 was the easiest to endorse, whereas item 20 was the most difficult to endorse. All the items spread out well and the Rasch model computed a separation value of 9.52, with an overall test reliability of .99, indicating the test-takers produced nearly 10 distinctly reliable areas of difficulty within the test, making the test a reasonably precise tool for measuring attitudes reliably. The difficulty measurement for each item was calculated in logits as shown at the left side of Figure 2 (the same value can also be seen in the difficulty measure in Appendix C, Table 2). In Figure 2, however, there were much fewer students (as indicated by the sharps and small circles) at the top of the model, and more students concentrated around the middle of the model, meaning that there was some homogeneity (separation value 2.4) of the attitudes in the group, or that some of the easier items may need to be worded differently.

Validity of this model were measured in terms of fit statistics, which showed items that did not conform to the expected difficulty pattern determined by the Rasch model, with deviations from this pattern signaling an item was not measuring the intended construct properly. The fit statistics for the two tests can be seen on Table 2 in Appendix C. The two sets of figures to pay attention to are the infit and outfit mean squared values. The infit measurement is a probability value of how well the item fitted a specific ability group in the test-taking population, and the outfit was a probability measure of how the item matched all of the students who took the test. The acceptable limits of both these sets of figures could be as low as .0.6 and as high

as 1.4 for rating scale surveys (Bond & Fox, p. 179), with a perfect fit at 1.00. All of the items on the survey fitted the realm of the predicted Rasch model. In other words, both test items and test-takers were performing in an expected fashion, confirming the validity of the survey test.

Having shown a good fit with the Rasch model, I considered the actual results of the survey and what they told me about the attitudes of the students who participated in the survey. The means and standard deviations for the individual items can also be seen on Table 3. The items in factor one, the extrinsic factor, overall were the easiest to agree with out of the four factors. This factor included the easiest item to endorse in the whole survey, item 17, as can be seen by the lowest mean of 1.51, and as explained before the top position in Figure 2. The items in the integration factor four were the next most difficult to endorse. The most difficult item in this factor to endorse was item 9, with a mean of 3.01, and this item can be found very close to the mid-point of difficulty in Figure 2. The items in both the motivational intensity factor 3, and

intrinsic factor 2 were roughly equally the most difficult to endorse. The intrinsic factor showed three very difficult items to endorse, items 2, 3 and 7. The motivational intensity factor showed a wider variation in means with the most difficult item 20 at 4.43, found at the bottom of Figure 2,

Table 3

Means and Standard Deviations for Each Item Within the Four Factors

Intrinsic (2)			Integration (4)			Extrinsic (1)			Mot. Int. (3)		
Item	M	SD	Item	M	SD	Item	M	SD	Item	M	SD
1	3.69	.915	8	2.86	.999	12	1.76	.830	18	3.24	1.066
2	3.91	.996	9	3.01	.990	13	1.90	.876	19	2.88	1.155
3	3.55	1.206	10	2.88	.921	14	2.14	.897	20	4.43	.822
4	3.58	1.021	11	2.35	1.121	15	1.56	.694	21	3.91	.977
5	2.60	1.111				16	1.77	.700	22	3.50	1.052
6	3.90	.990				17	1.51	.668	23	2.31	.882
7	3.85	.890							24	3.83	1.028

and the least difficult of the factor to endorse, item 23, with a mean of 2.31.

In summary, the four predicted factors in the attitudes to grammar survey were confirmed with a total variance of 50.9%. These four factors showed variation in reliability from the highest, intrinsic factor, recorded α at .82, after removing the non-loading item 5, to the lowest reliability for the integration factor at α .67. Further analysis using the Rasch model showed that all the items had produced a valid and reliable model with varying levels of endorsability, meaning that the

students' attitudes could be measured to a more precise degree, despite some homogeneity in the attitudes of the students. The test results showed that generally the extrinsic factor, or external reasons to explain attitudes to grammar, were the easiest to agree with out of the four factors. The items in the integration factor, or amount of international understanding, were the next most difficult to endorse. The motivational intensity, or ability to pursue study, and intrinsic factors, attitudes towards grammar based on the love of doing it, were roughly equal in terms of difficulty to endorse.

Conclusion

In order to make a survey to measure attitudes to grammar for Japanese university students, four factors were used. These factors came from the self-determination continuum and the WTC model. The self-determination model was used to briefly explain the two factors of extrinsic and intrinsic motivation, and questions based on these broad factors that I had produced were included in the survey. The WTC model, helped to explain the integration and motivational intensity factors. Integration survey questions were, again, produced by me, using the broad topic of integration as it relates to grammar and using English abroad. The questions used in the last factor, motivational intensity, were taken and slightly modified from the WTC model to concentrate on attitudes to grammar. For the group that took the survey there was a clear indication that the group could agree easily with the extrinsic factors, perhaps meaning that taking jobs and exams were important reasons controlling attitudes to grammar. Less likely to influence attitudes to grammar were integration, and even more unlikely to have an influence on grammar attitudes were the motivational intensity and intrinsic factors. Results of these last two factors suggested that overall students may not enjoy studying grammar in the form of grammar translation with a high degree of intensity.

In answer to hypothesis question, despite possible problems with validity and reliability because of the speculatory nature of the survey, the four predicted factors produced acceptable levels of reliability and validity. However, the four factors did only account for 50.1% of the total variance, leaving 49% unexplained. In order to increase the variance nearer 100%, it would be necessary to leave out question five in the survey, add more questions to the integration factor, and include one or two possibly new factors. Other than changing the test itself, increasing the n size may also help to make this survey a very reliable tool for measuring attitudes to grammar in Japanese university students. Once an improved version of this survey has been made results from future studies could be measured against grammar tests to establish how the attitudes affect ability and proficiency in grammar.

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Appendix A

Grammar Attitudes Survey

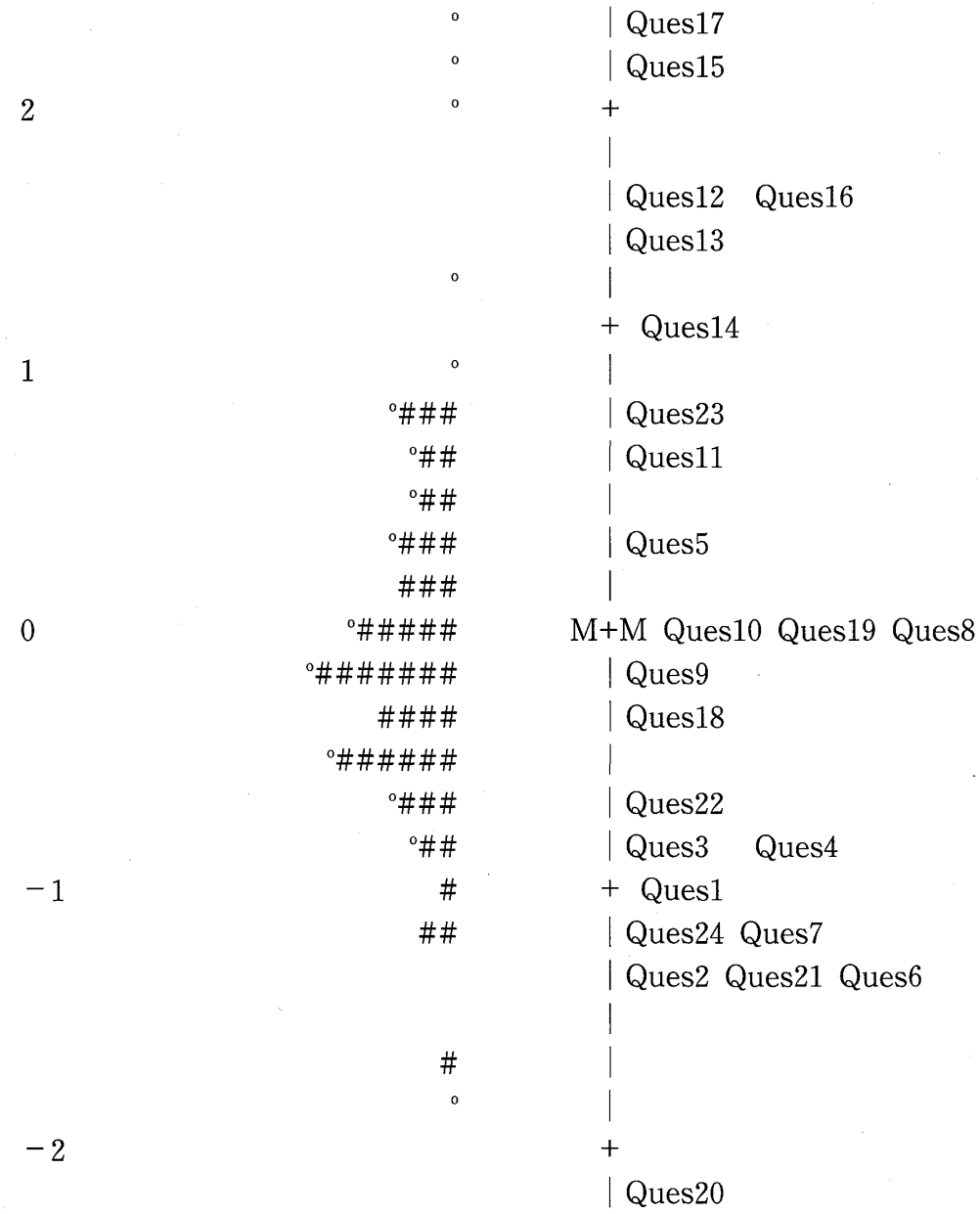
Look at the following statements and mark your feelings of each one on the answer sheet. Please use the following scale:

1. Strongly agree.
2. Basically agree
3. Cannot say/unsure
4. Basically disagree
5. Strongly disagree

1. When I read a book/magazine/newspaper in English I think more about the grammar than meaning
2. My favourite part of the class is studying grammar
3. I think grammar is more interesting than listening or speaking in English
4. I think grammar is more interesting than reading or writing in English
5. Solving grammar problems is interesting
6. Compared to my classmates, I know more about grammar
7. I think I have a good knowledge of grammar
8. Grammar is important for communication with foreign people
9 The grammar I learn in Japan will be useful if I go abroad
10. English Grammar is a big part of culture in English-speaking countries
11. If my grammar is good, I really want to go overseas
12. Having good grammar knowledge will help me find a job where I can use English
13. Learning grammar will help to understand reading in English more.
14. Grammar will help me to understand English better
15. I think having a good TOEIC score is important
16.Grammar maybe boring, but it is something I need to study
17. Grammar is really important for taking and passing tests
18. Even if I didn't study grammar at university, I would still study by myself
19. When I graduate I will try to continue studying grammar
20. I spend a lot of time every week studying grammar
21. I often ask the teacher grammar questions
22. I make my own examples of points of grammar
23. After the teacher gives me a writing assignment back, I often look at the grammar mistakes and try to change them.
24. I like to talk about grammar problems with other students

Appendix B

Figure 2 - Item Map for Grammar Attitudes Survey



Note. '#' = 2°

Appendix C

Table 2 - Infit And Outfit Statistics For Attitudes To Grammar Survey

Item	Diff.		Infit		Outfit	
Number	Measure	Error	MNSQ	ZSTD	MNSQ	ZSTD
Item 1	−.97	.11	.94	−.4	.95	−.4
Item 2	−1.28	.12	.96	−.3	.94	−.4
Item 3	−.79	.11	1.32	2.3	1.30	2.2
Item 4	−.82	.11	.93	−.5	.95	−.3
Item 5	.39	.11	.98	−.1	1.00	.0
Item 6	−1.27	.12	.97	−.2	.94	−.4
Item 7	−1.19	.12	.88	−.9	.93	−.5
Item 8	.06	.11	.80	−1.6	.80	−1.7
Item 9	−.13	.11	.99	−.1	1.08	.6
Item 10	.04	.11	.90	−.8	.92	−.6
Item 11	.72	.12	1.23	1.6	1.32	2.2
Item 12	1.69	.14	1.24	1.5	1.14	.9
Item 13	1.42	.13	1.04	.3	1.18	1.2
Item 14	1.02	.12	.84	−1.2	.87	−.9
Item 15	2.15	.16	.93	−.4	.86	−.9
Item 16	1.67	.14	.68	−2.4	.70	−2.2
Item 17	2.28	.16	.96	−.2	.85	−.9
Item 18	−.41	.11	1.02	.2	1.04	.4
Item 19	.04	.11	1.02	.2	1.03	.3
Item 20	−2.22	.15	1.29	1.7	1.19	1.1
Item 21	−1.28	.12	1.08	.6	1.04	.4
Item 22	−.73	.11	1.11	.9	1.11	.8
Item 23	.78	.78	.73	.12	.73	−2.2
Item 24	−1.16	.12	1.16	1.2	1.23	1.6

〔抄　録〕

The survey in this study was based on the WTC and self-determination model of motivation was used to measure attitudes to grammar for Japanese university students. Factor and Rasch analysis revealed four factors highly reliable factors among the survey takers. Those factors were named extrinsic and intrinsic, WTC and motivational intensity. The group that took the survey indicated high agreement overall with extrinsic factors.

日本の大学における学生の英文法に対する学習態度

本研究における調査はWTC（Willingness to Communicate）を準拠とし，日本人大学生の英文法学習に対する態度を評価するのに「動機の自己決定モデル」を用いた。ファクタとラッシュの分析は調査対象者の中で高く信頼できる4つの要因を明らかにした。それらの要因は外因性，内因性，WTC，動機の強度と名づけられた。今回の調査対象グループでは全体的に高い外因性を示した。