Japanese English students' knowledge of and attitudes towards the English language

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Abstract

This short enquiry investigates the relationships between knowledge of English and attitude towards the English language as held by Japanese university students. The goal of this study was to gain a better understanding of how attitude affects the learning of English and whether gender or geographic location of a student's hometown plays a role. A random sample of 85 participants completed a 26 item questionnaire which measured background information, attitude to English and knowledge of English. The difference in English knowledge over several prefectures was tested using ANOVA and the results indicated that there was no statistical difference observed. Difference in attitude to English between male and female students was tested using a t-test and no statistical difference was observed. Pearson Correlation was used to test for any relationship between knowledge and attitude to English, but again no statistical different relationship was found. In addition, Multiple Regression was used to determine if there was a linear relationship between knowledge of English, and the 3 variables attitude to English, gender and prefecture. Again there was no statistically significant linear relationship between these variable.

Introduction

This paper presents a small scale enquiry into the knowledge of and attitudes toward the English language held by Japanese English communication students at a private university in Tokyo Japan. This enquiry contains an investigation into the possible differences in knowledge between geographical areas, as well as, possible differences in attitude between genders. In addition there is an investigation into possible relationships between knowledge, attitude, gender, and prefecture. The goal of this study was to gain a better understanding of how attitude affects the learning of English and whether gender or geographic location plays a significant role in student learning.

Focus of the study

The purpose of this inquiry is to explore the knowledge of and attitudes towards the English language as held by first and second year Japanese English communication students in the department of literature at a university in Japan. The focus will be on the following:

1. The relationship between knowledge of and attitude to the English language.
2. The effect of home prefecture on the students' knowledge of the English language.
3. The effect of gender on students' attitude towards the English language.

This enquiry may add to the overall understand of the complex interactions between many aspects of English education in Japan. In so doing it has the possibility to add to overall quality of English education as well as to identify areas that may need attention. Having a clear understand of the relationship between knowledge of English and attitude to English would allow researchers to better understand how attitudes are formed and whether these attitudes help or hinder the development of English in students. Gaining evidence of a difference in gender attitudes to English could open up important questions concerning

different uses of English between genders. Finally, the accurate measurement of knowledge across geographic locations can give us important warning signs and allow efforts to be focused where they may be most needed.

Key concepts

The two key constructs which shall be measured within this investigation are knowledge of the English language (learning) and attitude towards the English language (sentiments). Here knowledge of the English language is the students' grammar score on a short 13 item questionnaire section. The grammar was limited to that which they have had exposure to through the high school curriculum before coming to university. Attitude means the student's perceived importance of English to their lives and the level of enjoyment they experience from their study of the language. This was measured through the 10 item attitude section of the questionnaire that required them to identify their level of agreement to statements.

Hypotheses

When stating a hypothesis a researcher is making a prediction about a relationship based upon prior evidence or a theoretical argument (Wallen & Fraenkel, 2001). Hypotheses can be either directional or non-directional (Wallen & Fraenkel, 2001). A directional hypothesis indicates the predicted direction that is expected to emerge in a relationship. On the other hand, a non-directional hypothesis does not include a specific prediction of the direction of the research outcome. The 4 hypothesis used in this study were all non-directional.

Hypothesis one (H_1) "If English communication students come from different prefectures in Japan then they will have significantly different levels of knowledge of the English Language." Here there is a non-directional relationship being investigated between geographic location and level of knowledge of the English language. It should be noted that the extraneous

variables "time spent in the prefecture","method of teaching", and "teacher quality" are not controlled for and should be considered in any subsequent studies. The prediction being made here is that the prefecture in which students are educated will vary in the quality of their English education and this variation will be observable in lower or higher test scores.

Hypothesis two (H_2) "If English communication students have different genders then they will have significantly different attitudes towards the English Language." This relationship is again non-directional and investigates the relationship between gender and attitude to the English language. The prediction here is that males and females will have different attitudes towards English due to some aspect of their gender.

Hypothesis three (H_3) is "English communication students' knowledge of the English language will correlate significantly with their attitude towards the English Language." Here the investigation is the non-directional relationship between knowledge of and attitude to the English language. Unfortunately, the extraneous variable of teacher quality could have an effect on the validity of the results.

Hypothesis four (H_4) is "English communication students' knowledge of the English language will be predictable based upon their prefecture, gender, and attitude to the English language." This hypothesis investigates the relationship between 4 variables of English knowledge, geographic location, gender and attitude.

Method

Variables

Variables allow the tracing of causal relationships and can include dependent, independent and mediating variables (Buckingham & Saunders,

2004). This study does not make use of mediating variables but does contain both dependent and independent variables. Dependent variables are those that we predict will change when other variables affect them. Independent variables are those variables that we predict will cause a change in dependent variables. Causal relations can be simple, mutual, multiple, or indirect causation (Buckingham & Saunders, 2004). Simple causation is when a dependent variable is influenced by an independent variable. In this study H_1 and H_2 are predicted to be simple causal relationships. Mutual causation is when each variable influences each other and are self reinforcing, and H_3 is predicted to have this type of relationship. Multiple causations are when two or more variables independently affect an independent variable while also co-varying with each other. H_4 is predicted to have a multiple causation pattern.

In addition, variables can be classified into continuous and categorical data (Wallen & Fraenkel, 2001). Continuous data, also known as measured or quantitative, exist in some degree rather than all or none. They are measured along some continuum and assigned a number that indicates how much of a variable they possess. Alternatively, categorical, also known as qualitative, data do not vary by amount or degree, but are either one or another. All members of a category are considered to be the same variable.

The dependant variable for H_1 is "knowledge of the English language" from the knowledge section and is predicted to be influenced by the independent variable home "prefecture" of the participant, from the background section of the instrument. The dependant variable is the total score count from the 13 item knowledge section of the questionnaire, so it was treated as a ratio (continuous) variable because it can be measured along a continuum and has the possibility of a zero value. The independent variable is a number corresponding to which of the 47 prefectures in Japan the participant considers to be home. The prefecture

variable is a nominal (categorical) variable because it contains more than two categories with no intrinsic order. However, there was no measure of how long each participant had lived in their home prefecture so the term "home" could have been interpreted differently between participants. Therefore, it is possible that one participant might consider "home prefecture" to mean where their family currently lives regardless of the length of time they have lived there, while a second participant might consider it to be their place of birth again regardless of the actual length of time spent there. The difficulty here is that with H_1 the original purpose was to see if English education varied across prefectures, but since we have no measure of how long the participant lived, and so received education, in a prefecture it would have been more meaningful if the item included a qualifier stating that home prefecture must be a place you have lived for at least ten years.

The dependant variable for H_2 is "attitude towards the English language" from the attitude section and is predicted to be influenced by the independent variable gender of the participant from the background section. The dependant variable is the sum of the participant's ratings for each item from the 10 item attitude section of the questionnaire (Trochim, 2005). Each item was rated on a 5 item Likert scale (Oppenheim, 1992) where 5 is "I strongly agree with the statement", 4 is "I agree with the statement", 3 is "I neither agree nor disagree with the statement", 2 is "I disagree with the statement", and 1 is "I strongly disagree with the statement". This data was treated as ordinal (categorical) data because it contains more than two categories that can be ranked. The independent variable is the gender of the participant which is treated as a dichotomous (categorical) variable.

H_3 is looking for a correlation between two dependent variables, the participants' "knowledge of the English language" and their "attitude to the

English language" which are predicted to have an influence upon each other. Since "knowledge of English" is continuous data and "attitude to English" is categorical data, dummy variables were used to convert the categorical data to 0 and 1 (true or false) values. The dummy attitude variables can then be used like continuous variables for the Pearson Correlation and Multiple Regression analyses. Using dummy variables in place of the 5 to 1 rating will result in five new data columns, each representing whether the record has a specific rating or not. Each record will only have one true (1) value in the dummy variable that indicates the records rating. For example, if dummy variable one represents a rating of 5, strongly agree, then when a participant selects a rating of 5 for an item, dummy variable one will have the value 1 (true) while dummy values 2 through 5 will have value of 0 (false). The number of dummy variables can be equal to the total categorical variables or the number of categorical variables minus 1, because one of the categories has an implicit value. This means a variable with 3 categories of "true", "false" and "null" can be represented with two dummy variables; for "true" only dummy variable one will have a value of 1, for "false" only dummy variable two will have the value of 1, and for "null" both dummy variables will have 0 values. In this study 5 dummy variables were used to allow for direct observation of all values.

The dependant variable for H_4 "knowledge of English language" and the independent variables are "Attitude towards the English language", "Prefecture", and "Gender". Here the 3 independent variables are predicted to affect the dependent variable and themselves. As above, dummy variables are used for prefecture, and gender is treated as continuous variable because it is already made up of the dichotomous values "0" for female and "1" for male.

Instrument

The instrument is in the form of a self-completed (Buckingham &

Saunders, 2004) Web questionnaire containing 25 items which are divided into 3 sections, background (2 items), attitude (10 items), and knowledge (13 items). The complete questionnaire instrument can be seen in appendix 1.

Other than the first item in the "Background" section, all items were pre-coded which means the answers were limited to a finite range (Buckingham & Saunders, 2004). As mentioned earlier the "attitude" section was pre-coded on a five point Likert scale while the "Knowledge" section items typically had a range of two or three possible answers. Buckingham (2004) lists three reasons for choosing pre-coding over open–ended questions. First, it makes it easier to answer the items because it is easier to click an answer than to write one out. This had an added importance because I was working with participants whose first language was not English. The presence of possible answers meant that they did not have to spend time worrying about the form of their sentences. However, much useful data might have been lost since an analysis of full sentence grammar and choice of words could have provided a wealth of data concerning both English knowledge and attitude to English. But, due to time constraints a detailed analysis of open-ended questions was not possible. The second advantage is the amount of time saved when reducing a small range of answers into categories as compared to reducing hundreds of different answers into a few categories. However, it is not always easy to predict the categories needed. During the collection phase of this study several exchange students from China and Vietnam sent emails asking which option they should choose for "Home Prefecture". It was only at this late point that the necessity for an "Other" option became clear. In the end these non-Japanese students were removed manually from the data. The third advantage is that pre-coding ensures that you get the type of data you want. This is a great advantage when statistical testing is planned because compatible data types are essential for correct analysis.

However, restricting answers to a specific type of data means we will lose much of what the respondents might want to say. If there is a strong personal emotion connected to an answer the most a respondent could do would be to choose "strongly agree" or "strongly disagree".

The "Background section" was on a separate page and contained only 3 items, student number, gender, and home prefecture. The first item, student number, was an open-ended question (Buckingham & Saunders, 2004) in the sense that any number with 10 digits could be typed, but anything other than this would cause an error until the participant entered the correct format. "Gender" was a pre-coded question (Buckingham & Saunders, 2004) limited to 2 answers in a drop-down. The "Home prefecture" was also a pre-coded item with answers in the form of a drop-down menu containing all 47 prefectures in Japan which eliminated any spelling mistakes or misunderstandings over the definition of "prefecture".

The "Attitude" section followed the "Background section". Oppenheim (1992) describes an attitude statement as expressing either a point of view, a belief, a preference, a judgment, an emotional feeling, or a position on some topic. In this questionnaire, attitude items 1 through 4 measured subject belief concerning the importance of the 4 skills of speaking, writing, reading, and listening. Items 5 and 6 are related to their agreement with a point of view on the effect of English in their professional and personal lives. Item 7 is a measure of the level of student agreement to a judgment that all university students should be made to learn English. Items 8 to 10 measure emotional feelings towards English with the use of the word "enjoy".

In designing these attitude items an effort was made to make the statements in such a way that they were not too clear or unambiguous so that the participants were more likely to invest more of themselves when answering

(Oppenheim, 1992) with the understanding that this increase in validity comes at the cost of a decrease in reliability. This can be seen in statements 3 through 6 which all end in "...is an important skill." What the skill will be used for is left up to the participants to decide. Also, statement 9, "All university students should be required to learn English", does not clearly state why they need to learn it. In addition, all of the attitude items were framed in the positive to limit the confusion that often occurs when respondents are asked to reply to a negative statement with "agree" or "disagree"(Buckingham & Saunders, 2004). Ideally, attitude statements should be drawn from a large pool of statements formed by collecting information relevant to the topic through interviews or sentence completion tasks given to a sample population (Oppenheim, 1992) after which they are reduced in number through analysis, scaling and pre-testing (Presser et al., 2004). However, due to the time constraints on this study there was insufficient time to go through all the steps of a conventional pilot study.

Finally, the "Knowledge" section contained 13 items all of which tested grammar knowledge. The grammar items were produced with the help of two reference books (Quirk & Greenbaum, 1973; Swan, 2005). An effort was made to ensure that each item measured only one dimension of English grammar so ensuring that one answer was sufficient. The inclusion of items that try to measure more than one dimension are known as "double-barreled" items (Buckingham & Saunders, 2004) and are a common mistake in questionnaire design.

Validity and Reliability

Ensuring both the validity and the reliability of an instrument is crucial for it to measure the key concepts accurately. Validity is how well an item is measuring what was intended to be measured and reliability is how well it produces the same results from the same conditions each time (Buckingham &

Saunders, 2004).

As stated in the section above, all but one of the items on the instrument were pre-coded, that is, they were limited to a specific range of possible answers. The use of pre-coded, or closed, items should increase reliability of the instrument because it is certain that the items will be answered in exactly the same way every time it is used (Buckingham & Saunders, 2004). However, the restrictions on answers means that validity is negatively affected because unlike closed questions open-ended questions would allow for more insightful answers so increasing the chance of getting at the core focus of the measure (Buckingham & Saunders, 2004).

The Cronbach Alpha statistical test of reliability was used in this study because it is the most common index of reliability which compares the sum of item variances with the variance of the sum scale(Hill & Lewicki, 2006). Cronbach alpha allows the measurement of the degree to which a set of items measures a single unidimensional latent construct such as knowledge or attitude.

Validity of the instrument was checked through a comparison with existing instruments designed to investigate English grammar knowledge (Alderson, Krahnke, & Stansfield, 1987) and attitude (Fishbein & Ajzen, 1975; Straub, Keil, & Brenner, 1997), as well as, a one-time critique of the instrument by two professionals in the area of English Language education. The logic behind this is that items are more likely to 'work' if they have been successful in other studies (Buckingham & Saunders, 2004).

Sample

In order to maximize the chance of collecting random data several steps were taken (Sapsford, 2007). First, a list of the population of participant students, known as a "sample frame" (Oppenheim, 1992), was created. This gave each first and second year student in these classes a non-zero chance

of being selected. The total number of participants available to take the questionnaire totaled 183 students from 6 classes.

The sampling frame of the population was possible because the researcher had access to a list of all first and second year students in the classes. However, a list of third and fourth (final) year students was not available. Some of the students in the initial population were repeating either their first or second years, so this may have affected their knowledge or attitude scores. In hind sight, it would have been better if these students had been removed from the sample frame population.

Data collection

The study took place over a two week period at a university in Tokyo Japan. There were 6 classes of English Communication students that took part in the study, with the understanding that all information would remain private, no student would be identifiable from the results, and that the regular class lecturers were minimally affected. A single instructor gave a short instructional demonstration to students on how to enter the web-based survey and how to record their answers. In addition, they were told that they had one week to access the system and complete the survey. The use of one instructor may have had a positive effect on the reliability since the same instructions had to be given to 6 different classes. This instruction took place over a four day period and was included at the end of the regularly scheduled classes so no major change to the students' normal schedules were required. It was made clear to the students that this survey would not in any way affect their class evaluation and that they may opt out by simply not completing the survey.

A web-based survey was chosen in order to minimize the amount of time that the students had to be taken away from their regular studies and to reduce the data collection time. The students were already familiar with the university

web-based content management system which they used each week to submit homework, so it was only a matter of adding a hyperlink to the survey web page. This meant that the students could access the survey at anytime during the week.

Results

The sample consisted of N=85 participants from a random sampling with 100% completion of the questionnaire (Table 1). The descriptive results (Table 2) for attitude were a minimum of 20 and a maximum of 50 which gives a range of 30. The standard deviation (SD) was 6.307, skewness was -.794, kurtosis was 1.075, and Kolmogorov-Smirnova (KS) significance (Table 3) was .200 (>0.05). Skewness of zero is considered normal so this result means that the shape of the distribution is slightly to the right of center. The kurtosis score indicates that the shape of distribution is leptokurtic, or peaked. The KS significance is greater than 0.05 so the distribution can be considered normal. There are three factors that determine the tests that can be used on certain types of data. The first is whether it is related or unrelated, and the data in this study is unrelated. The second is whether it is parametric or non-parametric data which requires it to be interval data, have a normal distribution, be independent, and have homogeneity of variance. The third is the nature of the data, which refers to the mean, SD, and shape of distribution. Since the interval data is normally distributed and independent it can be considered parametric which allows the use of more robust statistical tests. More specifically, this allows the use of one-way independent analysis of variance (ANOVA) to test variance on groups, independent t-tests for testing means on groups, Pearson r correlation to measure relationship between variables, and Multiple Regression analysis to measure linear relationship between variables and SD.

Concerning the reliability, Cronbach-Alpha for attitude (tables 4, 5, and 6) was .789 (n=10) which is acceptable at > 0.7, but the Cronbach-Alpha for knowledge (Tables 7, 8, and 9) was .123 (n=13) which is unacceptable at < 0.7. However, the item-total results indicate that the removal of item 11 would increase the knowledge score to .189.

Hypothesis 1 was tested with the ANOVA which is a test for significant differences between means (Hill & Lewicki, 2006). The results, as indicated by the parametric ANOVA test (Table 10), showed that there was no significant difference (Sig.=.535, p>0.05), F=.851, df=6, ns between the English knowledge held by the students and their home prefecture. Therefore, there was no statistically significant difference between the means in knowledge scores for each prefecture, so the null hypothesis was accepted.

Hypothesis 2 was tested with a t-test because it is one of the most commonly used methods to evaluate the differences in means between two groups (Hill & Lewicki, 2006). The results, as indicated by the two-tailed independent t-test (Table 11), showed that between boys (M = 37.67, SD = 6.54, n=18), and girls (M = 39.31, SD = 6.25. n=67) there was no significant difference (<0.05) in the scores (Table 12) on the attitude scale, (t=-.983, df=83, Sig. 2-tailed .328, ns). Therefore, there was no significant statistical difference between the mean attitude scores of girls and boys, so the null hypothesis was accepted.

Hypothesis 3 was tested using Pearson r correlation coefficient, also called linear or product-moment correlation (Hill & Lewicki, 2006). The correlation coefficient determines the extent to which values of two variables are proportional to each other. The results, as indicated by the Pearson correlation (Table 13), showed no positive correlation (r = -0.093, n = 85, Sig=0.395), between the variables of knowledge and attitude to English. Therefore, there

was no significant statistical correlation between knowledge and attitude, so the null hypothesis was accepted.

Hypothesis 4 was tested using Multiple regression analysis to analyze the linear relationship between several independent variables and a dependent variable (Hill & Lewicki, 2006). The results as indicated by the 'adjusted R-squared' value shows that the variables prefecture, gender, and attitude predict only -2.2% of variance in the dependent variable (Table 14). The adjusted R-squared value is the best one to use as this takes account of the fact that the prediction equation is worked out on a sample rather than the whole population. This prediction is not better than chance because significance (Table 15) is greater than 0.05 at 0.624. The related F test showed that overall this model was not significant ($F = .778$, $Sig=0.624$, $p < .05$). None of the three independent variables (Table 16) were statistically significant predictors because they were all greater than 0.05. For this analysis, the dummy variables 0 through 7 represent prefectures 8, 10, 11, 12, 13, 14, and 15 respectively. This result indicates that there was no linear relationship but it does not rule out a non-linear relationship between the data.

Discussion

The initial goal of this enquiry was to identify possible relationships that could help educators improve the English education in a Japanese university. The results indicated little or no meaningful relationships between the data. The possibility that knowledge of English could vary significantly by geographic location in Japan was not hard to believe considering the remote nature of many small villages that lack native English speaking or even Japanese speakers of English. One explanation for the results is that the initial population did not represent all of the 47 Japanese prefectures. When the enquiry started

it was assumed that students in the department would be relatively evenly distributed across the country, while in fact the vast majority of students came from prefectures within 2 hours commute from the school. This means that the population is made up of students who studied in high schools within or very close to the Metropolitan Tokyo area which is the wealthiest area of Japan and most likely to have access to native English speaking instructors. In the future it would be better to draw upon a much larger initial population by contacting universities in each prefecture across Japan. This would ensure that a much broader cross-section of society was sampled.

The difference in attitude between males and females also did not appear to be meaningful. This seemed at first to be an interesting question because the department has approximately 1 boy for every 15 girls enrolled. This is a very large gap in numbers so it was not beyond imagining that there was some attitude that boys held which was stopping them from entering the program. Of course the results could be explained by the small number of boy participants or that the few boys that joined the program were biased in favor of English so did not agree with the commonly held attitude of the boys in general in Japanese society. Since the enquiry only had access to participants within the department of English communication it was not possible to sample the larger populations' attitude. In the future a much larger population size could be used which might include other departments in the university and more than one university. This would ensure that the population did not have a bias in favor of studying English.

Perhaps the biggest surprise from this enquiry was the lack of a correlation between attitude and knowledge. However, if we consider that the participants chose to study English it is not a leap to assume that they shared similar attitudes towards English. This would mean that the attitude sample was not diverse

enough to allow for a meaningful result. Again a larger population to sample from would help to ensure that a broad spectrum of attitudes both positive and negative was represented in the sample. While the results indicate that there was no linear relationship between knowledge and the other three variables, this does not mean that there is not a non-linear relationship which could be explored with other analyses.

Overall the enquiry results can be explained by the limited population from which the random sample was taken. Perhaps a convenience sample of university aged students from a street corner in downtown Tokyo would have given a more meaningful result. Another option would be to widen the population to include a much larger number of schools and a much broader range of disciplines of study within those schools. In the future, I hope to make the changes noted here and repeat the enquiry with the goal of discovering some meaningful relationships and so add to the current body of research in the area.

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Appendices

Appendix 1: Instrument

Correct answers are marked with * where applicable.

Part A: Background information

1. Are you male of female? Male Female
2. Using the list below, write the number of your home prefecture. Prefecture # _____

Hokkaidō: 1. Hokkaidō

Tōhoku: 2. Aomori, 3. Iwate, 4. Miyagi, 5. Akita, 6. Yamagata, 7. Fukushima

Kantō: 8. Ibaraki, 9. Tochigi, 10. Gunma, 11. Saitama, 12. Chiba, 13. Tokyo, 14. Kanagawa

Chūbu: 15. Niigata, 16. Toyama, 17. Ishikawa, 18. Fukui, 19. Yamanashi, 20. Nagano, 21. Gifu, 22. Shizuoka, 23. Aichi

Kansai: 24. Mie, 25. Shiga, 26. Kyoto, 27. Osaka, 28. Hyōgo, 29. Nara, 30. Wakayama

Chūgoku: 31. Tottori, 32. Shimane, 33. Okayama, 34. Hiroshima, 35. Yamaguchi

Shikoku: 36. Tokushima, 37. Kagawa, 38. Ehime, 39. Kōchi

Kyūshū: 40. Fukuoka, 41. Saga, 42. Nagasaki, 43. Kumamoto, 44. Ōita, 45. Miyazaki, 46. Kagoshima

Okinawa: 47. Okinawa

Part B: Attitude:

3.	I believe speaking English is an important skill.	5	4	3	2	1
4.	I believe writing English is an important skill.	5	4	3	2	1
5.	I believe reading English is an important skill.	5	4	3	2	1
6.	I believe listening to English is an important skill.	5	4	3	2	1
7.	Learning English will have a positive effect on my professional career.	5	4	3	2	1
8.	Learning English will have a positive effect on my personal life.	5	4	3	2	1
9.	All university students should be required to learn English.	5	4	3	2	1
10.	I enjoy watching English language movies without subtitles.	5	4	3	2	1
11.	I enjoy reading books written in the English language.	5	4	3	2	1
12.	I enjoy speaking to people in English.	5	4	3	2	1

Part C: Knowledge

13. Identify the SUBJECT in the following sentence.

    *1. [*One of the dogs*] 2. [*is missing*.]

14. Identify the PREDICATE in the following sentence.

    1. [*One of my best dogs*] *2. [*has gone*.]

15. Which of the following is an INTEROGATIVE sentence?

    1. *The car has stopped.* *2. *Has the car stopped?*

16. Identify the VERB in the following sentence.

    1. [*The fire*] *2. [*is*] 3. [*in*] 4. [*the fireplace*.]

17. Identify the SUBJECT in the following sentence.

    *1. [*Bill*] 2. [*will be*] 3. [*21*] 4. [*in August*.]

18. Identify the COMPLEMENT. in the following sentence.

    1. [*Jack*] 2. [*is*] *3. [*my nephew.*]

19. Identify the PAST PARTICIPLE.

    1. *go* 2. *went* 3. *going* *4. *gone*

20. Identify the INFINITIVE sentence.

    *1. *He tried to skate faster.* 2. *His skating is remarkable.*

21. Identify the GERUND sentence.

    1. *He tried to skate faster.* *2. *His skating is remarkable.*

22. Identify the CORRECT verb agreement.

    *1. He takes 2. We takes 3. They takes

23. Identify the MAIN CLAUSE in the following sentence.

    *1. [*I admire a man*] 2. [*who has convictions.*]

24. Identify the SUBORDINATE CLAUSE in the following sentence.

    1. [We can start] *2. [whenever you're ready.]

25. Identify the sentence in which the adjective MODIFIES THE NOUN.

    1. *We all felt <u>bad</u> about his accident.* *2. *The engine runs <u>badly</u>.*

Table 1

SPSS output: Processing summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Attitude Total (50)	85	100.0%	0	.0%	85	100.0%

Table 2

SPSS output: Descriptive statistics

			Statistic	Std. Error
Attitude Total (50)	Mean		38.96	.684
	95% Confidence Interval for Mean	Lower Bound	37.60	
		Upper Bound	40.32	
	5% Trimmed Mean		39.34	
	Median		39.00	
	Variance		39.773	
	Std. Deviation		6.307	
	Minimum		20	
	Maximum		50	
	Range		30	
	Interquartile Range		8	
	Skewness		-.794	.261
	Kurtosis		1.075	.517

Table 3

SPSS output: Normality tests

	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Attitude Total (50)	.084	85	.200*	.954	85	.004

a. Lilliefors Significance Correction

*. This is a lower bound of the true significance.

Table 4

SPSS output: Attitude Reliability Statistics

Cronbach's Alpha	N of Items
.789	10

Table 5

Reliability: Cronbach's Alpha Attitude Item Statistics

	Mean	Std. Deviation	N
Attitude Q1	4.36	1.132	85
Attitude Q2	4.11	.951	85
Attitude Q3	4.33	.836	85
Attitude Q4	4.35	1.055	85
Attitude Q5	4.48	.895	85
Attitude Q6	4.29	.986	85
Attitude Q7	3.61	1.135	85
Attitude Q8	2.79	1.301	85
Attitude Q9	3.04	1.139	85
Attitude Q10	3.60	1.217	85

Table 6

Reliability: Cronbach's Alpha Attitude Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Attitude Q1	34.60	31.695	.533	.761
Attitude Q2	34.86	33.861	.452	.772
Attitude Q3	34.64	33.234	.605	.758
Attitude Q4	34.61	30.764	.675	.744
Attitude Q5	34.48	32.586	.625	.755
Attitude Q6	34.67	31.890	.621	.753
Attitude Q7	35.35	35.826	.196	.803
Attitude Q8	36.18	36.957	.071	.826
Attitude Q9	35.93	32.543	.457	.771
Attitude Q10	35.36	30.354	.592	.753

Table 7

Reliability: Knowledge Reliability Statistics

Cronbach's Alpha	N of Items
.123	13

Table 8

Reliability: Cronbach's Alpha Knowledge Item Statistics

	Mean	Std. Deviation	N
Knowledge Q1	1.09	.294	85
Knowledge Q2	1.94	.237	85
Knowledge Q3	1.66	.477	85
Knowledge Q4	2.04	.286	85
Knowledge Q5	1.16	.614	85
Knowledge Q6	2.98	.217	85
Knowledge Q7	3.53	.853	85
Knowledge Q8	1.07	.258	85
Knowledge Q9	1.91	.294	85
Knowledge Q10	1.06	.322	85
Knowledge Q11	1.19	.393	85
Knowledge Q12	1.85	.362	85
Knowledge Q13	1.36	.484	85

Table 9

Reliability: Cronbach's Alpha Knowledge Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Knowledge Q1	21.74	2.599	.002	.128
Knowledge Q2	20.89	2.667	-.047	.140
Knowledge Q3	21.18	2.361	.067	.096
Knowledge Q4	20.80	2.495	.121	.086
Knowledge Q5	21.67	2.033	.158	.016
Knowledge Q6	19.86	2.551	.128	.093
Knowledge Q7	19.31	1.953	.002	.168
Knowledge Q8	21.76	2.611	.012	.124
Knowledge Q9	20.93	2.471	.140	.078
Knowledge Q10	21.78	2.628	-.043	.146
Knowledge Q11	21.65	2.683	-.117	.186
Knowledge Q12	20.99	2.369	.168	.055
Knowledge Q13	21.47	2.514	-.040	.159

Table 10

Hypothesis 1: ANOVA Tests of Between-Subjects Effects

Dependent Variable:Knowledge Total (13)

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	7.291[a]	6	1.215	.851	.535
Intercept	5294.962	1	5294.962	3706.927	.000
pref	7.291	**6**	1.215	**.851**	**.535**
Error	111.415	78	1.428		
Total	10514.000	85			
Corrected Total	118.706	84			

a. R Squared = .061 (Adjusted R Squared = -.011)

Table 11

Hypothesis 2: t-test Group Statistics

	Gender	N	Mean	Std. Deviation	Std. Error Mean
Attitude Total (50)	male	18	37.67	6.544	1.542
	female	67	39.31	6.246	.763

Table 12

Hypothesis 2: t-test Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
Attitude Total (50)	Equal variances assumed	.157	.693	**-.983**	**83**	**.328**	-1.647	1.675	-4.977	1.684
	Equal variances not assumed			-.957	25.938	.347	-1.647	1.721	-5.184	1.891

Table 13

Hypothesis 3: Pearson Correlation

		Attitude Total (50)	Knowledge Total (13)
Attitude Total (50)	Pearson Correlation	1	**-.093**
	Sig. (2-tailed)		.395
	N	85	85
Knowledge Total (13)	Pearson Correlation	**-.093**	1
	Sig. (2-tailed)	.395	
	N	85	85

Table 14

Hypothesis 4: Multiple Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.275[a]	.076	**-.022**	1.202

a. Predictors: (Constant), Attitude Total (50), dummy var6, dummy var1, dummy var5, dummy var 0, female, dummy var3, dummy var4

Table 15

Hypothesis 4: Multiple Regression ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	8.982	8	1.123	.778	**.624a**
	Residual	109.724	76	1.444		
	Total	118.706	84			

b. Dependent Variable: Knowledge Total (13)

Table 16

Hypothesis 4: Multiple Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	11.792	.861		13.691	.000
	female	-.022	.330	-.008	-.067	.946
	dummy var0	-.086	.438	-.023	-.195	.846
	dummy var1	.677	.881	.087	.769	.445
	dummy var3	.634	.410	.187	1.547	.126
	dummy var4	.415	.351	.146	1.183	.241
	dummy var5	-.443	.546	-.096	-.811	.420
	dummy var6	.105	.579	.021	.182	.856
	Attitude Total (50)	-.023	.021	-.120	-1.070	.288

a. Dependent Variable: Knowledge Total (13)