

The Effect of Choice on Task Affect and Task Output

John THURMAN*

Abstract

In this study are the results of an examination of the influence choice would have upon two affective variables, Task Interest and Task Self-Efficacy, and three oral production variables, Accuracy, Complexity, and Fluency, while the participants were conducting task-based lessons. There were three levels of choice: none, limited, and complete, and there were three types of tasks: descriptive, narrative, and decision-making. The results showed that the participants had statistically significant more Task Interest and Task Self-Efficacy with the limited level of choice for all tasks, and Complexity was enhanced for all treatments of choice. The results were more mixed in regards to Accuracy and Fluency, but choice instilled greater levels of both in most cases. Results suggest that a new variable for task design and task implementation, choice, should be considered.

Key words: Choice, task affect, task-based language teaching, task output, accuracy, complexity, fluency

The Effect of Choice on Task Affect and Task Output

The aim of the research summarized in this article is to examine closely the effectiveness of utilizing a technique known to facilitate autonomy, that of providing a choice of a task topic, and how this choice influences the affective variables of motivation and self-efficacy, as well as variables of task oral production, operationalized in this paper as accuracy, complexity, and fluency. A unique contribution of the design of this study is that it incorporates two influential disciplines. From the area of human motivation, autonomy has shown to be highly salient in increasing feelings of controlling the environment (e.g., Dember, Galinsky, & Warm, 1992) and in promoting self-determined motivation (e.g., Deci & Ryan, 1985).

In this study, autonomy is defined as the amount of choice that students have in selecting the topic of the task: no choice, a limited choice of three topics, or an unlimited topic choice confined by the limitations of the type of task. The reason a level of limited choice is utilized is to introduce an intermediate level of topic choice which also melds choice with teacher guidance.

Choice can be motivationally beneficial when participants can choose the tasks in some way. Zuckerman, Porac, Lathin, Smith, and Deci (1978) compared university students who were given a choice of a puzzle form to complete and students who were not. The result was that the students who could choose the puzzle form spent more time completing the puzzle, compared to those who could not choose the puzzle form, an indicator of greater intrinsic

motivation. Even the illusion that there is a choice, such as when gambling (Langer, 1975), has been shown to be a powerful motivator.

Choice also implies a power to control the environment. In the words of Langer and Rodin (1976), choice is "a crucial variable in enhancing an induced sense of control." (p.192). Dember et al. (1992) found that participants were significantly more vigilant (in detecting bar flashes on a computer screen) when they were told they had a choice of a difficult or easy task, compared to those who were told they had no such choice, even though the random assignment of the task was the same for both groups. This result suggests that participants may be more cognitively aware while engaged in a task if they have a choice in the pre-task implementation stage, even when there is no actual difference between the tasks.

In relation to task-based language teaching, this research utilized three different types of tasks. One type of task is a static task, which is a task in which learners describe static relationships and by doing so are describing object properties, the location of objects, and the relationship between the objects (Brown & Yule, 1983). A second type of task is a narrative task which incorporates dynamic relationships and learners must be able to tell a coherent story using language indicating locations, activities, and states, as well as descriptions so that the hearer can understand and re-create the story. Lastly, with a decision-making task, Foster and Skehan (1996) suggested that speakers have to consider new information, evaluate the information, and defend their opinions when engaged in this type of task. Although the main aim of this study is

*兵庫教育大学 (社会・言語教育学系)

to examine the differences between the different levels of choice, enough material will be provided so that the reader may examine the differences between the different types of tasks as well. For a more detailed examination of the differences between the tasks, please refer to Thurman (2008b).

Study 1 will center on the effect of choice upon what Reeve (1997) referred to as two mini-theories of motivation, self-determined motivation (e.g., Deci & Ryan, 1985), and self-efficacy (e.g., Bandura, 1977, 1993). According to Ryan and Deci (2000, p.68), self-determined motivation is a theory of human motivation centered on the human capacity for inner personality development and behavioral regulation. This theory places motivation on a continuum from amotivation, through extrinsic motivation, to intrinsic motivation, where choice plays a large role in inducing feelings of autonomy. Important in this continuum is the increase of the perceived locus of causality. The greater the feelings of autonomy, the more internal this locus of causality becomes. In the field of language learning research, Noels (e.g., 2001) has centered her research on this theory of human motivation.

Self-efficacy centers on how well a person can cope successfully with the demands of the task. According to Reeve (1997), "self-efficacy . . . determines the extent to which a performer copes successfully when skills are stressed" (p.188), and that when self-efficacy increases, anxiety is reduced. Stotland and Blumenthal (1964) found that when a participant could choose a task, anxiety was significantly lower compared to those who were not able to choose the task. In the field of language learning motivation, both Dörnyei (1994, 2001) and Tremblay and Gardner (1995) support a self-efficacy component in their hypotheses of language learning motivation. While Dörnyei places self-efficacy as a sub-component of self-confidence at the learner level, Tremblay and Gardner propose a direct influence upon language learning motivation and relate self-efficacy and language use anxiety in their updating of Gardner's (1985) Socio-Educational Model.

A common research perspective (e.g., Ellis, 2005; Foster & Skehan, 1996; Skehan & Foster, 1997) is to examine the differences between different types of tasks in relation to the three assessment tools of oral output, accuracy, complexity, and fluency. Study 2 will center on the effect choice has upon these three output variables. Accuracy, complexity, and fluency, as they are related to research of oral production, have been defined extensively (e.g., Ellis, 2003; Ellis & Barkhuizen, 2005; Lennon,

2000; Skehan, 1996, 2003; Skehan & Foster, 1999) and the following can be considered as an amalgamation of various definitions. Accuracy is performance that is native-like through its rule-governed nature and is connected with a learner's capacity to handle the language capabilities at whatever level of interlanguage complexity the learner has acquired at the time. Accuracy is also related to the learner's norms in regards to beliefs about the necessity of accuracy. Increasing complexity indicates change and development in the interlanguage system and is based on the ability of learners to take risks, use more syntactically complex language, and use more language subsystems with the possibility that such language may not be controlled effectively. Fluency is the ability to use linguistic resources to the best of one's ability while communication is taking place and to produce speech at a normal rate of speaking.

In summary, this study has two independent variables, three different levels of choice (none, limited, and complete) and three different types of tasks (descriptive, narrative, and decision-making). Study 1, based on survey data, is an examination of two dependent variables; Task Interest, and Task Self-Efficacy. Study 2, based on production data, is an examination of three dependent variables; Accuracy, Complexity, and Fluency.

Study 1 consists of two research questions, whether choice can affect Task Interest and Task Self-Efficacy. It is hypothesized that choice can influence these dependent variables positively, but complete choice may actually be related to lower levels of Task Interest, based on research that claims that too much choice may engender feelings of de-motivation (e.g., Iyengar & Lepper, 2000; Schwartz, 2004a, 2004b). This may not be the case with Task-Self-Efficacy and there may be a linear increase of Task Self-Efficacy as more choice is presented.

Study 2 consists of three research questions, whether choice can affect the oral output in relation to Accuracy, Complexity, and Fluency. It is hypothesized that there may be a linear progression of greater oral output for each of the dependent variables, according to research that showed that with choice, there is a greater amount of attention to the completion of the task (e.g., Dember et al., 1992). In addition, choice may also engender greater willingness to communicate (e.g., MacIntyre, Clément, Dörnyei, & Noels, 1998; Yashima, 2002), which has been shown by Kormos and Dörnyei (2004) to possibly have a relation with more complex and fluent output. Lastly, increased motivation itself, enhanced by choice, may affect attention

(Crookes & Schmidt, 1991) which may support more complexity in the oral production (Robinson, 2003; Skehan, 2007).

Method

The design of this study is a 3 x 3 repeated measures design. There were nine treatments in all. The procedures for the data collection sessions are in Figure 1. Each task was commenced twice for every treatment. The first time a task was started, one of the pair had the complete information of the topic for the no choice of topic treatment and also chose the task for the choice treatments when that occurred. This is known as the *first round* of the task. When this task was completed, the students reversed roles with the same task and level of choice.

Participants and Data Collection

For Study 1, there were 78 participants (female = 55, male = 23; average age = 18.8) who were first-year Japanese university students. An after-task survey (Figure 2, with English translation and item sources) was administered each time the students finished a task. Questionnaire data from both rounds (see Figure 1) were utilized. The mean for the Cronbach alpha reliability result over the nine treatments was .85 with a range of .80 to .88.

For Study 2, there were 21 dyads from the same pool of participants as in Study 1. All but two were same-sex pairs. The conversations of these pairs were recorded over the nine treatments and were then transcribed and coded for data analysis. There were differences in the length the participants conversed for each type of task and to more

evenly compare the interactions across all nine treatments, the first two minutes of each interaction was coded. In addition, only the production data from the second round (see Figure 1) was utilized to calculate Accuracy, Complexity, and Fluency, when the participants were more familiar with the requirements of the task and conversed more on the task itself rather than how to do the task. Accuracy was operationalized as error-free clauses (e.g., Ellis & Yuan, 2003), complexity as type-token ratio (e.g., Robinson, 1995), and fluency as word count (e.g., Duff, 1986). Although there are many methods of assessing accuracy, complexity, and fluency (Ellis & Barkhuizen, 2005, pp.139-164), careful consideration deemed these as more appropriate for these participants. For example, to assess fluency, silence and pausing is often utilized. However, because silence is acceptable in Japanese discourse (e.g., Gudykunst & Nishida, 1994; Harumi, 2002; Lebra, 1987; Yamada, 1997) and because some writing was required to complete some tasks, silence that was not an indication of disfluency may be introduced. Type-token ratio is also a very commonly used statistic to assess lexical complexity, but it has one weakness in that it is influenced by text length: the shorter the text is, the higher the ratio is likely to be (e.g., Malvern & Richards, 1997; Wolfe-Quintero, Inagaki, & Kim, 1998). However, this method of assessing output has a long history in both first and second or foreign language situations (Johnson,

Figure 1. Procedures for data collection.

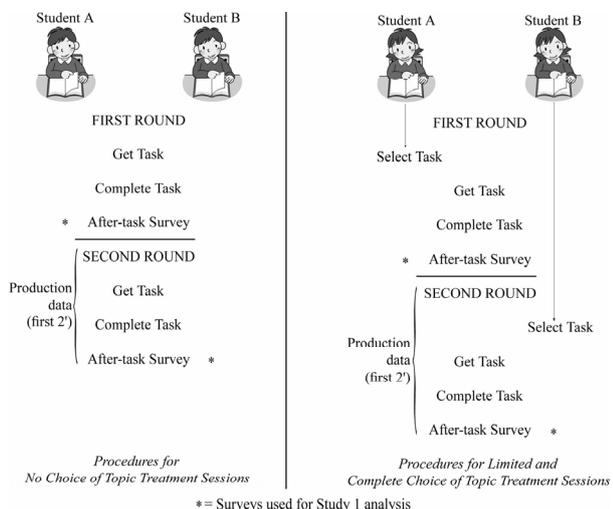


Figure 2. After-task survey.

- タスク行っ後の質問
あなたの考えを最もよく表す言葉を選んでください。 (I do not think so at all = 1)
この調査は授業評価には関係ありません。 (If I were to say, I do not think so = 2)
(An after-task survey) (I can not say either way = 3)
(Please choose a response that best explains your thinking.) (If I had to say, I think so = 4)
(This survey has no connection with grading.) (That is {exactly} what I think = 5)
- 全くそう思わない。 = 1
どちらかといえばそう思わない。 = 2
どちらとも言えない。 = 3
どちらかといえばそう思う。 = 4
その通りだと思う。 = 5
1. 私はこのタスクを楽しんで行った。 (I liked this task. (original item)) 1 2 3 4 5
 2. 私はこのタスクから何かを学んだことができた。 (I learned from this task. (Julkunen, 1989)) 1 2 3 4 5
 3. 私は自分の気持ちを自由にパートナーと話すことができたと思う。 (I told my feelings to my partner while doing this task. (Takashima, 2000)) 1 2 3 4 5
 4. 私は不自然な沈黙なしにパートナーと話すことができたと思う。 (I talked with my partner without undue silence. (Takashima, 2000)) 1 2 3 4 5
 5. 私は、自分のパートナーと協力できたと思う。 (I cooperated with my partner while doing this task. (Takashima, 2000)) 1 2 3 4 5
 6. 私はこのタスクが楽しむことができた。 (I enjoyed doing this task. (original item)) 1 2 3 4 5
 7. 私はこのようなタスクをもっと行いたい。 (I want to do more tasks like this. (Robinson, 2001b)) 1 2 3 4 5
 8. 私にとってこのタスクは難しかった。 (This task was difficult. (Julkunen, 1989)) 1 2 3 4 5
 9. 私はこのタスクにたくさんの時間を使ったと思う。 (I used a lot of time doing this task. (Julkunen, 1989)) 1 2 3 4 5
 10. 私は全力を尽くしてこのタスクをやりとおすことができたと思う。 (I did the task to the best of my ability. (Julkunen, 1989)) 1 2 3 4 5
 11. 私はこのタスクに集中した。 (I was able to concentrate while doing this task. (Julkunen, 1989)) 1 2 3 4 5
 12. 私は自分のできばえに満足している。 (I am satisfied with my performance doing this task. (Julkunen, 1989)) 1 2 3 4 5

ご協力ありがとうございます。
(Thank you for your cooperation)

1944; Wolfe-Quintero et al. 1998). In addition, as Samuda (2001) has shown, low proficiency learners often overcome communication difficulties lexically rather than grammatically.

Task Materials

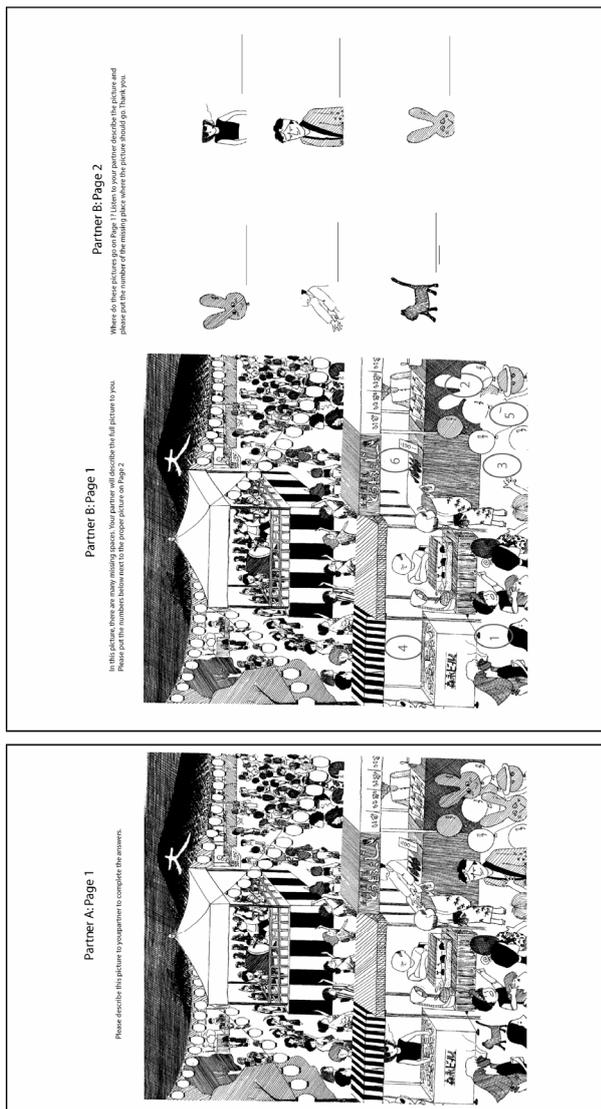
For the descriptive task (one-way, closed) with no choice and limited choice of topic, the participants completed modified activities from Nicholson and Sakuno (1982) (example in Figure 3). For the session with complete choice of topic, the participants described a place that they chose while their partner sketched it.

For the narrative task (one-way, closed) with no choice and limited choice of topic, students told picture stories from Heaton (1966). For these tasks, one person of the pair held the story in the correct order and the other not

in the correct order. The goal of the task was for that person to put the story into the correct order by interacting with his or her partner. For the session with complete choice of topic, the students told a personal story that they chose while their partner listened to the story and outlined it.

All of the decision-making task (two-way, open) topics (Figure 4) were made originally for this study. Rather than topics that require a moral judgment, topics for the no and limited choice treatments included what questions to ask world leaders, deciding upon what people to make a home page about, what to put in a time capsule together, and other similar topics. For the session with complete student choice of topic, students engaged in topics dealing with current environmental problems and deciding a solution.

Figure 3. Example of descriptive task



Results

Study 1

Before the data were analyzed with factor analysis, univariate outliers with a z-score of +/- 3.29 for any item were removed and items violating the assumption of normality were transformed. Next, multivariate outliers, examined using Mahalanobis distance, were removed. After this step, 78 participants remained.

Factor analysis revealed that eight items from the survey, Items 1, 2, 5, 6, 7, 9, 10, and 11 loaded more consistently across all nine treatments into one factor. The data from these items formed the Task Interest dependent

Figure 4. Topics for decision-making tasks

No Choice of Topic, First-Round Task:

You and your partner have won a prize to visit three foreign countries. You can visit any three foreign countries but you only can spend one day in each country. The rest of the time you will be traveling in the plane. What three countries would you and your partner like to visit? Why do you two want to go to that country? Please discuss and decide with your partner which countries you would like to visit.

No Choice of Topic, Second-Round Task:

Please decide the following. You and your partner will be able to visit six world leaders today. What questions would you like to ask them? Please write a question for each world leader.

Topics for Limited Choice of Topic, First-Round Task:

1. You and your partner will have a visitor from the United States. You and your partner have one day to take him to Kyoto. You and your partner have enough time to take this person to six (6) places. Which places do you want to go to? Please put a check next to the places you want to go to. Good Luck! (adapted from http://www.pref.nara.jp/nara_e/index.html).
2. You and your partner will go on a camping trip. What will you and your partner take? You will already have a tent, a sleeping bag, and a backpack. What ten (10) things will you take?
3. The university will make a time capsule. This is a box where you put personal things and then the time capsule is put in the ground. This time capsule will be removed from the ground in 100 years. What four (4) things will you put in this time capsule? Please choose four things with your partner and the reason for putting them in the time capsule. Good luck!

Topics for Limited Choice of Topic, Second-Round Task:

1. You and your partner will have a visitor from the United States. You and your partner have one day to take him to Kyoto. You and your partner have enough time to take this person to six (6) places. Which places do you want to go to? Please put a check next to the places you want to go to. Good Luck! (adapted from <http://www.japan-guide.com/e/2155.html>).
2. You and your partner will go America. You and your partner only have enough space to take ten personal items between you. What will you and your partner take in your luggage? Please choose ten (10) things to take. What ten (10) things will you take?
3. You will make a home page of famous Japanese people of today. You and your partner only have enough space to write about four (4) people. Please choose four people and the reason you chose that person.

variable. The remaining items, Items 3, 4, 8 (reverse-coded), and 12, loaded more consistently across all nine treatments into a second factor. This formed the Task Self-Efficacy dependent variable.

Data were validated using Winsteps (Linacre, 2004) and the person ability logit scores were entered into SPSS for final analysis for repeated measures ANOVA analysis. Correcting for the number of comparisons, interactions at the $p < .025$ (.05/2) significance level will be considered statistically significant. In addition, to correct for Type II errors, figures for effect size (η^2) and observed power (β) are provided. According to Tabachnick and Fidell (2007, p.54), effect size represents the degree to which the independent variables and the dependent variables overlap, or are related. According to these authors (p. 55), an effect size of $\eta^2 = .01$ is small, a size of $\eta^2 = .09$ is medium, and an effect size of $\eta^2 = .25$ is large. The observed power takes the given data as representative of the population and estimates the proportion of times a significant result would be obtained in a random sample of this size. In this case, a β of .90 or better is desired.

Task Interest

In Table 1 are the results of the descriptive analysis for Task Interest. In general, all treatments for the limited level of choice (capital “B”) had the highest mean. The Rasch Item Reliability (RIR) score is related to the KR-20 or the Cronbach alpha for assessing reliability, but, according to Linacre (1997), it is more conservative and less misleading. A low score may indicate that a larger sample from the population is needed.

The results of the repeated-measures ANOVA for the Task Interest variable are shown in Table 2. Mauchly’s test indicated that the assumption of sphericity had been met for the analysis. There was a significant main effect for Choice and a significant interaction effect between Task and Choice. For all three tests, the observed power is quite high, suggesting that the probability is high for avoiding a Type II error. The large effect size for Choice may indicate that Task Interest and Choice are related to a strong degree.

Examining the profile plot for the level of choice of task topic (Figure 5, right panel), the limited level of choice showed the highest level for all task types. However, the motivation to engage in the task dropped steeply for all task types when the complete choice of topic was introduced (Figure 5, left panel). Pairwise comparisons with a Bonferroni correction indicated that

Table 1
Descriptive statistics for Task Interest.

Treatment	M	SEM	95% Con. Int. ^a		SD	Min ^b	Max ^c	S ^d	K ^e	RIR ^f
			Low	High						
1A	66.44	1.81	62.84	70.03	15.94	42	100	.71	-.27	.94
2A	61.28	1.74	57.81	64.75	15.39	32	100	.98	.78	.89
3A	66.14	1.88	62.41	69.88	16.56	32	100	.68	-.17	.86
1B	70.09	1.69	66.73	73.45	14.92	37	100	.43	-.06	.95
2B	69.19	2.02	65.17	73.21	17.82	32	100	.26	-.77	.95
3B	66.86	1.99	62.89	70.83	17.59	32	100	.41	-.50	.92
1C	66.35	1.74	62.88	69.81	15.35	36	100	.71	.19	.88
2C	59.19	1.96	55.29	63.09	17.29	32	100	1.09	.19	.88
3C	61.96	1.75	58.48	65.44	15.44	36	100	.99	.66	.85

^a 95% Confidence Interval. ^b Minimum. ^c Maximum. ^d Skewness. ^e Kurtosis. ^f Rasch Item Reliability.
Notes. 1 = Descriptive task; 2 = Narrative task; 3 = Decision-Making task; A = No topic choice; B = Limited topic choice; C = Complete topic choice.
N = 78. SES = .27. SEK = .54.

Table 2
Repeated-Measures ANOVA Results for Task Interest

Source	df	SS	MS	F	η^2	β
Task	2	2296.52	1148.26	10.72*	.12	.99
Error (Task)	154	16494.37	107.11			
Choice	2	4669.37	2334.68	23.99*	.24	.99
Error (Choice)	154	14989.52	97.34			
Task x Choice	4	1473.93	368.48	4.13*	.05	.92
Error (Task x Choice)	308	27469.85	89.19			

Notes. η^2 = effect size (partial eta squared). β = observed power.
* $p < .025$.

the limited level of topic choice was significantly higher than both the no choice and the complete choice of topic treatments ($p < .05$). However, there was no significant difference between the no choice of topic and complete choice of topic treatments.

Task Self-Efficacy

In Table 3 are the results of the descriptive analysis for Task Self-Efficacy. Again, except for the descriptive task (Arabic numeral “1”), the limited choice (capital “B”) was higher.

The results of the repeated-measures ANOVA for the Task Self-Efficacy dependent variable are shown in Table 4. Mauchly’s test indicated that the assumption of sphericity had been violated for the interaction effect between Task and Choice ($\chi^2(9) = 22.09, p < .05$). The interaction effect of Task and Choice ($\epsilon = .74$) was $< .75$ for Mauchly’s test of sphericity so the degrees of freedom was corrected using Greenhouse-Geisser estimates of

Figure 5. Task Interest by task (left) and by choice (right).

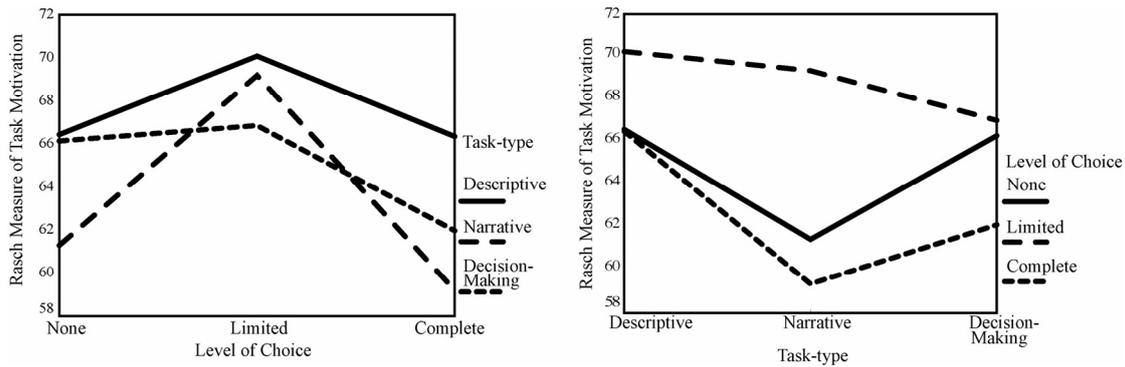


Table 3
Descriptive statistics for Task Self-Efficacy.

Treatment	M	SEM	95% Con. Int. ^a		SD	Min ^b	Max ^c	S ^d	K ^e	RIR ^f
			Low	High						
1A	57.35	1.74	53.89	60.80	15.32	12	100	-.20	1.05	.94
2A	51.62	2.01	47.61	55.62	17.75	14	100	-.13	.56	.97
3A	52.77	1.69	49.41	56.13	14.88	0	86	-.63	1.48	.98
1B	56.60	1.75	53.11	60.09	15.48	0	86	-.74	1.35	.96
2B	59.03	1.38	56.28	61.77	12.19	22	100	-.05	1.35	.97
3B	55.99	1.28	53.43	58.54	11.34	25	86	-.57	.88	.96
1C	54.42	1.34	51.76	57.08	11.80	27	85	-.29	.63	.95
2C	54.74	1.56	51.63	57.85	13.80	23	87	1.41	.11	.97
3C	47.46	1.85	43.78	51.14	16.33	0	100	-.26	1.48	.97

^a 95% Confidence Interval. ^b Minimum. ^c Maximum. ^d Skewness. ^e Kurtosis. ^f Rasch Item Reliability.

Notes. 1 = Descriptive task; 2 = Narrative task; 3 = Decision-Making task; A = No topic choice; B = Limited topic choice; C = Complete topic choice.
N = 78. SES = .27. SEK = .54.

sphericity $\hat{\epsilon} = .89$), as suggested by Girden (1992). There was a significant main effect for Choice and a significant interaction effect between Task and Choice. As in Task Interest, the observed power for all three tests is high. However, a medium effect size for the Choice main effect may indicate that there was only a partial relationship between the dependent and independent variables.

In the profile plot for Task Self-Efficacy by level of

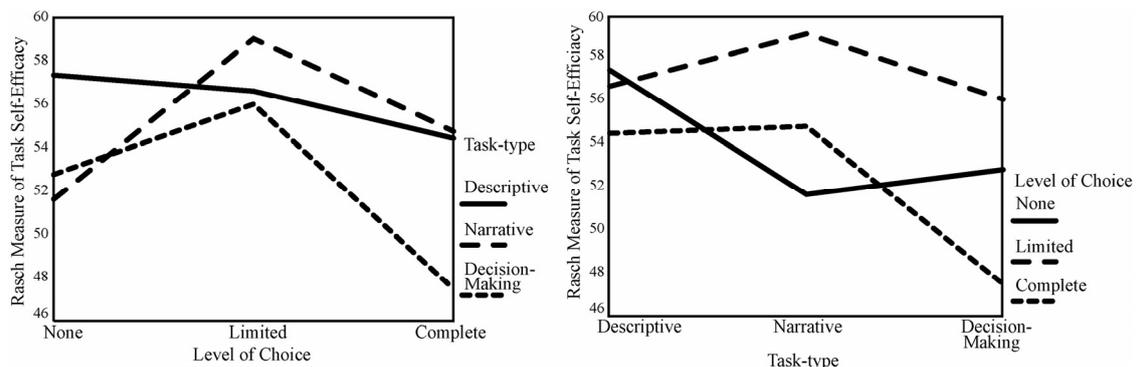
Table 4
Repeated-Measures ANOVA for Task Self-Efficacy

Source	df	SS	MS	F	η^2	β
Task	2	2085.78	1042.89	8.16*	.10	.96
Error (Task)	154	19691.33	127.87			
Choice	2	3019.10	1509.55	9.55*	.11	.98
Error (Choice)	154	24336.68	158.03			
Task x Choice ^a	3.54	2391.35	674.87	5.02*	.06	.95
Error	272.85	36661.53	134.36			

(Task x Choice)^a
Notes. η^2 = effect size (partial eta squared). β = observed power.
^a df and MS from Greenhouse-Geisser correction for degrees of freedom.
* $p < .025$.

choice (Figure 6, right panel), the limited choice of topic treatment engendered higher levels of self-efficacy. However, the no choice of topic and the complete choice of topic treatments showed mixed results and mirrored each other across the different types of tasks. As in Task Interest, the level of Task Self-Efficacy was parabolic across the different levels of choice (Figure 6, left panel). Pairwise comparisons with a Bonferroni correction indicated that the limited level of topic choice was significantly higher than both the no choice and the complete

Figure 6. Task Self-Efficacy by task (left) and by choice (right).



choice of topic treatments, at the $p < .05$ significance level. However, there was no statistically significant difference between the no choice of topic and complete choice of topic treatments.

Study 2

The data for Study 2 were collected from the first two minutes of the recorded conversations between the pairs, which were then coded for Accuracy (error-free clauses), Complexity (type-token ratio), and Fluency (word count). Analysis of the production data was conducted with the original, untransformed raw data. Correcting for the number of comparisons in Study 2, interactions at the $p < .017$ (.05/3) significance level were considered statistically significant.

Accuracy

In Table 5 are the results of the descriptive analysis for Accuracy. It is more difficult to make out a pattern, other than that either treatment of choice, limited (capital “B”) or complete (capital “C”) was highest, even if by a small margin, except for the descriptive task with no choice of topic (capital “A”). The Task main effect for Accuracy failed the assumption of sphericity ($\chi^2(2)=9.20, p < .05$). The interaction effect of Task and Choice ($\epsilon=.62$) was $< .75$ for Mauchly’s test of sphericity so the degrees of freedom was corrected using Greenhouse-Geisser estimates of sphericity ($\hat{\epsilon}=.72$), as suggested by Girden (1992).

The results of the repeated-measures ANOVA for the Accuracy dependent variable are shown in Table 6. The main effect of Choice and the interaction effect between Task and Choice were both statistically significant. The

Table 5
Descriptive statistics for Accuracy (Error-free Clauses).

Treatment	M	SEM	95% Con. Int. ^a		SD	Min ^b	Max ^c	S ^d	K ^e
			Low	High					
1A	.48	.05	.37	.58	.23	.00	.80	-.38	-.72
2A	.11	.03	.04	.17	.13	.00	.40	.92	-.50
3A	.48	.06	.35	.60	.28	.00	1.00	.13	-.17
1B	.42	.04	.34	.50	.17	.00	.71	-.35	.38
2B	.13	.04	.04	.22	.19	.00	.67	1.65	2.43
3B	.49	.06	.37	.62	.27	.00	1.00	-.37	.18
1C	.34	.06	.22	.45	.25	.00	1.00	.68	.83
2C	.38	.04	.30	.47	.18	.00	.78	.17	.28
3C	.28	.04	.20	.37	.18	.00	.71	.29	.16

^a 95% Confidence Interval. ^b Minimum. ^c Maximum. ^d Skewness. ^e Kurtosis.
Notes. 1 = Descriptive task; 2 = Narrative task; 3 = Decision-Making task; A = No topic choice; B = Limited topic choice; C = Complete topic choice.
N = 21. SES = .50. SEK = .97.

Table 6
Repeated-Measures ANOVA for Accuracy

Source	df	SS	MS	F	η^2	β
Task ^a	1.44	.01	.005	.11	.05	.06
Error (Task)	28.91	2.11	.07			
Choice	2	1.81	1.01	15.37*	.43	.99
Error (Choice)	40	2.36	.05			
Task x Choice	4	1.75	.44	11.90*	.37	.99
Error	80	2.94	.04			
(Task x Choice) ^d						

Notes. η^2 = effect size (partial eta squared). β = observed power.
^a df and MS from Greenhouse-Geisser correction for degrees of freedom.
* $p < .017$.

observed power and the effect size for the Task main effect were both very weak. However, the main effect of Choice and the interaction effect of Task and Choice both resulted in high observed power and very high effect size, which may indicate a strong relation between the two independent variables and Accuracy.

Examining the profile plot for Accuracy by level of choice (Figure 7, right panel), the results were mixed. Although one of the treatments of choice, either limited or complete, had the highest mean for two out of the three treatments, no definite pattern is discernable. The complete choice of topic showed high levels of accuracy overall. It appears that in general, providing the participants a choice of topic exerted an influence on the accuracy of their spoken production. In Figure 7, left panel, the level of Accuracy is somewhat similar for the decision-making task across the different levels of choice, but there is a sharp drop for the limited choice of topic for both the descriptive and narrative tasks. Pairwise comparisons with a Bonferroni correction indicated that the composite means for the no and complete choice of topic treatments were higher than the composite mean for the limited choice of topic treatment at the $p < .05$ level.

Complexity

In Table 7 are the results of the descriptive analysis for Complexity. The means for either treatment of choice are higher for all types of tasks. Mauchly’s test indicated that the assumption of sphericity had been met for the main effects of Task and Choice, and for the interaction effect between Task and Choice, for Complexity.

The results of the repeated-measures ANOVA for the Complexity dependent variable are shown in Table 8. The

Figure 7. Accuracy by task (left) and by choice (right).

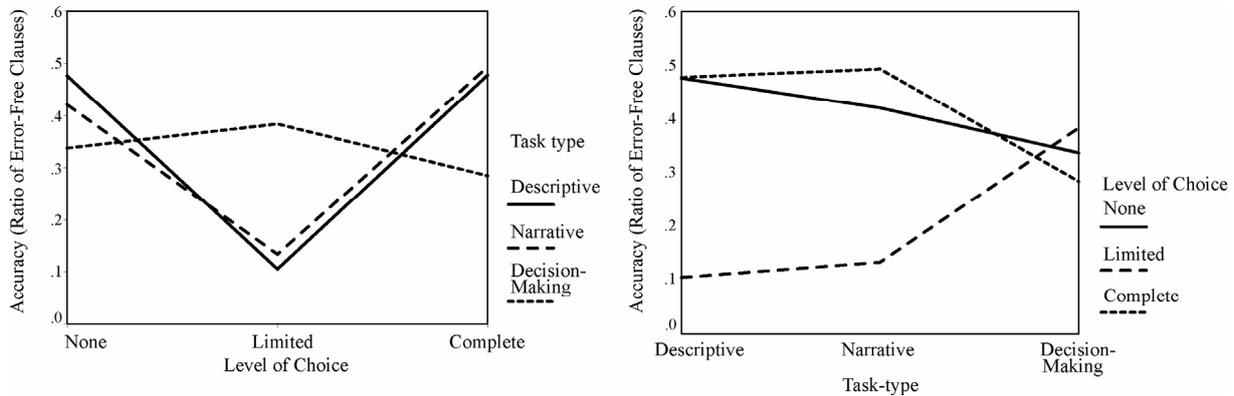


Table 7
Descriptive statistics for Complexity (Type-token Ratio).

Treatment	M	SEM	95% Con. Int. ^a		SD	Min ^b	Max	S ^d	K ^e
			Low	High					
1A	.34	.01	.32	.37	.05	.24	.46	-.11	.26
2A	.42	.02	.38	.46	.09	.27	.58	.20	-.73
3A	.42	.02	.38	.45	.08	.27	.56	-.29	-.60
1B	.41	.02	.37	.45	.09	.26	.54	-.09	-1.12
2B	.49	.03	.43	.55	.14	.28	.76	.07	-.93
3B	.48	.03	.42	.54	.14	.24	.72	.51	-.64
1C	.42	.02	.38	.46	.09	.29	.63	.61	-.18
2C	.51	.03	.44	.57	.14	.27	.72	-.20	-.91
3C	.45	.02	.41	.49	.09	.32	.72	1.43	2.22

^a 95% Confidence Interval. ^b Minimum. ^c Maximum. ^d Skewness. ^e Kurtosis.
Notes. 1 = Descriptive task; 2 = Narrative task; 3 = Decision-Making task; A = No topic choice; B = Limited topic choice; C = Complete topic choice.
N = 21. SES = .50. SEK = .97.

main effect of Choice was significant. Although the power and effect size for the interaction effect of Task and Choice were both very low, there was high observed power for the Choice main effect as well as a strong effect size. This indicates that Choice and Complexity were strongly related.

The profile plot for Complexity by level of choice

Figure 8. Complexity by task (left) and by choice (right).

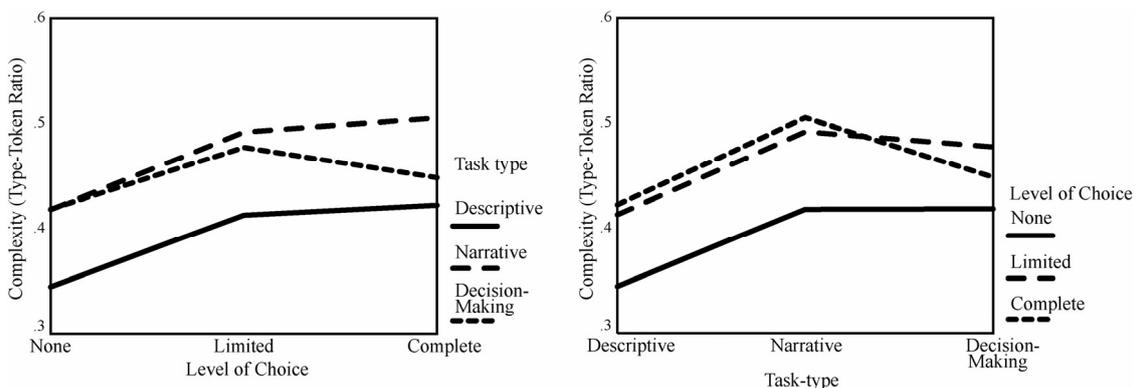


Table 8
Repeated-Measures ANOVA for Complexity

Source	Df	SS	MS	F	η^2	β
Task	2	.20	.10	7.74*	.28	.93
Error (Task)	40	.53	.01			
Choice	2	.18	.09	9.98*	.33	.98
Error (Choice)	40	.37	.01			
Task x Choice	4	.02	.01	.74	.04	.23
Error (Task x Choice)	80	.59	.01			

Notes. η^2 = effect size (partial eta squared). β = observed power.
* $p < .017$.

(Figure 8, right panel) indicates that the limited and complete choice of topic treatments sustained high levels of complexity across all task types. The plot in the left panel of Figure 8 indicates that Complexity increased somewhat linearly for the descriptive and narrative tasks, but the level of Complexity was parabolic for the decision-making task across the different levels of choice. Pairwise comparisons with a Bonferroni correction indicated that the limited level of topic choice was higher to a statistically

significant degree than the no choice of topic treatment ($p < .05$). The complete choice of topic treatment was also significantly higher than the no choice of topic treatment ($p < .05$). However, there was no statistically significant difference between the limited choice of topic and complete choice of topic treatments.

Fluency

In Table 9 are the results of the descriptive analysis for Fluency. Even though the results may seem mixed, either the limited or the complete level of choice had the highest mean for any type of task. Mauchly’s test indicated that the assumption of sphericity had been met for the main effects of Task and Choice, and for the interaction effect between Task and Choice for Fluency.

The results of the repeated-measures ANOVA for the Fluency dependent variable are shown in Table 10. There was a statistically significant interaction effect between Task and Choice. As in the results for Accuracy, the power and the effect size for the Choice main effect were small. However, for the interaction effect of Task and

Choice, the observed power was high and the effect size was large, which may indicate that the two independent variables of Task and Choice together were strongly related to Fluency.

Examining the profile plot for Fluency by level of choice (Figure 9, right panel), highly noticeable decreases in fluency across the tasks for the no choice of topic treatment as well as the limited choice of topic treatment was evident. In general, the treatments with choice were again higher than the no choice of topic treatment across the different types of tasks, as with Accuracy. The plot in the left panel of Figure 9 indicates that there was a linear increase for Fluency for the decision-making task, very little increase for the narrative task, and a parabolic curve with a steep decline for the descriptive task, across the different levels of choice. Pairwise comparisons with a Bonferroni correction indicated that there were no statistically significant differences between the different levels of choice amongst the different types of tasks.

It should also be noted here that the effect sizes showed a strong relation between the task independent variable and the dependent variables of Complexity and Fluency. This may indicate a strong relationship and this may attest

Table 9
Descriptive statistics for Fluency.

Treatment	M	SEM	95% Con. Int. ^a		SD	Min ^b	Max ^c	S ^d	K ^e
			Low	High					
1A	79.29	4.91	69.05	89.52	22.48	41	145	1.41	2.97
2A	62.43	4.54	52.96	71.90	20.80	34	105	.38	-1.06
3A	57.86	3.47	50.61	65.10	15.91	33	94	.32	-.20
1B	83.57	5.63	71.83	95.32	25.80	38	123	.14	-1.20
2B	68.00	4.18	59.28	76.72	19.15	43	117	1.11	1.19
3B	62.33	5.48	50.90	73.77	25.12	26	115	.29	-.89
1C	68.57	4.81	58.53	78.61	22.06	31	102	-.13	-1.09
2C	68.52	6.15	55.70	81.35	28.17	31	122	.79	-.60
3C	80.00	4.40	70.82	89.18	20.16	29	129	-.54	1.13

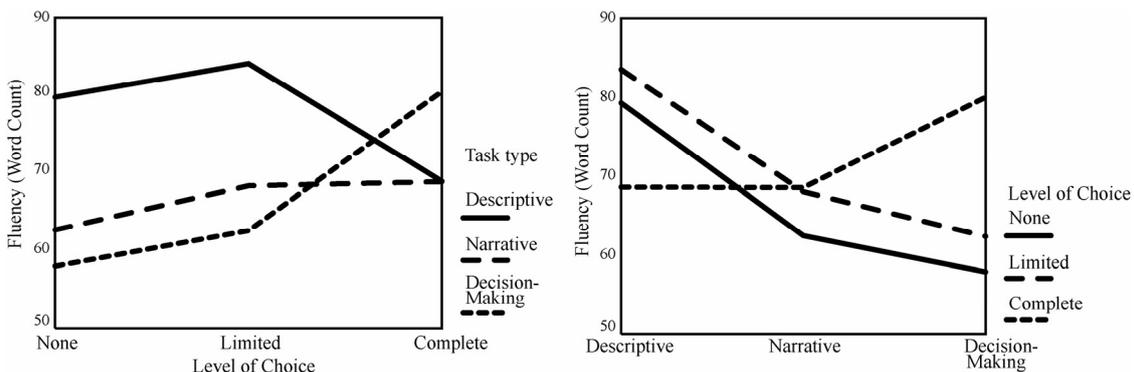
^a 95% Confidence Interval. ^b Minimum. ^c Maximum. ^d Skewness. ^e Kurtosis.
Notes. 1 = Descriptive task; 2 = Narrative task; 3 = Decision-Making task; A = No topic choice; B = Limited topic choice; C = Complete topic choice.
N = 21. SES = .50. SEK = .97.

Table 10
Repeated-Measures ANOVA for Fluency

Source	df	SS	MS	F	η^2	β
Task	2	4741.46	2370.73	5.34*	.21	.81
Error (Task)	40	17774.32	444.36			
Choice	2	1219.65	609.83	1.84	.08	.36
Error (Choice)	40	13286.79	332.17			
Task x Choice	4	7523.94	1880.98	7.43*	.27	.99
Error	80	20254.95	253.19			

(Task x Choice)
Notes. η^2 = effect size (partial eta squared). β = observed power.
* $p < .017$.

Figure 9. Fluency by task (left) and by choice (right).



to the efficacy of using complexity and fluency to gauge oral output during task-based lessons and for task-based language research (e.g., Ellis, 2005).

Discussion

With the design of this study, it seems that, in general, the hypotheses for Study 1 claiming that choice would inculcate higher levels of Task Interest and Task Self-Efficacy were supported. According to previous research in the psychological field, this result was not unexpected. What was unexpected with this research was that increased autonomy, through the introduction of choice, possibly lead to higher levels of motivation with this particular sample of the population. According to some (e.g., Iyengar & DeVoe, 2003; Iyengar & Lepper, 1999, 2002; Iyengar, Lepper, & Ross, 1999; Sethi, 1997), those from cultures that are more interdependent, which Markus and Kitayama (1991) claim are mostly Asian cultures, would value autonomy, and therefore choice, less than those from independent cultures, which Markus and Kitayama claim are mostly Western cultures. In fact, Iyengar and De Voe (2003, p.163) stated that individuals from interdependent cultures, which these authors referred to as dutiful choosers, will have little, if any, intrinsic motivation, a motivation that is completely internal to the person.

The participants in this study were first-year students at a university in a very rural area of Japan. For many of these students, they are living away from home for the first time. This experience may have lead these students to value choice more now that they are on their own. There may be less feeling of autonomy by these students compared to those in the US, who, for example, can choose the contents of school meals (e.g., "School Menus," 2004) from grade-school-age, but it is valued nonetheless. The result of this research possibly sheds new light on a more dynamic value of choice with students in Asia.

The results of this research also show that too much choice may be de-motivating and also cause a lessening of self-efficacy in the completion of the task. As stated by Iyengar and Lepper (2000) and Schwartz (2004a, 2004b), when there is too much choice, regret at the choice made, the difficulty in choosing an appropriate topic, and the pressure of being the one to make the choice, could have lead to lower feelings of motivation and self-efficacy. This is may especially be the case when the choice is not private but is known by another.

Results also show that with choice, Task Self-Efficacy may improve. This may lend support that anxiety, which

can be debilitating for self-efficacy, may be reduced through choice (Stotland & Blumenthal, 1964) and students may then feel more self-efficacy while engaged in the task. The reason Task Self-Efficacy suffered when the complete level of choice of topic was conducted may also stem from anxiety, which may have been increased. As Burger (1987) wrote, there is some degree of pressure on the one doing the choosing, especially when the choice is known by another, and this may lead to increased anxiety, according to Burger. In this case, guided choice may have helped promote self-efficacy, but unguided not.

However, the extra work involved in completing the task at the complete level of choice could also have lead some to be less motivated. The design of the tasks for the complete level of choice for all types of tasks asked more of the students, and in return, they may have liked it less. That said, the students engaged in the task at the complete level of choice much longer, and from that, there was much more interaction during the task.

The results of Part 2 were more mixed. Accuracy and Fluency were not affected in a statistically significant way when choice was introduced before the task. It may be that the proficiency level of the students was not high enough to be positively influenced by choice. Greater motivation through choice may have merits for the students in the class, but those merits failed to extend to these aspects of the output.

Be that as it may, that Complexity was positively influenced by choice was an unexpected finding of this study. The reason for this may in both the cognitive and the affective domains. For the cognitive domain, Dember et al. (1992) found that participants were more vigilant in noticing changes in a flashing bar on a computer screen when they were told they had a choice in the implementation of the task, compared to those who had no choice, even though the participants were subsequently randomly assigned. Vigilance requires a great deal of attention, and it is possible that with choice, some attentional cognitive resources were freed up to a certain degree so that students paid more attention to the complexity of their language output. This hypothesis may fit with Skehan's (2007) Tradeoff Hypothesis, which claims that with attentional resources freed up in one capacity, such as fluency, those resources may be allocated for another capacity, such as complexity.

For the task treatments where the design of the tasks was more similar between choice treatments, i.e., the descriptive and narrative tasks for the no and limited

treatments of choice, there were significant differences between no and limited choice of topic treatments. In other words, controlling for moderating variables as much as possible with very similar tasks, so that choice may be singled out, choice itself may have inspired more complex output. Why this did not occur for Accuracy may be a topic for further research. One reason for this difference may be from the affective domain, which may have two root causes.

One cause may be that a greater willingness to take risks may have been supported with choice. According to Skehan (1998, 2003), a greater willingness to take risks is important to improving complexity with the possibility that such language may not be controlled effectively. Complexity may be an output variable where a stretching of the interlanguage boundaries is needed for more complex output, which indicates change and development in the interlanguage system. Students are reaching out with their language and choice may have helped in some way for the students to do this. Accuracy, on the other hand, may be, according to Ellis (2003), a more conservative output variable where, rather than reaching out, students pull back to a safe zone where they are certain of the correctness of their output. With these considerations, it may be that choice helped the students to be more complex but not more accurate.

Another cause for the higher level of complexity may come from the affective variable of willingness to communicate (MacIntyre et al, 1998; Yashima, 2002). In the case of research done by Kormos and Dörnyei (2004), participants who had higher levels of a willingness to communicate were also more complex in their output. However, Kormos and Dörnyei did not find this for accuracy. With more choice, which may promote higher levels of motivation, the student may be more willing to say what they want to say. Recently, Yashima (2007) has studied the connection of self-determined motivation and intrinsic motivation, for which choice is important, to the willingness to communicate model, and has found positive trends. It may be with these participants that they felt a greater willingness to communicate when choice was involved, and therefore greater complexity may have resulted.

Motivation itself may have had an effect on allocating the students' attention. According to Crookes and Schmidt (1991), attention and motivation are inexorably linked. These authors claim that task demands may cause an involuntary allocation of attention, but factors such as

interest, disposition, and expectations are important determinants for attention. Because attention is important for increasing complexity, motivation, supported by choice, may have been an influential factor in increasing complexity.

Conclusion

Whatever may be the cause of this improvement in complexity, that it is there may be of service to those who design tasks. With choice, not only may motivation and self-efficacy be improved, but more complex output may also be supported. The results of this study suggest that there may be two roads open to the task designer. For one, more complex output may be supported with the simple introduction of choice of topics for the lesson. For another, to design a task to be more complex means that, according to Foster and Skehan (1996) and Robinson (2001a, 2001b), the task also has to be more difficult. Therefore, another avenue open to the materials designer wishing to improve complexity through task design is that a task can be presented that is a little more difficult for a certain level, so as to improve complexity with the design of the task, but with choice, the motivation of the students to do the task can still be supported. These students may then persevere at the more difficult task a little longer than if there had been no choice, thereby possibly supporting higher levels of complexity in oral production.

In the present study, the results for accuracy and fluency were mixed. A more lenient acceptance of grammatical forms (Thurman, 2008a) showed a slightly more discernable pattern in favor of choice. The number of participants (21) was rather small because these participants attended all the sessions required to collect data for nine consecutive treatments. Focusing on four of those treatments, the no and limited choice sessions for the descriptive and narrative tasks, may allow more information from more participants. With more information it is possible that more definite patterns may result for accuracy and fluency.

With choice complementing pre-task planning, a new dimension is presented to the teacher, the task designer, and the language learning researcher for task implementation.

References

- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavioral change. *Psychological Review*, 84

- (2), 191-215.
- Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist*, 28(2), 117-148.
- Brown, G., & Yule, G. (1983). *Teaching the spoken language*. Cambridge: Cambridge University Press.
- Burger, J. M. (1987). Increased performance with increased personal control: A self-presentation interpretation. *Journal of Experimental Social Psychology*, 23, 350-360.
- Crookes, G., & Schmidt, R. W. (1991). Motivation: Reopening the research agenda. *Language Learning*, 41, 469-512.
- Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum.
- Dember, W. N., Galinsky, T. L., & Warm, J. S. (1992). The role of choice in vigilance performance. *Journal of the Psychonomic Society*, 30(3), 201-204.
- Dörnyei, Z. (1994). Motivation and motivating in the foreign language classroom. *The Modern Language Journal*, 78(3), 273-284.
- Dörnyei, Z. (2001). *Teaching and researching motivation*. Harlow, UK: Longman.
- Duff, P. (1986). Another look at interlanguage talk: Taking task to task. In R. R. Day (Ed.), *Talking to learn: Conversation in second language acquisition* (pp. 147-181). Rowley, MA: Newbury House.
- Ellis, R. (2003). *Task-based language learning and teaching*. Oxford: Oxford University Press.
- Ellis, R. (Ed.). (2005). *Planning and task performance in a second language*. Amsterdam: John Benjamins.
- Ellis, R., & Barkhuizen, G. (2005). *Analyzing learner language*. Oxford, England: Oxford University Press.
- Ellis, R., & Yuan, F. (2003). The effects of planning on fluency, complexity, and accuracy in second language narrative writing. *Studies in Second Language Acquisition*, 26, 59-84.
- Foster, P., & Skehan, P. (1996). The influence of planning and task type on second language performance. *Studies in Second Language Acquisition*, 18, 299-323.
- Gardner, R. C. (1985). *Social psychology and second language learning: The role of attitudes and motivation*. London: Edward Arnold.
- Girden, E. R. (1992). *ANOVA: Repeated measures*. Newbury Park, CA: Sage.
- Gudykunst, W. B., & Nishida, T. (1994). *Bridging Japanese/North American differences*. Thousand Oaks, CA: Sage.
- Harumi, S. (2002). The use of silence by Japanese EFL learners. In M. Swanson & D. McMurray (Eds.), *On PAC3 at JALT 2001: A language odyssey* (pp.27-34). Tokyo: Japan Association for Language Teaching.
- Heaton, K. B. (1966). *Composition through pictures*. London: Longman.
- Iyengar, S., & DeVoe, S. E. (2003). Rethinking the value of choice: Considering cultural mediators of intrinsic motivation. In R. A. Dienstbier (Ed.), *Nebraska symposium on motivation* (pp.129-174). Lincoln, NE: University of Nebraska Press.
- Iyengar, S., & Lepper, M. (1999). Rethinking the value of choice: A cultural perspective on intrinsic motivation. *Journal of Personality and Social Psychology*, 76(3), 349-366.
- Iyengar, S., & Lepper, M. (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality and Social Psychology*, 79(6), 995-1006.
- Iyengar, S., & Lepper, M. (2002). Choice and its consequences: On the costs and benefits of self-determination. In A. Tesser, D. A. Stapel, & J. V. Wood (Eds.), *Self and motivation: Emerging psychological perspectives* (pp.71-96). Washington, DC: American Psychological Association.
- Iyengar, S., Lepper, M., & Ross, L. (1999). Independence from whom? Interdependence with whom? Cultural perspectives on ingroups versus outgroups. In D. A. Prentice & D. T. Miller (Eds.), *Cultural divides: Understanding and overcoming group conflict* (pp.273-301). New York: Russell Sage Foundation.
- Johnson, W. (1944). Studies in language behavior: I. A program of research. *Psychological Monographs*, 56(1-15).
- Julkunen, K. (1989). *Situation- and task-specific motivation in foreign language learning and teaching*. Joensuu: University of Joensuu.
- Kormos, J., & Dörnyei, Z. (2004). The interaction of linguistic and motivational variables in second language task performance. *Zeitschrift für Interkulturellen Fremdsprachenunterricht*, 9(2). Retrieved October 16, 2005 from www.alberta.ca/~german/ejournal/kormos2.htm.
- Langer, E. J. (1975). The illusion of control. *Journal of Personality and Social Psychology*, 32(2), 311-328.
- Langer, E. J., & Rodin, J. (1976). The effects of choice and enhanced personal responsibility for the aged: A field experiment in an institutional setting. *Journal of*

- Personality and Social Psychology*, 34(2), 191-198.
- Lebra, T. S. (1987). The cultural significance of silence in Japanese communication. *Multilingua*, 6(4), 343-357.
- Lennon, P. (2000). The lexical elements in spoken second language fluency. In H. Riggenbach (Ed.), *Perspectives on fluency* (pp.25-42). Ann Arbor, MI: University of Michigan Press.
- Linacre, J. M. (1997). KR-20 / Cronbach alpha or Rasch reliability: Which tells the "truth"? *Rasch Measurement Transactions*, 11(3), 580-581.
- Linacre, J. M. (2004). Optimizing rating scale category effectiveness. In E. V. Smith & P. M. Smith (Eds.), *Introduction to Rasch measurement* (pp.258-278). Maple Grove, MN: JAM Press.
- Linacre, J. M. (2007). Winsteps (Version 3.63.2) [Computer software]. Chicago: Winsteps.
- MacIntyre, P. D., Clément, R., Dörnyei, Z., & Noels, K. (1998). Conceptualizing willingness to communicate in a L2: A situational model of L2 confidence and affiliation. *The Modern Language Journal*, 82(4), 545-562.
- Malvern, D. D., & Richards, B. J. (1997). A new measure of lexical diversity. In A. Ryan & A. Wray (Eds.), *Evolving models of language* (pp.58-71). Clevedon, UK: Multilingual Matters.
- Markus, H. R., & Kitayama, S. (1991). Cultural variation and self-concept. In J. Strauss & G. R. Goethals (Eds.), *The self: Interdisciplinary perspectives* (pp.18-48). New York: Springer.
- Nicholson, P., & Sakuno, R. (1982). *Explain yourself! An English conversation book for Japan*. Tokyo: PAL Limited.
- Noels, K. A. (2001). New orientations in language learning motivation: Towards a model of intrinsic, extrinsic and integrative orientations and motivation. In Z. Dörnyei & R. Schmidt (Eds.), *Motivation and second language acquisition* (pp.43-68). Honolulu: University of Hawai'i Press.
- Reeve, J. (1997). *Understanding motivation* (2nd ed.). Forth Worth, TX: Harcourt Brace College Publishers.
- Robinson, P. (1995). Task complexity and second language narrative discourse. *Language Learning*, 45(1), 99-140.
- Robinson, P. (2001a). Task complexity, cognitive resources, and syllabus design: A triadic framework for examining task influences on SLA. In P. Robinson (Ed.), *Cognition and second language instruction* (pp. 287-318). Cambridge, UK: Cambridge University Press.
- Robinson, P. (2001b). Task complexity, task difficulty, and task production: Exploring interactions in a componential framework. *Applied Linguistics*, 22(1), 27-57.
- Robinson, P. (2003). The cognition hypothesis, task design, and adult task-based language learning. *Second Language Studies*, 21(2), 45-105.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist*, 55(1), 68-78.
- Samuda, V. (2001). Guiding relationships between form and meaning during task performance: The role of the teacher. In M. Bygate, P. Skehan & M. Swain (Eds.), *Researching pedagogic tasks: Second language learning, teaching and testing* (pp.119-140). Harlow, UK: Longman.
- School menus. (2004, April 14). *Jupiter Courier*, p.B6.
- Schwartz, B. (2004a). *The paradox of choice: Why more is less*. New York: Harper-Collins.
- Schwartz, B. (2004b, January 23). The tyranny of choice. *The Chronicle of Higher Education*, p.6.
- Sethi, S. (1997). *Choice and its discontents: A new look at the role of choice in intrinsic motivation*. Unpublished Doctoral Dissertation, Stanford University.
- Skehan, P. (1996). Second language acquisition research and task-based instruction. In J. Willis & D. Willis (Eds.), *Challenge and change in language teaching* (pp.17-30). Oxford: Macmillan Heinemann.
- Skehan, P. (1998). *A cognitive approach to language learning*. Oxford: Oxford University Press.
- Skehan, P. (2003). Task-based instruction. *Language Teaching*, 36, 1-14.
- Skehan, P. (2007, September). *Tradeoff and Cognition: Two hypotheses regarding attention during task-based performance*. Paper presented at the International Conference on Task-Based Language Teaching, Honolulu, HI.
- Skehan, P., & Foster, P. (1997). Task type and task processing conditions as influences on foreign language performance. *Language Teaching Research*, 1(3), 185-211.
- Skehan, P., & Foster, P. (1999). The influence of task structure and processing conditions on narrative retellings. *Language Learning*, 49(1), 93-120.
- Stotland, E., & Blumenthal, A. L. (1964). The reduction of anxiety as a result of the expectation of making a choice. *Canadian Journal of Psychology*, 18(2), 139-

145.

- Tabachnick, B. G., & Fidell, L. S. (2007). *Using multivariate statistics* (5th ed.). Boston: Allyn and Bacon.
- Takashima, H. (2000). *Jissenteki komyunike-shonnoryoku no tame no Eigo no tasukukatsudo to bunposhido* [Structure-based tasks and grammar instruction for practical communicative competence]. Tokyo: Taishukan.
- Thurman, J. (2008a). Topic choice influence on language output in task-based language teaching. In K. Bradford-Watts (Ed.), *JALT2007 Conference Proceedings*. Tokyo: JALT.
- Thurman, J. (2008b). *The interaction of topic choice and task-type in the EFL classroom*. Unpublished doctoral dissertation, Temple University, Philadelphia.
- Tremblay, P. F., & Gardner, R. C. (1995). Expanding the motivation construct in language learning. *The Modern Language Journal*, 79(4), 505-520.
- Wolfe-Quintero, K., Inagaki, S., & Kim, H. Y. (1998). *Second language development in writing: Measures of fluency, accuracy & complexity*. Honolulu, HI: University of Hawai'i Press.
- Yamada, H. (1997). *Different games different rules: Why Americans and Japanese misunderstand each other*. New York: Oxford University Press.
- Yashima, T. (2002). Willingness to communicate in a second language: The Japanese EFL context. *The Modern Language Journal*, 86(1), 54-66.
- Yashima, T. (2007, October). *Autonomy and willingness to communicate: Development of an English-using ideal self*. Paper presented at The Independent Learning Association 2007 Japan Conference, Chiba, Japan.
- Zuckerman, M., Porac, J., Lathin, D., Smith, R., & Deci, E. L. (1978). On the importance of self-determination for intrinsically-motivated behavior. *Personality and Social Psychology Bulletin*, 4(3), 443-446.