研究論文

THE MET 7: ITS CORRELATION WITH THE UNIVERSITY ENTRANCE EXAMINATIONS (ENGLISH PART) 2012AND 2013

－7 単語置き版最小英語テスト: 2012-2013 年の大学入試センター英語試験との相関関係－

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要旨

　日本人大学生の英語能力を測定するために、牧・和佐田・橋本（2003）は、CD を聞きながら、問題用紙の 72 箇所の空欄に、4 文字以下の英単語を埋めていく、5 分間の英語テスト、最小英語テスト（Minimal English Test，MET）を開発した。しかしながら、なぜ 4 文字以下の英単語を選んだのかという問題が生じたため、この問題を解決するために、牧、他 7 名（2012）は、6 単語置きに空欄を設けた、6 単語置き版最小英語テスト（Minimal English Test 6B，MET 6B)を開発した。本研究では、新たに 7 単語置き版最小英語テスト（Minimal English Test 7，MET 7）を開発し、大学入試センターの英語試験と MET 7 の得点が統計的有意な相関があるかどうかを調査した。回帰分析の結果、（1）MET 7 の得点と 2012 年大学入試センター試験の英語総合点の間には、統計的有意な中程度の相関があり（n= 61, r=.53, p<.001)、（2）MET 7 の得点と 2013 年大学入試センター試験の英語総合点の間には、統計的有意な中程度の相関があった（n= 61, r=.56, p<.001）ことを報告する。そして、MET は、手軽に利用できる英語能力測定テストであり、学習者の自律学習に貢献する可能性を持っていることを示唆する。

1. Introduction

　　In order to measure Japanese university students' English proficiency, Maki *et al.* (2003)

developed the original version of the Minimal English Test (MET), which is a five-minute English test, and requires the test taker to write a correct English word with 4 letters or fewer into each of the 72 blank spaces of the given sentences, while listening to the CD. Since then, the Maki Group has found statistically significant correlations between the scores on the MET and the scores on the English Section of the University Entrance Examinations (hereafter, Center Tests, CTs) in Japan from 2002 to 2009[1]. We summarize the correlation coefficients in Table 1. Goto *et al.* (2010) investigated the reliability and validity of the MET, and found that the coefficient in the Guttman split-half estimate was .88, and that the coefficient in the Spearman-Brown equivalent forms estimate was around .90. Therefore, they concluded that the MET is an adequately reliable test. For more details of the MET, see Goto *et al.* (2010).

Table 1: The Correlations Between the Scores on the MET and the Total Scores on the CT

Year	2002	2003	2004	2005	2006	2007	2008	2009
Correlation Coefficient	.68	.72	.72	.61	.62	.66	.65	.59
Observations	154	629	657	600	610	895	563	877

The original MET developed by Maki et al. (2003) had a potential problem. It was not able to provide an explanation to the questions of (1) why the target words were 4 letters or fewer, and (2) what basis the target words were selected on. To avoid this problem, Maki et al. (2012) developed a new version of the MET, the MET 6B, where every 6th word was a target word. This rule guarantees that the MET 6B has the form of a cloze test, where every 6th word is left blank, no matter how many letters the word may consist of. Since then, the Maki Group has found statistically significant correlations between the scores on the MET 6B and the scores on the CTs, as shown in Table 2.

Table 2: The Correlations Between the Scores on the MET 6B and the Total Scores on the CTs

Year	2011	2012	2013
Correlation Coefficient	.60	.57	.60

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[1] We follow Yanai (1998) in interpreting values of correlation coefficients. She assumes the following correspondence between correlation coefficients and their characteristics.

Table I: The Correspondence Between Correlation Coefficients and Their Characteristics

Correlation Coefficients	Characteristics
$0 \leq r < |.2|$	almost no correlation
$|.2| \leq r < |.4|$	weak correlation
$|.4| \leq r < |.7|$	moderate correlation
$|.7| \leq r < |.9|$	strong correlation
$|.9| \leq r < |1|$	extremely strong correlation

Observations	217	127	142

However, a further question arose as to what would happen if the MET 6B was revised to MET X, where every Xth word is a target word. In order to address this question, we made a new version of the MET, the MET 7, where every 7th word was a target word, and then, examined the correlation between the scores on the MET 7 and the scores on the CT. In this paper, we found (1) that the scores on the MET 7 and the total scores on the CT 2012 had a moderate correlation ($n= 61$, $r=.53$, $p<.001$), and (2) that the scores on the MET 7 and the total scores on the CT 2013 also had a moderate correlation ($n= 61$, $r=.56$, $p<.001$).

The organization of this paper is as follows. Section 2 presents the materials: the Minimal English Test 7 (MET 7) and the details of the English Part of the University Entrance Examinations 2012 and 2013 (CT 2012 and CT 2013). Section 3 reports the results of the analysis, and Section 4 discusses what they may suggest. Finally, Section 5 concludes this paper.

2. Materials

2.1. The Minimal English Test 7 (MET 7)

The Minimal English Test 7 (MET 7) is based on Lessons 1 and 2 of the textbook for first year university students written by Kawana and Walker (2002) and the CD that accompanies it, exactly like the original MET. This textbook was chosen as a representative reading material for college freshmen who had taken the CT a few months before the MET 7 was administered. The MET 7 was designed along the rules in (1).

(1)   *Rules*

    a.   Every 7th word is left blank.

    b.   Proper noun except country name in parentheses is ignored.

Rule (1a) guarantees that the MET 7 has the form of a cloze test, where every 7th word is left blank, no matter how many letters the word may consist of. The MET 7 is a simple test which requires the test taker to write a correct English word into each of the 56 blank spaces of the given sentences, written on one piece A4 paper, while listening to the CD on which the sentences are recorded. The CD lasts about five minutes with a speed of 125 words per minute. Part of the MET 7 is shown in (2)

(2)   *Part of the Minimal English Test 7 (MET 7)*

Date: <u>Month   Day   Year</u>   Name: <u>   </u>

The Score on the Reading Section of the University Entrance Examination (English Part):   <u>   /200</u>
The Score on the Listening Section of the University Entrance Examination (English Part):   <u>   /50</u>

Please fill an English word into each blank spot, while listening to the CD.
01.   The majority of people have at (   )^1 one pet at some time in (   )^2 life.
02.   Sometimes the relationship between a (   )^3 dog or cat and its owner
03.   (   )^4 so close that they begin to (   )^5 each other in their appearance
04.   and (   )^6. On the other hand, owners of (   )^7 pets
05.   such as tigers or snakes (   )^8 have to protect themselves from their (   )^9 pets.
…
17.   And if your (   )^{26} pet dies, you can reserve a (   )^{27} resting place
18.   on the Internet in (   )^{28} virtual pet cemetery.

19.   Sports are big (   )^{29}. Whereas Babe Ruth, the most famous athlete of (   )^{30} day,
20.   was well-known for earning as (   )^{31} as the President of the United (   )^{32},
…
32.   (   )^{48} kids typically practice three to four (   )^{49} a day,
33.   all weekend and during (   )^{50} school vacations in order to better (   )^{51} chances
34.   of eventually obtaining a well-paid (   )^{52} on a professional team
35.   when they (   )^{53} up. As for the many young (   )^{54} who do not succeed,
36.   one wonders (   )^{55} they will regret having lost their (   )^{56}.

The Minimal English Test 7

The test taker is verbally given the 4 instructions in advance shown in (3).

(3)   a.   Write the scores on the CT that you took this year.

        b.   Fill an English word into each of the blank spaces, while listening to the CD.

        c.   The CD lasts about 5 minutes.

        d.   There is about a three-second interval between Line 18 and Line 19.

After the above instructions were given, the volume of the CD was checked, and the MET 7 was administered.

2.2. The English Part of the University Entrance Examination 2012 (CT 2012)

The University Entrance Examination Center (2012) provides the summary of the results of the CT 2012 shown in Table 3.

Table 3: Summary of the CT 2012

	Reading Section	**Listening Section**
Observations	519,867	514,748

Full mark	200	50
Number of questions	50	25
Average score	124.15	24.55
Standard deviation	42.05	8.03
Time limit	80 minutes	30 minutes
Date	January 14th, 2012	January 14th, 2012

The reading section of the CT 2012, contains questions about pronunciation, grammar, reordering of sentences, and reading comprehension, and the listening section of the CT 2012, contains questions about listening comprehension.

2.3. The English Part of the University Entrance Examination 2013 (CT 2013)

The University Entrance Examination Center (2013) provides the summary of the results of the CT 2013 shown in Table 4.

Table 4: Summary of the CT 2013

	Reading Section	**Listening Section**
Observations	535,835	529,440
Full mark	200	50
Number of questions	50	25
Average score	119.15	31.45
Standard deviation	41.20	8.61
Time limit	80 minutes	30 minutes
Date	January 19th, 2013	January 19th, 2013

Just like the CT 2012, the reading section of the CT 2013, contains questions about pronunciation, grammar, reordering of sentences, and reading comprehension, and the listening section of the CT 2013, contains questions about listening comprehension.

2.4. Participants

The MET 7 was administered in April of 2012 and 2013. We collected data from a national university in *Kanto* area in Japan. A total of 61 university freshmen participated in each of our survey. Table 5 shows the subjects' background.

Table 5: Subjects' Background

	2012	**2013**
Observations	61	61
Ratio of Gender (Female: Male)	18:43	12:49
Average Age	18.25	18.31
Average Scores on the MET	24.31	23.38
Average Scores on the CT	206.34	201.20

We analyzed the collected data (the scores on the MET 7 and the scores on the CT 2012 and CT 2013) by a simple regression analysis (correlation analysis). The significance level was set at $\alpha < .05$ for each analysis.
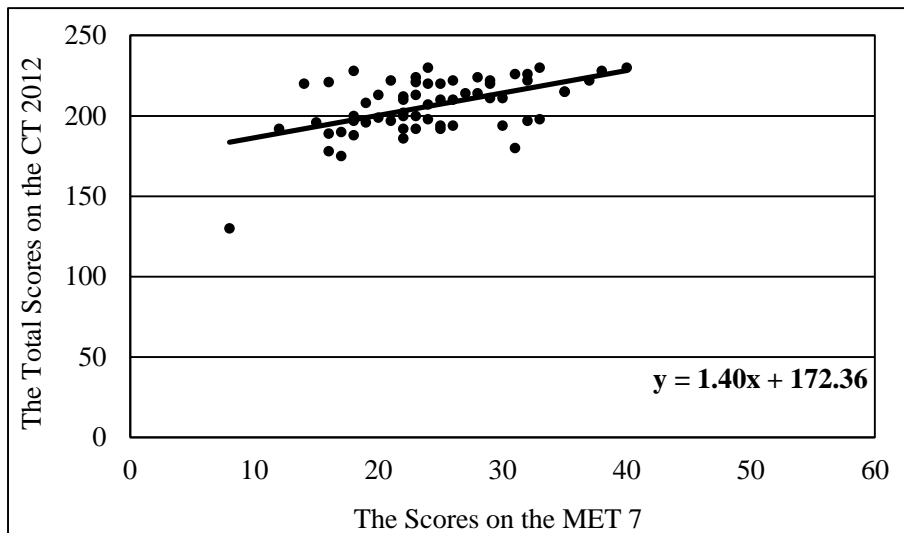
3. Results

First, we analyzed the correlation between the scores on the MET 7 and the total scores on the CT 2012. The result is shown in Table 6, and is more clearly represented by Figure 1.

Table 6: Regression Analysis (2012)

Correlation Coefficient	.53
R Square	.28
Adjusted R Square	.27
Standard Error	15.08
Observations	61
P-value	1.21E-05

Figure 1: The Correlation Between the Scores on the MET 7 and the Total Scores on the CT 2012
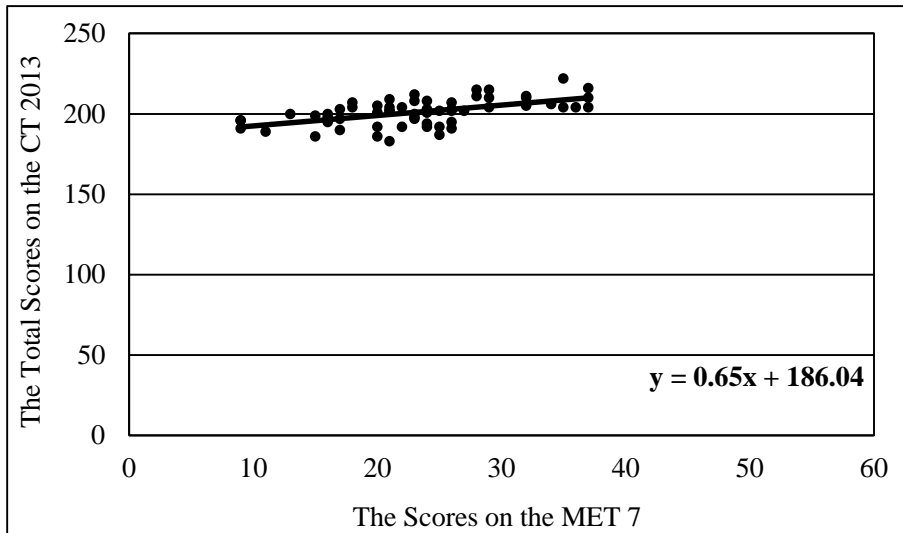
The analysis showed a statistically significant moderate correlation between the scores on the MET 7 and the total scores on the CT 2012 ($n= 61$, $r=.53$, $p<.001$).

Second, we analyzed the correlation between the scores on the MET 7 and the total scores on the CT 2013. The result is shown in Table 7, and is more clearly represented by Figure 2.

Table 7: Regression Analysis (2013)

Correlation Coefficient	.56
R Square	.31
Adjusted R Square	.30
Standard Error	6.81
Observations	61
P-value	2.78E-06

Figure 2: The Correlation Between the Scores on the MET 7 and the Total Scores on the CT 2013

The analysis showed a statistically significant moderate correlation between the scores on the MET 7 and the total scores on the CT 2013 ($n= 61$, $r=.56$, $p<.001$).

4. Discussion

Let us now consider what the results of this study might suggest. First, we compared the result of this study (MET 7) with the result of the MET 6B reported by the Maki Group. We then examined whether there was a statistically significant difference between the two correlation coefficients, using the Fisher r-to-z transformation provided by VassarStats: Web Site for Statistical Computation (2013). According to VassarStats: Web Site for Statistical Computation (2013), the Fisher r-to-z transformation calculates a value of z that can be applied to assess the significance of the difference between two correlation coefficients, r_a and r_b, found in two independent samples. The results of the analyses are shown in Tables 8 and 9.

Table 8: Fisher r-to-z Transformation Calculates (2012)

	MET 7	**MET 6B**
Correlation Coefficient	.53	.57
Observations	61	127
z	.36	
P two-tail	.72	

Table 9: Fisher r-to-z Transformation Calculates (2013)

	MET 7	**MET 6B**
Correlation Coefficient	.56	.60
Observations	61	142
z	.37	
P two-tail	.70	

These results indicate that there was no statistically significant difference between the MET 7 and the MET 6B in terms of the predictability of the total scores on the CT. This suggests that the MET 7 can function just like the MET 6B in measuring Japanese university students' English proficiency.

5. Conclusion

In this paper, we created a new version of the MET, the MET 7, and found (1) that the scores on the MET 7 and the total scores on the CT 2012 had a moderate correlation ($n= 61$, $r=.53$, $p<.001$), and (2) that the scores on the MET 7 and the total scores on the CT 2013 also had a moderate correlation ($n= 61$, $r=.56$, $p<.001$). It was also shown that the MET 7 can function just like the MET 6B in measuring Japanese university students' English proficiency.

Before closing, let us mention a possible direction of our future research. Maki *et al*. (2011) found that the MET 6B had the function of improving Japanese university students' English proficiency. In their study, they used 8 versions of the MET 6B[2]. They administered the MET 6B nine times in the order of Ver.1 of the MET 6B, Ver.2 of the MET 6B, … , Ver.8 of the MET 6B, and Ver.1 of the MET 6B again. Maki *et al*. (2011) found a statistically significant difference between the scores on Ver.1 of the MET 6B which the participants took for the first time, and the scores on Ver.1 of the MET 6B which the same participants took after they had taken the series of the versions of the MET 6B. The results of Maki *et al*. (2011) are summarized in Tables 10 and 11.

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[2] The Maki Group used Ver.1 of the MET 6B to investigate the correlation between the scores on the MET 6B and the total scores on the CT.

Table 10: Improvement of English Proficiency (2009)

	The 2nd Test	**The 1st Test**
Date	January 20th, 2010	October 7th, 2009
Average Scores	33.7	26.0
Observations	31	
t Stat	8.5	
t Critical two tail	2.0	
P (two-tail)	1.6E-09	

Table 11: Improvement of English Proficiency (2010)

	The 2nd Test	**The 1st Test**
Date	January 19th, 2011	October 13th, 2010
Average Scores	34.7	23.3
Observations	24	
t Stat	5.2	
t Critical two tail	2.0	
P (two-tail)	3.8E-06	

The tables show that there was a 7.7 point (11%) rise in the average score in 2009, and a 11.5 point (17.4%) rise in the average score in 2010. This indicates that the MET has the function of improving their English proficiency.

In our future research, we will create other versions of the MET 7, and examine whether they will contribute to improving Japanese university students' English proficiency, just like the MET 6B. If it produces the same results as the MET 6B, the MET 7 will turn out to be a useful tool not only to measure Japanese university students' English proficiency, but also to improve their proficiency.

Finally, it should be noted that the MET is not only easily conducted without much money and time, but also it is not difficult to create different versions of it. Also, it is quite simple to make the various versions of the test available to students as well as teachers by uploading them on the internet. This means that students can check their English proficiency whenever and wherever they like again and again. It is widely known that learners need to be motivated in order to keep studying English, especially by themselves (cf. Nakayama 2007). One method to keep motivation is to have adequate goals. Clearly, MET provides a way of self-evaluation which helps students check their level constantly, leading to set adequate goals, which is a good way to motivate students to achieve their own goals by raising their proficiency level. Thus, this constant checking facilitates their autonomous learning,

keeping learners' motivations high, because it is useful to let students look at their current level continuously and objectively. This may trigger the improvement of the English proficiency level, in order to keep autonomous learning with high motivation, letting them reach their goals. We believe that the establishment of the MET will contribute to the facilitation and refinement of students' autonomous learning.

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