Students Study for Weekly Vocabulary Tests?

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The realities of learning a foreign language, particular in a formal education setting such as a school or university, are frequently passed over by L2 acquisition research. Despite this, students undertaking any given course, class, or learning activity may be influenced by a multitude of factors, both inside and outside of the classroom, which may either help or hinder them in their attempts to learn their target language. This paper seeks to gather insight into the realities surrounding weekly vocabulary tests in L2 English classes at university, in an attempt to establish a clearer picture on which to improve pedagogy. In this study, 171 intermediate-level Japanese learners of English, studying at two universities in the Kansai region of Japan, took part in a brief survey about their study methods for a weekly vocabulary test. Data and results gathered from this study suggest that, on balance, if left to their own devices students rarely begin to study for the test until the evening before or the morning of the test. Furthermore, the majority of the participants reported choosing a study method based on convenience, accessibility and familiarity. This paper finally posits further possibilities for future research to expand our knowledge of the realities of L2 language learning contexts here in the Japanese educational system.

INTRODUCTION

When it comes to learning a foreign or second language (L2), researchers suggest that vocabulary is of central importance. Numerous commentators highlight strong links between vocabulary knowledge and language skills (Krashen, 1989; Nation, 1990; Schmitt, 2010); famously, Wilkins states that while "without grammar little can be conveyed, without vocabulary nothing can be conveyed" (1972, p. 111). While the majority of literature regarding vocabulary knowledge and study has remained consistent, the technological advances made in society may in fact elicit changes to the

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approaches both in classrooms and at home. Do these technological changes influence the way that L2 learners study? Do other factors determine the methods used by learners? Clearly, these questions require far more extensive investigation, though at present, given the option to choose how they study for vocabulary tests, how, when, and to what extent, do students in Japanese tertiary education go about studying?

      This paper will therefore seek to investigate the realities of studying for weekly vocabulary tests in required and elective English courses in two Japanese universities. By doing so, it is hoped that the data will prove illuminating and establish a reliable foundation on which to aid teachers to make informed judgements in their day-to-day pedagogy. To achieve this, we will first conduct a literature review, in which the central ideas concerning L2 vocabulary study will be examined, and previous studies looking at study patterns in Japanese tertiary institutions will be reviewed. The main points of this review will be used to produce research questions. After this, a methodology will be constructed in order to gather data with which to attempt to answer these questions. The data collected from this experiment will be analysed, and the results discussed.

LITERATURE REVIEW
Vocabulary and second language vocabulary acquisition
      To repeat Wilkins's quote regarding the importance of vocabulary in language learning and production would be somewhat superfluous, though it does warrant remembering; word-knowledge is held as an essential prerequisite by many researchers (Krashen, 1989; Nation, 1990, 2001, 2010; Schmitt, 2010; Wilkins, 1972). Therefore, first, this report will examine why vocabulary, and by extension vocabulary learning, is important.

      Languages are generally made up of many thousands of words, which makes learning these words a lengthy and difficult task. A brief look at the contemporary "global" languages, English, Spanish, and Chinese, reveals that these languages not only have a large number of words – based on simple analysis of the main dictionaries, English has roughly 170,000 in total, Spanish around 100,000, and Chinese dictionaries list 370,000 derived from 23,000 characters (Lingholic, 2017; Oxford, 2017; Quora, 2011) – but these raw numbers also come with some caveats. As word-knowledge is not limited purely to knowing the spelling and the definition, learners also are required to acquire the pronunciation of the word's spoken form, its meaning and connotations, associated grammatical patterns, collocated words, as well as its frequency and register (Schmitt, 2010). Thus, languages such as Spanish, whose subjects inflect nouns and adjectives as well as verbs (Jehle, 2016), and Chinese, which requires extensive knowledge of Chinese ideographic characters and much more focus on intonation and pronunciation, can prove all the more difficult for speakers whose L1 do not have these features. Additionally, despite these extra concerns, one should not overlook the primary obstacle. The sheer size of the target L2

vocabulary, even temporarily excluding concerns of word-knowledge and familiarity, certainly represents a daunting first hurdle for potential learners, requiring large amounts of both in- and out-of-classroom time to both acquire vocabulary and maintain it (Milton, 2009).

Though obviously not all of these words are essential in order to operate sufficiently in one's target language, vocabulary learning needs a degree of organisation to navigate these hurdles. Current research (Schmitt, 2010) estimates the vocabulary sizes of university graduates from English-speaking countries to be around 15,000 word families (with their attendant collocations and associations) and only between 6,000-7,000 word families are held to be sufficient for normal, day-to-day conversations. This clearly helps mitigate the estimated quantity, though difficulties still remain due in part to the different types of word knowledge required. Knowledge atrophies without frequent repetition of use and exposure (Milton, 2009), and the actual acquisition of a word's qualities and features is incremental and not entirely linear (Schmitt, 2010). Additionally, the type of study, as well as the type of use of the vocabulary in the target language, may also influence the type of word-knowledge which is learned, the order it is learned in, and the extent to which the vocabulary knowledge acquired manifests in a receptive or a productive fashion. Nation (2001, 2010), while not doing so prescriptively, does state that massed, flashcard-based vocabulary learning, if spaced sufficiently, does prove effective. This method appears to be widely used with regards to the learning of L2 English vocabulary in the Japanese education system.

Vocabulary study methods

There are, as briefly noted in the previous section, several main methods by which focused vocabulary study is conducted. In the contemporary Japanese context, the most frequently used are wordlists, repeated-writing, and flashcards.

Wordlists are essentially just a list of words. A common sight on trains and buses are groups of students looking at English vocabulary notebooks (known as *tango-chou* in Japanese), covering one word and testing either themselves or a partner on the corresponding pronunciation, spelling or definition in the other language. Wordlists, though not considered the most effective of the learning methods available (Nation, 2010), are also not completely without merit; around 54% of L2 learners report using wordlists regularly (Schmitt, 1997). Milton (2009) suggests that a read of a simple L1-L2 associated-pair list will refresh knowledge of the terms in one's' short-term memory and prompts either recall or recognition practice (Nation, 2010; Schmitt, 2010). This method of "look and remember" is relatively common, despite the fact that is not thought to be engaging (Schmitt, 2010).

Repeated-writing dovetails with the use of wordlists; students who put more time into their vocabulary study will practice as above, but extend their practice to include writing the target words many times onto a sheet of paper.

This cognitive (looking and remembering) and physical (writing) engagement covers many options, and should better help "peg" the L1-L2 terms into memory (Kozma, 1991; Schmitt, 2010). This method of learning is frequently used for tests that require the spelling of a word, as it facilitates production as well as recognition.

Finally, the flashcard method is also relatively popular. While slightly dated research, Schmitt (1997) found that roughly 29% of students use flashcards to study for tests (p. 203). L1-L2 translation pairs are generally considered to be the most effective, for they allow recognition and recall (Nation, 2010, p. 31), though this efficiency is also reached through engagement, be it the creation of the flashcards or the interaction with them (Schmitt, 2010). Pre-made flashcards, the kind offered by many contemporary digital applications such as Anki, Quizlet and Sticky-Study, certainly offer several forms of engagement and ease of access, though they have not yet been adequately investigated aside from several small-scale studies (e,g., Nakata, 2008).

The vocabulary learning methods employed by each individual learner will of course depend on the decisions made by the learners themselves, which in turn will be influenced by the factors behind these decisions, as will be discussed in a later section. Given there are several methods available and accessible to the average Japanese university student, how vocabulary is dealt with in the day-to-day experience of the Japanese education system might well influence how they in turn decide to study vocabulary.

Vocabulary in Japanese tertiary context

Vocabulary would, at first glance, appear to feature heavily in the Japanese education system, particularly concerning English. A quick trip to any book shop's foreign language-learning section would reveal a large number of the previously-mentioned *tango-chou*/word-books aimed at students, ranging from elementary level up to university level, and focused around a host of similarly-levelled English aptitude tests. These tests are mainly Japanese-produced and domestically aimed, such as the Eiken, the TOEIC, and the Center Exams, which are intended to fulfil different functions. The Eiken, founded in 1963 and supported by the Japanese government, is frequently studied from junior high school and serves mainly as an accessible entry to English-language aptitude testing. Recently, however, it is in the process of aligning its tests with a modified version of the Common Scale for English (CSE) and has become admissible on study-abroad applications to some institutions in the USA, UK, Australia and Canada and (Eiken, 2015). The TOEIC test was similarly established in the 1970s during Japan's economic expansion, with the aim of improving the ability of Japanese workers to operate in the global market, as a result it has mainly focused on business-sourced vocabulary and contexts (TOEIC, 2016). The Center Exams are tests conducted by the National Center for University Entrance Examinations, which high school students are required to take in order to get into university (NCUEE, 2016), and therefore have a wide

range of word-books dedicated to them in the education system up until the tertiary level. All of these tests have mainly focused on receptive recognition skills, with little productive writing and speaking (with the exception of the Eiken test) until recently, when additional speaking and writing tests were added to the line-up of TOEIC tests. Finally, other tests, such as the TOEFL and IELTS tests, are also common at the university level, and are required for entry into most institutions in the United States and the old Commonwealth. The popularity and ubiquity of such tests could be said to have the effect of propagating the focus on vocabulary in L2 English learning for much of one's experience in the educational system and even beyond.

   Specific-knowledge fields, such as medicine, science, and engineering, also have their own specialised wordlists, frequently constructed by the self-same departments at universities, and these often form the core of lexical study at these institutions. While, as explored in the previous section, vocabulary knowledge is indeed essential for the acquisition and use of a target language, how does this focus primarily on receptive knowledge skills and examinations interact with the general utilisation of vocabulary undertaken by institutions in the Japanese education system, and how might it influence the study patterns of the students within it?

Study in Japanese tertiary context

   The patterns of study in Japan are rooted in the realities of the context in which they take place. Two key focal points of the Japanese education system receive frequent investigation. These are chiefly exams and a cultural mindset regarding all things not considered as Japanese.

   The idea of "English in Japan" has received much focus from researchers and teachers working in the various sections of the education system. McVeigh comments that Japan seemingly has a "love-hate relationship with English" (2004, p. 212), and centers his reasoning around the assessment that despite the apparent recognition of the utility and need for English speakers in an increasingly globalized world there seems to be little actually being undertaken to attain it, at least in terms of government educational policy. Others also comment on this in a similar fashion (Kamada, 2011; Kikuchi, 2009; Nunan, 2003). Seargeant (2009) also examines this issue, though from a sociocultural perspective. In taking a step back to examine the indexicality of English, Seargeant (2009) suggests that the idea of English, and indeed other foreign languages, as an *other*, *outside* item, retains strong influence on all activities concerning it.

   Concerning the nature of the educational system itself, many educators and commentators have highlighted this Japan-centered uniqueness, a main facet of which is the focus on examinations (Barry, 2004; Berwick, 1989; Gunning, 2009; Sato, 2009). With three examinations a semester and high-stakes tests guarding entrance to the next stage of schooling, it is perhaps not surprising that the system in its current state is frequently criticised by educators (Clark, 2009;

Gunning, 2009) for its overshadowing of much of L2 language learning throughout the period of mandatory education. The emphasis on exams supports an entire education subsector of so called cram schools, known in Japanese as *juku*, which an average of 60% of junior high school students attend after regular schooling hours conclude (Mawer, 2015, p. 132). Through their own explicit focus on entrance exam tests, these cram schools have created a sort of feedback loop where some juku feed enrolment into certain prestigious schools.

This focus on exams and tests tends, understandably, to instil in students the view of looking at English "as a test" (Barry, 2004, p. 54). This in itself might not necessarily be a bad thing, as it does seek to inspire a sense of challenge-achievement in students (Mawer, 2015, p. 139) known as "*ganbari-ism*" (Hirst, 2013). Though research by Berwick (1989), and more recently by Miura (2010), suggests that while immediate pre-test motivation and effort are indeed quite high, there is a rapid post-test decline in motivation. In combination with the idea of passing tests or clearing hurdles, the mixture of test-centered education and continuous weekly testing in classrooms and *juku* could be understood to have the potential to instil a "use-and-forget" approach in students (who need to pass a test), in teachers (who need to make their students able to pass a test) and in society at large (which judges ability based on tests) to EFL specifically, but also English in general.

Reality of the Learning Context and its Influence on the Learning Process

When these factors and considerations come together, while their influence on the degree of L2 language attainment might be difficult to quantify in a short study it is entirely possible that there is an influence of sorts on the stages prior to goal achievement. Research done by Wen and Keith (1997) suggests that goal attainment operates along a process, with a series of factors in progressive stages influencing each subsequent stage. These stages, and the factors that they contain, can be roughly summarized in Table 1, below.

While some of these factors are not of particular interest, and many would no doubt prove extremely difficult to isolate and examine under real conditions, the factors that we have considered here mainly exist in the *Non-Learner Environmental* factors (*social* and *cultural*), *Institutional* factors (*assessment*), and via these, by extension, the *Learner-Unmodifiable* factor of *prior-learning*. As Wen and Johnson (1997, p. 30) note, while "both non-learner and learner factors influence learning outcomes, non-learner factors do so through learner factors." It is quite possible, then, that the socio-cultural and assessment-centered education factors could influence motivation, perceptions of the value of education and learning strategies (Huang, Huang, Huang & Lin, 2012). Therefore, based on the findings of the literature review, the following general research questions will be proposed:

1. How and to what degree do students study for weekly vocabulary tests?

2. What reasons are given for their choice of vocabulary study?

These questions should serve to guide the enquiry, which will be explained in the following methodology section.

TABLE 1
Presage, Process, Product Progression Table (Wen & Keith, 1997)

Non-Learner factors		Learner factors		Outcomes
Environmental	Institutional	Unmodifiable	Modifiable	
social	resources	intelligence	purpose	
economic	teaching	aptitude	beliefs identity	
cultural	assessment	sex	effort motivation	
linguistic		age	management strategies	
contexts			learning strategies	
home situation		prior learning		
				English achievement

PRESAGE ⟶ PROCESS ⟶ PRODUCT

METHODOLOGY
Context
        The subjects of this short study were drawn from two different universities in the Kansai region. One university had several sections of once-a-week, required English classes focused on academic writing with (n=126) first-year participants, the other university had two sections of three-times-a-week, elective English classes focused on communication and speaking with (n=45) first-year participants. Thus, the total sample size for this investigation was (N=171). Both classes incorporate weekly vocabulary tests into their syllabus, with the writing class's vocabulary drawn from an in-house list compiled by the respective faculties of the students enrolled in the writing class, and the

communicative class's vocabulary drawn from TOEIC test preparation books. The pedagogical objective for including weekly vocabulary study in the writing class was to tangentially introduce first-year students to the vocabulary they would likely be encountering in their fields of study, while the TOEIC-sourced vocabulary tests in the communicative classes were intended to help students improve their TOEIC scores to enable them to get into higher-grade elective classes in their subsequent semesters in their university. The immediate benefit was that students' weekly scores are tallied and make up part of their grades in both classes (roughly 10% of their total grade), thus taking the tests and attaining high grades could be held to have extrinsically motivating factors.

The weekly vocabulary lists were presented in two forms; a traditional wordlist or wordbook, from which vocabulary for the tests were drawn, with example sentences and attendant word-knowledge included, and a digital, smartphone-based application called Quizlet with the same vocabulary, though stripped down to simple associated-pairs (L1-L2). Both methods were given minimal introduction; the vocabulary book and paper-based wordlists were explained as being the source of the vocabulary for the tests, whereas the Quizlet sets were demonstrated as a back-up option for when one does not necessarily have their word-book to hand, and the various functions and study modules of the application were briefly explained.

Instruments

A questionnaire was constructed (see Appendix) and administered to the participants after one of the weekly vocabulary tests in the mid-semester, after the students' learning routines were assumed to have been relatively well established. The questionnaires were administered anonymously through Google Forms. As evidenced in Appendix 1, the questions were provided in both English (L2) and Japanese (L1), with no requirement given for which language to answer in. The results from the survey were gathered, codified, and are presented in the following section for analysis and discussion.

FINDINGS

Questionnaire results

As the questionnaire in Appendix 1 shows, there were several initial data-set questions to help frame and colour the snapshot taken by the research. In the following table (Table 2), we can see the participants' responses to questions 1 and 2 regarding their characteristics and academic major:

The sample sizes for each section are, unfortunately, somewhat unbalanced, with (n=126) in the mandatory writing classes and (n=45) in the elective communication classes. As we can see, however, both samples show a skew in terms of sex representation; the mandatory classes are 86% male, 14% female, while the elective classes are 55% female and 45% male. This may be due to both the types of the majors in the sample, as well as the general nature of the institutions which the participants attend, and while it is of fleeting interest to

note it is not the main issue under study.

TABLE 2
Table showing the results for Questions 1 and 2

	Mandatory Classes Sample (n=126)	Elective Classes Sample (n=45)
Question 1: Sex		
Female	17	25
Male	109	20
Question 2: Major		
Science	29	-
Medicine	16	-
Engineering	68	-
Literature	13	3
Sociology	-	16
Law	-	9
Business	-	14
Economics	-	3

TABLE 3
Table showing the results for Question 3

Question 3: When do you usually start studying for the test?	Mandatory Classes Sample (n=126)	Elective Classes Sample (n=45)	Total (N=171)
Every day before the test	8 (6%)	2 (5%)	10 (6%)
Two days before the test	10 (8%)	4 (8%)	14 (8%)
The day before the test	25 (20%)	18 (40%)	47 (26%)
The morning of the test	37 (29%)	15 (34%)	52 (30%)
The class period before the test	8 (6%)	2 (5%)	10 (6%)
The break-time before the test	38 (31%)	4 (8%)	42 (24%)

Table 3 illustrates the results for question 3, which asked when the participants usually start studying for the test. The results will be displayed in separate samples and combined in total.

Here, we can see some interesting results, and also that there are some notable differences between the two samples. In terms of general trends, it would appear that a relatively low number of students study consistently throughout the week for a vocabulary test (6%), with only a slight increase up to 8% beginning to study two days before the test. The day before the test rates highly, with 20% of the mandatory classes and 40% of the elective classes – for an overall 26% of the total number of participants – electing to start their study then. The morning of the test also features highly, with roughly a third of both sections starting to study as they travel to university. The class period before the test remains low, though this is probably due to the fact that the majority of the participants will have lessons in this time-frame. The starkest difference, however, can be seen in the final time-frame, the break-time before the test, which shows that roughly 31% of the students in the mandatory classes choose to start practicing then, compared with only 8% of the elective classes.

TABLE 4
Table showing the results for Question 4

Question 4: When do you do most of your studying for the test?	Mandatory Classes Sample (n=126)	Elective Classes Sample (n=45)	Total (N=171)
Every day before the test	3 (3%)	1 (2%)	4 (2%)
Two days before the test	2 (2%)	2 (5%)	4 (2%)
The day before the test	20 (16%)	10 (21%)	30 (19%)
The morning of the test	41 (32%)	14 (32%)	55 (32%)
The class period before the test	11 (9%)	4 (8%)	14 (8%)
The break-time before the test	49 (38%)	14 (32%)	63 (37%)

Table 4, shows the data from question 4, which asked "When do you do

most of your studying for the test?". For the mandatory classes, while there are some shifts in percentages, the data roughly overlaps with the data gathered from question 3, which suggests that most of the participants from the mandatory classes are studying only once, mostly in the break-time just before the test and in the morning of the test on the way to university. The data for the elective classes shows that a large percentage (32%) does most of their study in the break-time just before the test, which, when put alongside the data from question 3 (8%) suggests that many students, regardless of when they start studying, frequently cram-study just before their vocabulary tests.

TABLE 5
Table showing the results for Question 5

Question 5: How many minutes do you think that you study for tests?	Mandatory Classes Sample (n=126)	Elective Classes Sample (n=45)	Total (N=171)
More than 60 minutes	1 (-%)	1 (2%)	2 (1%)
60 minutes	4 (3%)	2 (4%)	6 (3%)
45 minutes	2 (1%)	2 (4%)	4 (2%)
30 minutes	38 (31%)	9 (20%)	47 (27%)
20 minutes	17 (14%)	9 (20%)	26 (15%)
15 minutes	21 (16%)	17 (37%)	36 (21%)
10 minutes	24 (19%)	4 (9%)	28 (16%)
5 minutes	19 (15%)	1 (2%)	20 (13%)

In Table 5, we can see the data from question 5, which sought estimations about how many minutes the participants thought they studied for the vocabulary tests each week. Here, we can see that, again, there are differences between the data-sets. The majority of participants (a combined total of 77%) from the elective classes seem to study for around 15 to 30 minutes for each test, with the largest percentage of participants (37%) reporting that they study for roughly 15 minutes for each test. On the other hand, the mandatory-classes data shows that while the majority (31%) of participants study for 30 minutes for each test, a much larger spread of data exists in this section, with 15% of the sample reporting that they study for only 5 minutes for each test, 19% for 10 minutes, 16% for 15 minutes, and 14% for 20 minutes. Very few participants from both the mandatory classes and the elective classes study for more than half-an-hour for each test, with a combined total of only 6% of the whole sample, and the median study time for the combined sample registers as 15 minutes.

The data collected from questions 6, 7 and 8 is displayed in Table 6. As we can see here, the majority of students in the both the mandatory classes (79 out of 126 participants, or 63%) and the elective classes (37 out of 45, or 82%) state that they tend to use Quizlet as their main method of vocabulary study. The students in the elective classes do seem to use Quizlet to a higher extent than the students in the mandatory classes, though there is clearly a preference for Quizlet as the main method. However, it should be noted that many in the mandatory classes seem to use a mixed approach, using Quizlet with another method, such as wordlists (35 participants) and repeated writing in note-books or on paper (6 participants). When taking a broad look at the data, it is apparent that the main three methods are Quizlet, wordlists and repeated-writing.

Focusing on these three main methods, then, it is interesting to note that there are a relatively wide range of reasons that the participants gave for mainly using Quizlet, Wordlists and Repeated-writing. Regarding Quizlet, the top four reasons given are that it is *convenient*, *easy*, *effective* and *useful*; all of these speak mainly to the balance of accessibility and utility of the application. For Wordlists, the second most popular of the main methods, the top reason given was that it was *easy* to use for practice, and that it was a *familiar* method of practice for the participants. The final main method, repeated-writing, was less popular by far than both Quizlet and Wordlists, though all of the participants who chose this method do so because they consider it to be *effective*.

The data gathered from this survey will be discussed in the next section.

TABLE 6
Table showing the results for Questions 6, 7, and 8

	Mandatory Classes Sample (n=126)	Elective Classes Sample (n=45)	Total (N=171)
Question 6: Methods used			
Quizlet	46	29	75
Wordlists	30	4	34
Repeated-writing	2	1	3
Flashcards	0	1	1
Quizlet & Repeated Writing	6	6	12
Wordlists & Quizlet	35	2	37
Wordlists & Repeated Writing	4	0	4
Wordlists, Quizlet & Repeated Writing	3	2	5
Questions 7 & 8: Main method and reason			
Quizlet	**79**	**37**	**116**
Convenient	31	9	40
Useful	2	11	13
Easy	27	7	34
Effective	14	6	20
Test-like	0	4	4
Pronunciation / Spelling	5	0	5
Wordlists	**44**	**6**	**50**
Familiar	10	1	11
Useful	2	3	5
Effective	7	1	8
Convenient	5	1	6
Prefers Paper	8	0	8
Easy	12	0	12
Repeated-writing	**3**	**2**	**5**
Effective	3	2	5

DISCUSSION

How and to what degree do students study for weekly vocabulary tests?

The results from the surveys show that the participating students commonly wait until the last minute to study for the vocabulary tests, with the largest single contingent beginning their study only a day before the test, and with the majority of the practicing being done on the day of the test. Students would appear, according to this data, to start studying for tests a lot later than would be desired; on the whole, students from both institutions, a little more than a quarter of the students (26%) start to study for the vocabulary tests a day before the exam, and 30% of the aggregate number of students do not start studying until the morning of the test.

In addition, 63% of the students claimed to have studied between 15 and 30 minutes for the tests each week. The commute, in the morning, on the day of the test, or the break before the test were the answers with the most responses and a portion of that time most likely encompasses the 15-30 minutes that the students claim to study. As with the results regarding when the students from these two classes began to study, these findings suggest that they are not studying quite as one would wish in order to effectively acquire the target vocabulary, despite, as explained in a previous section, that the vocabulary is drawn from TOEIC tests (the scores on which determine whether students for the elective classes may take subsequent classes) and required academic vocabulary books, and should thus have relative extrinsic motivational properties. This could suggest, all things being equal, that with regards to weekly vocabulary tests students tend not to put a high priority on studying for them. This is also supported by the results concerning their method of vocabulary study, examined in the next section.

What reasons are given for their choice of vocabulary study method?

As seen in the findings section, 75% (129 out of 171) of the students reported that they used Quizlet by itself or in conjunction with some other form of studying. For many of the students it was their first time to use a smartphone application for studying and the majority of them (64%) cited that it was either *convenient* or *easy* to use; this essentially focuses on the utility and the accessibility of a smart-phone based application for vocabulary study. Given that the results discussed in the previous section show that most students seem to studying on the day of the test, and do not study for much longer than 30 minutes, this would, in conjunction, suggest that the ease of the study method is the main concern for learners.

Despite this, a desire for an *effective* method of study featured in both classes, though it must be admitted that when compared to the results for *convenient* or *easy* given as reasons, less participants listed Quizlet as *effective* (20 out of 116, or 17% of those who used Quizlet as their main method). In fact, looking at the results for Wordlists, aside from *easy*, which supports the points

made above, they show that the second most popular reason was for *familiar* study methods. This seems to suggest, in conjunction with the need for an accessible practice means, that students might also lean towards the methods that they have become used to via their prior learning experiences.

Less-popular reasons cited for Quizlet users include the *pronunciation* and *spelling* support that the application provides. Wordlists show the spelling but unlike Quizlet do not give feedback on your own spelling. Quizlet also provides pronunciation guidance, and this aural element might prove useful to some learners, though given the nature of the vocabulary tests it is perhaps not of immediate import. Wordlists do not provide aural input. The Quizlet practice modules' *similarity to the tests*, as well, featured as a reason, though this was the least popular of the reasons given.

For less-popular wordlist reasons, as discussed earlier, it would appear that 8 out of the 50 participants (16%) that list wordlist as their main study method say that they simply *prefer to use paper*. This might be because throughout junior and senior high school it is likely that the majority of students have used wordlists and word-books, and so, similarly to the most popular Wordlist answer of *familiar*, they continued using a familiar study-method.

The final main method, repeated-writing, was only used by 5 out of 171 respondents (3%) in total. This method of study, as explained in the literature review, involves looking at the words on a wordlist and repeatedly writing them onto loose-leaf paper, and is generally considered to help people acquire the spelling of words. Students may have done this out of habit from their test-taking experience in junior high or high school; when they are under pressure, they write the words onto paper in an attempt to retain the information in their short-term memory before the quiz.

CONCLUSION
Major findings

The data gathered from this study suggests that ease and time efficiency are foremost criteria in students' decision-making for studying vocabulary for low-stakes tests. Familiarity and 'path of least resistance' seem to be the deciding factors in their choices for study methods. Students either use the smartphone when it is convenient to look at a screen, but when they have an opportunity to look at a paper with the target words and definitions on a page, they tend to use those methods that they may have used in high school or with previous studies.

The majority of the students' attempts at acquisition for this component of their English class is relegated to last minute cramming before the class. Students do not seem to value the worth of vocabulary as a lexical component or as a TOEIC test or vocabulary book study component. If they did value the vocabulary knowledge, they would likely invest the time in this strand of their education, and as is evident, actions speak louder than words. It could be

concluded that based on the findings presented in this short study, most students do as little as possible to get by in class, both elective and mandatory, vis-à-vis weekly vocabulary tests.

It should go without saying, of course, that neither these findings nor the tentative conclusions drawn from them, denigrate the efforts made by the students in their day-to-day study routines and university lives. As stated in the introduction, this study essentially sought to examine and provide insight into some of the daily realities faced by both students and teachers in tertiary-level education contexts in Japan. Given the *environmental* and *institutional* factors discussed – i.e., social attitudes regarding English, test-based education – coupled with the *prior-learning* experiences from junior and senior high schools, it is perhaps quite understandable and even expected, all things being equal. What it does suggest, however, is that given the chance to alter curriculum, syllabuses and lesson plans, it might be advisable to better coordinate and align pedagogy with targets and expectations drawn from a sound understanding of the realities in which the teaching/learning context is situated. Admittedly this is not always the case, though it is unequivocally important to reflect on practice from time to time, and it is just as important to base said reflection on fact.

Issues and future direction of research

There are several issues with the study itself, as well as some potential avenues of inquiry which arose during the analysis of the results, which will be discussed below.

As the study focused on the *Non-Learner Environmental* factors, *Institutional* factors, and the *Learner-Unmodifiable* factor of *prior-learning,* it shows only a partial view of students' L2 vocabulary study habits. Correlation to time studied, time of study taking place, and results on the quizzes could be the next step in analyzing study effectiveness and motivation. Students reported on their study habits for the vocabulary quizzes, but there could be a more longitudinal study, showing the results of instruction on vocabulary study skills from the change in quiz scores after vocabulary study skill instruction. The scale of this study was unfortunately small (n=171) but further studies could go in further depth of the study habits of a wider range of students and majors and on to other skills of L2 learning. Hopefully, to improve the reliability of the findings through triangulation and repetition, similar investigations can be conducted in the future.

Next, given that students' study behaviour does not appear optimal for learning vocabulary, we could look into teaching them the benefits of better study habits. Students could be taught that they cannot retain the meaning of a word from one look or a 'massed-learning' in the morning of, or the period just before, the test itself. Students need to understand that it takes five or more meetings to "learn" the average word (Nation, 1990) and that spaced intervals between meeting a word is best for long term retention. Instructors would hope that students' minimal effort to meet a passing grade on the vocabulary quiz

would change. A paradigm shift in thinking may be the burden of the instructor to enlighten the students of the reasons behind the task of studying vocabulary and those future benefits outweighs valuable time invested in acquisition rather than thinking of the quiz as only part of a grade.

Clearly, a more thorough investigation into the learning context could also be warranted. Judging from the small amount of time invested in vocabulary study and the last-minute nature of their study habits, it is evident that students do not prioritise vocabulary study. Could there be some correlation to the students' extra-curricular activities or studies in their major which inhibit them from starting to study earlier? This may warrant further inquiries into student motivation to study vocabulary for non-English major students and what instructors could do to increase motivation for vocabulary studies. It would also be valuable to find the connection between time spent on studying the vocabulary and the resulting score of the quiz. Additionally, perhaps the assessment itself could be adjusted to better suit the reality in which the teaching and learning takes place? Certainly, with elective classes it would be possible to change the focus, nature, and methods for studying for weekly vocabulary tests, or it might be possible to remove them all together. With mandatory classes, however, there is not so much scope for change with the curriculum; such is the nature of the environmental and institutional factors.

Finally, it might be possible to change the direction of the research itself. Is this kind of vocabulary study, based around weekly assessment, really useful for learners? A broad question, to be sure, but it could be worth investigating.

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Appendix A: Questionnaire for Students

1. What is your Major? / あなたの学部は何ですか？

Science / 科学   Sociology / 社会
Medicine / 医療   Law / 法律
Engineering / 工学   Business / 商
Literature / 文学   Economics / 経済

2. What is your gender? / あなたの性別は何ですか？
      Female / 女性
      Male / 男性
      Other …

3. Outside of class, when do you usually start studying for the test? / 授業時間外に、あなたはいつ単語テストのために勉強し始めますか？
      Every day before the test / テストの前の毎日
      Two days before the test / テストの二日前
      The day before the test / テストの前日
      The morning of the test / テスト日の朝
      The class period before the test / テストの前の限
      The breaktime before the test / テストの前の休憩時間

4. Outside of class, when do you do most of your studying for the test? / 授業時間外に、あなたはいつ単語テストのために一番時間をかけて勉強しますか？
      Every day before the test / テストの前の毎日
      Two days before the test / テストの二日前
      The day before the test / テストの前日
      The morning of the test / テスト日の朝
      The class period before the test / テストの前の限
      The breaktime before the test / テストの前の休憩時間

5. How many minutes do you think that you study for each test? / テスト

のために何分くらい勉強すると思いますか？
> *5 minutes / ５分くらい*
> *10 minutes / １０分くらい*
> *15 minutes / １５分くらい*
> *20 minutes / ２０分くらい*
> *30 minutes / ３０分くらい*
> *45 minutes / ４５分くらい*
> *60 minutes / ６０分くらい*
> *more than 60 minutes / ６０分以上*

6. What kind of methods do you use to study for the vocabulary tests?
You can choose multiple answers. / テストのために何の方法を使いますか？複数の答えを選んでも大丈夫です。
> *Word-book / 単語帳*
> *Quizlet / クイズレット*
> *Repeated Writing / 繰り返し書くこと*
> *Making and using Flashcards / フラッシュカードを作って使うこと*

7. If you use multiple study methods, which do you use most? If you only use one method, do not answer this question. / もし複数の勉強方法を使うなら、どちらは一番よく使いますか？一つの勉強方法しか使わないなら、答えないでください。
> *Word-book / 単語帳*
> *Quizlet / クイズレット*
> *Repeated Writing / 繰り返し書くこと*
> *Making and using Flashcards / フラッシュカードを作って使うこと*

8. In your own words, why do you use that method? / 自分の言葉で、何でその勉強方法を使いますか？