

Methods for Conveying and Denoting the Sounds of the English Language : Which Should Japanese University Learners of English Use, and Which Do They Actually Use?

Paul Raine

Keywords : International Phonetic Alphabet, pronunciation respelling, katakana, electronic dictionary, Standard English spelling, orthography, recorded audio samples

Abstract

The benefits and drawbacks of four systems for conveying or denoting the sounds of the English language are evaluated, namely: the International Phonetic Alphabet (IPA), pronunciation respelling, katakana, and recorded audio samples. The results of a survey designed to reveal which of these systems were most favored by Japanese university learners of English are presented. Discordances between the actual usage and apparent suitability of each system are identified, and recommendations for changes to English teaching and learning practices in Japanese universities are proposed.

概要

英語には、標準的な正書法と音声体系が一致しない特徴がある。単語のつづりは、標準的なつづり字規則に従っており、単語の発音方法を反映しているわけではない。そのため標準的な英語のつづりと標準的な英語の発音に、音声的な対応がほとんどないか、またはまったくないことがしばしばある。

英語の正書法に固有の音素の不明確性によって、英語学習者は標準的な英語のつづりを見て英語の発音を正確に記録することができず、また書かれた英語によって示された音を正確に発音することもできない。日本人はカタカナおよび、ひらがなの2種類の音節文字表の音素一致に慣れているため、日本人の英語学習者に特有の問題が存在する。

英語の音を伝え表示するためには、代替体系が開発されている。本論文で取り扱う代替体系には、次のものが含まれる。国際音声記号 (IPA : International Phonetic Alphabet)、発音つづり、カタカナ、電子辞書に搭載されている録音された音声サンプル。

本論文の目的は、3部から構成される。第1は、上記の代替体系の利点と欠点を分析することである。第2は、学生がこれらの各方法のうちどれを使用しているかについて調査を行うことである。最後に、最も有益な方法と、実際に学生が最も使用している方法との相違を検討するための提案を、英語教師および日本語を背景とする学習者に行うことである。

この調査の結論では、不明な英単語の発音を書き留めるための最も一般的な記述方法はカタカナであることを示しており、過半数の学生が「少なくとも時々は」この方法を使用している。ただし、学生の半数は発音を書き留める目的でカタカナを「ほとんど」または「まったく」使用していなかった。この結果は、発音を書き留める目的にカタカナが適さないことに気付いている学生がいることを示していると思われる。発音記号と発音つづりは、両者共に英単語の発音を書き留めるのに非常に一般的でない方法であった。この発見は、ほとんどの学生が音声記号を流暢に書く能力に自信を持っておらず、またアンケートを終了する前にほとんどの学生が発音つづりの方法に馴染みがないと報告した事実を踏まえると当然の結果であった。

これらの発見を踏まえ、学生が英語の発音を記録する際には、カタカナを使用することは避けるように教師が強く伝えることを推奨する。カタカナ英語と標準英語の違い、および英語の音を表示するにはカタカナが不適切であることを学習者に認識させるために、意識を高める活動を行うべきである。

またこの結論は、発音方法が不確かな単語に遭遇した場合に学生が頼っている最も一般的な方法は、電子辞書の音声録音の参照であることも示した。調査によって、学生の4分の3近くがこのような機能を搭載した電子辞書を所有していることが分かった。不明な単語の発音表記または発音つづりは、ほとんどの学生にとって好まれる方法ではなかった。

電子辞書の使用をさらに奨励し、電子辞書を現在所有していない学生には予備の電子辞書を提供することを推奨する。さらにスマートフォンやタブレット・コンピュータなど、電子辞書と同様または、より優れた機能を装備したその他の電子機器を授業に導入することも可能である。

この調査報告では、発音記号および発音つづりの技術的な代替法が普及しているため、そのような表記方法に頼らなくなることは必然であったと結論づけられる。さらに、学生に発音記号の読み書きを学習する時間と労力を強要することは、日本人の英語学習者にとって非生産的であり、不必要であり、煩わしく負担になると思われる。

Introduction

I was inspired to undertake this research after noticing that a significant proportion of my students were using katakana to note down the pronunciation of English words. However, I rarely, if ever, observed students using the International Phonetic Alphabet (IPA) or pronunciation respelling for this purpose. Many of my students also possessed electronic dictionaries, and I had observed on several occasions students accessing the 'text-to-voice' function on their dictionaries when they wanted to check the pronunciation of English words.

The goals of this paper are threefold. Firstly, to analyze the benefits and drawbacks of each of the methods mentioned above for conveying or denoting the sounds of the English language. Secondly, to present an investigation of the extent to which each of these methods was being utilized by my students. Finally, to make recommendations as to how English teachers and learners in the Japanese context might address discordances arising between which methods should be used by Japanese learners of English and which methods are actually used.

In Section 1 of this paper, the inadequacy of Standard English spelling for denoting the sounds of the English language is discussed. This is followed in Section 2 with an analysis of the benefits and drawbacks of IPA, katakana, pronunciation respelling and recorded audio samples for denoting or conveying English pronunciation. The methodology of the current research is presented in Section 3, followed by the results of the investigation into students' usage of each method in Section 4. In Section 5, the implications of the results are discussed, and recommendations for changes to English teaching and learning practices in Japanese universities are provided. Limitations of the current research and suggestions for further research are given in Section 6.

1. The problem of phonemic ambiguity in Standard English spelling

Dutch writer Gerard Nolst Trenitè, in his aptly titled poem "The Chaos", famously demonstrated the phonemic ambiguity of Standard English spelling, particularly with regard to the numerous vowel sounds that can be represented by the same combinations of vowels (Ezza & Saadeh, 2011):

“But be careful how you speak:
Say break and steak, but bleak and streak;
Cloven, oven, how and low,
Script, receipt, show, poem, and toe.”

Another oft-cited example of the lack of relationship between Standard English spelling and pronunciation is the word ‘ghoti’ which an anonymous convert of George Bernard Shaw, famous writer and spelling reformer, suggested could be pronounced as ‘fish’ by using the ‘gh’ as in *rough*, the ‘o’ as in *women* and the ‘ti’ as in *nation*.

The inherent phonemic ambiguity of English orthography has led to a situation in which standard spelling neither allows English learners to accurately notate the sounds of spoken English, nor accurately enunciate the sounds denoted by written English. As the English Spelling Society puts it:

“Not only can you not tell how to spell a word from hearing it spoken; you can’t even be sure how a word is spoken from the written word – a unique ‘double whammy’” (The English Spelling Society, 2011).

Despite clear evidence of the illogical and inconsistent nature of Standard English spelling, several efforts in the 1950s, including a bill debated in the British parliament (HC Deb, 1949), and a trust set up in the will of George Bernard Shaw, failed to revise the system. It seems that the phonetically inconsistent nature of Standard English spelling is set to continue presenting problems to native speakers and language learners alike, with particular difficulties being presented to Japanese learners of English, who are accustomed to the phonemic consistency of the two syllabaries of katakana and hiragana.

2. Alternatives to Standard English spelling

Various alternatives to Standard English spelling are available to Japanese learners of English for the purposes of conveying and construing the sounds of the English language. Here I will discuss four of these alternatives, and enumerate the benefits and drawbacks of each one. The first three can be categorized as ‘systems of notation’. They are: the International Phonetic Alphabet (IPA), pronunciation respelling, and katakana. The fourth alternative is technological, and comes in the form of the recorded samples of spoken English provided on modern electronic dictionaries.

2.1 The International Phonetic Alphabet

The International Phonetic Alphabet (IPA) is comprised of a comprehensive array of symbols, and can be used for representing almost all of the sounds of any of the world's languages (International Phonetic Association, 1999). With regard to the English language, there are 28 symbols to represent the sounds of consonants and 21 symbols to represent the sounds of vowels. The symbols are based on the Latin alphabet, and many of them, particularly the symbols for the sounds of consonants, closely resemble, or are identical to, letters of the English alphabet.

2.1.1 Benefits

The IPA provides a single set of standardized international symbols, which have been widely adopted in a range of English language learning resources, particularly British English learners' dictionaries (Landau, 2001). All of the sounds of the English language can be represented using the symbols, including non-standard forms of English and multiple regional and national varieties of the language.

2.1.2 Drawbacks

Because of a lack of a single standard English accent (Received Pronunciation is sometimes said to be the 'standard' variety, but it is hardly typical, even within the United Kingdom itself) there can be no single standard phonetic alphabet for the English language. The wide variety of accents in English create ambiguity within the phonetic alphabet itself, so adopting the phonetic alphabet to avoid or diminish the incidence of phonetic ambiguity can not be completely effective.

A further disadvantage is the fact that Japanese students already have to learn katakana, hiragana, kanji and the English alphabet. Adding a fifth set of symbols seems an onerous burden, especially when the symbols are unlikely ever to be used outside the English classroom.

Furthermore, presumptions that Japanese university students will have learned the phonetic alphabet in high school or junior high school (Messerklinger, 2009) do not necessarily reflect reality.

In research conducted by Kikuchi (2004), almost half (42.2%) of the first year Japanese university students surveyed claimed that they had not been taught the phonetic alphabet, either in junior high school, or in high school, and therefore embarked on their university studies without any prior knowledge of this notation system. Similarly, research conducted

by Shudong, Higgins & Shima (2005) revealed that only one in twenty Japanese university English learners were able to read IPA symbols.

2.2 Pronunciation respelling

Pronunciation respelling is a method of writing words in non-standard ways in order for the pronunciation of those words to be more immediately apparent. One example would be the rendering of ‘though’ as [thoh] or ‘through’ as [throo]. Systems of pronunciation respelling have already been adopted in some English dictionaries, although mainly within the United States, with British dictionaries tending to favor the IPA (Landau, 2001).

Pronunciation respelling has been suggested as a useful technique to adopt when learning or teaching languages in which “the traditional orthography shows something considerably less than a one-to-one correspondence with the sounds of the language” (Bowen & Stockwell, 1957, p. 200). As I have argued above (Section1), this situation is clearly true in respect of the English language.

2.2.1 Benefits

The main advantage of pronunciation respelling is that it uses symbols that most adult learners of English will already be familiar with, i.e. letters of the English alphabet. This means that no extra time has to be devoted to learning another system of symbols. This is an especially important consideration in relation to Japanese learners of English, who are already required to learn four sets of symbols: katakana, hiragana, kanji and the English alphabet.

2.2.2 Drawbacks

Unfortunately, systems of pronunciation respelling still suffer from phonetic ambiguity. To illustrate this point with anecdotal evidence, when one of my students was asked to pronounce the respelled version of ‘though’, [thoh], she pronounced it /ðoʊ/ as opposed to /ðoo/.

To overcome the ambiguity inherent in pronunciation respelling, most dictionaries to utilize such systems also have a key as to how certain combinations of letters are supposed to be pronounced, e.g. ‘th’ as in ‘this, mother, breathe’ as opposed to ‘th’ as in ‘thought, thing’, etc. However, it seems counter-productive for English learners to have to memorize or refer to a key in order for pronunciation respelling to be useful.

In addition, reliance on these kinds of pronunciation keys has the potential to create a feedback loop of ambiguity, where English learners are unable to pronounce the very words used to define the sounds of the letter combinations.

2.3 Katakana

Katakana is one of the two sets of phonetic symbols employed in the Japanese writing system (the other being hiragana). Katakana is usually employed for transcribing foreign words, adding emphasis to Japanese words, and denoting “daily emotional content of various kinds” (Stanlaw, 2004).

Katakana has been used extensively by learners of English and textbook writers in Japan to notate the pronunciation of spoken English (Sherard, 1986; Martin, 2004). An example would be transcribing the English word ‘attractive’ as ‘アトラクティブ’(A-TO-RA-KU-TI-BU).

2.3.1 Benefits

The main benefit of using katakana is that all Japanese students are already intimately familiar with the symbols, and are able to both write and read them fluently. They do not need to learn a new set of symbols, as they would in order to be able to utilize the IPA, for example.

2.3.2 Drawbacks

As anyone familiar with the Japanese language is probably aware, every Japanese ‘consonant’ (except from ‘ん’ / ‘n’) has a ‘vowel’ sound attached to it. This means that when English words are rendered in katakana, all consonant clusters (e.g. ‘tr’, ‘ct’ in ‘attractive’, above) are broken up with superfluous vowel sounds.

A further complication arises from the fact that standard Japanese phonology lacks many of the sounds present in English, and therefore katakana is unable to faithfully represent them. Among the sounds present in English but absent in Japanese are the ‘wɒ’ sound in ‘wood’, and the ‘θ’ sound in ‘thank’.

These characteristics make katakana unsuitable for transcribing the sounds of the English language, and can lead to learners speaking in ‘Katakana English’, a variety of English exemplified by superfluous vowel sounds and unclear imitations of the sounds present in English but absent in Japanese.

If the goal of language learning is to produce intelligible utterances rather than develop a native speaker-like accent (Munro & Derwing, 1999), then the use of Katakana English will not be a serious problem to the extent that utterances remain intelligible.

However, the use of katakana English can often result in unintelligibility. In one such instance in the classroom, I was unable to understand a student’s pronunciation of the word ‘Hollywood’, in katakana ‘ハリウッド’ (ha-ri-ud-do), despite multiple repetitions of the word. Native speakers who are less familiar than myself (after six years teaching in Japan) in

conversing with Japanese speakers of English might experience such difficulties on a more frequent basis. Evidence for the lack of comprehension the use of Katakana English can cause is more than merely anecdotal, and has been documented extensively in the literature (Mineo, 1992; Takeshita, 2000; Martin, 2004; Kistler & Sandkamp, 2008).

Some might suggest that it is 'linguicist' (Phillipson, 1992) to imply that the onus is on the non-native speaker to mould the way they speak to the native-speaker ear, rather than for the native-speaker to become accustomed to non-native speech. However, I argue that the process should in fact be a compromise, with each party taking steps to accommodate the other in ensuring that utterances are understood.

2.4 Recorded audio samples of electronic dictionaries

Most mid to high-range electronic dictionaries provide audio samples for each of the words in their database. The clarity of the samples depends to some extent on whether the dictionary adopts a computerized text-to-voice system, or provides recorded samples of actual native speakers. Some dictionaries also offer the feature of slowing down or speeding up the audio samples to make them easier to parse.

2.4.1 Benefits

Listening to audio samples is a convenient method of understanding the pronunciation of English words in the respect that no symbols have to be learned, and it is intuitively easier to 'listen and repeat' than to 'read and speak' (Celce-Murcia, Brinton, & Goodwin, 1996). The ambiguity present when reading orthographic representations of speech is not present when listening to actual samples of speech.

2.4.2 Drawbacks

Not every English learner possesses an electronic dictionary, or a dictionary of any kind for that matter. Furthermore, this method clearly does nothing to assist learners with notating the sounds of words they wish to remember. Dictionaries do provide vast databases of ready-transcribed words, but they may not include some rare words, slang words, casual pronunciations, or people and place names.

3. Methodology

This section provides information about the participants of the current study, in addition to details of the research instruments and procedure adopted.

3.1 Participants

Thirty-nine Japanese university students participated in this study. The participants were first year students with an elementary to pre-intermediate level of English. The students were all enrolled in variety of non-English majors, and were taking compulsory English lessons in the four main skills of speaking, listening, reading and writing, in addition to their main subjects.

Before beginning their English studies, all students were streamed into one of three ability groups (Level 1, Level 2, Level 3) based on the results obtained from administering the CASEC test (The Japan Institute for Educational Measurement, 2012). The participants in the current research were drawn from one 'Level 1' class (n=20) and one 'Level 2' class (n=19).

3.2 Research instruments and procedure

The main instrument used for this study was a multiple-choice questionnaire (*Appendices 1 and 2*). The first part ('Part A') consisted of two questions. The first question aimed to uncover the respondents' habits in relation to discovering the correct pronunciation of English words they were unsure how to pronounce. They were asked how often they referred to either recorded sound samples, phonetic spellings or pronunciation respellings. They were able to select one of the following five choices: 'Always', 'Often', 'Sometimes', 'Hardly ever' or 'Never'.

The second question aimed to uncover the respondents' habits in relation to noting down the correct pronunciation of English words. They were asked how often they used katakana, the phonetic alphabet, and pronunciation respelling for this purpose. They were given the same choices of responses as for question one.

In Part B of the questionnaire, students were required to express the extent of their agreement with two statements, the first relating to how well they could read the symbols of the phonetic alphabet, and the second relating to how well they could write the symbols. The available responses were 'Strongly agree', 'Agree', 'Neither agree nor disagree', 'Disagree' and 'Strongly disagree'.

Finally, in Part C of the questionnaire, students were asked to indicate at which, if any, prior educational institutions they had studied the phonetic alphabet. The available choices were: high school, junior high school, and elementary school. The students were also asked

whether or not they possessed an electronic dictionary with recorded audio samples, and whether or not they were familiar with the concept of 'pronunciation respelling' before they had answered the questionnaire.

Brief working definitions of 'pronunciation respelling' and 'the phonetic alphabet' were provided at the beginning of the questionnaire, and the whole document was professionally translated into Japanese in an attempt to guarantee comprehension.

The original English version of the questionnaire is provided in *Appendix 1*, and the Japanese translation in *Appendix 2*. The questionnaires were administered to students in a five-minute period at the end of a regular lesson, and were completed and collated anonymously. The questionnaire was intended to act as a consciousness raising activity for the students, as well as a research instrument for this study. Students completed the questionnaire in pencil, and the responses were later input by the researcher into a spreadsheet program to be analyzed.

Results

Figure 1 (below) shows the results of the first question of Part A, i.e. what the students do when encountering English words they are unsure how to pronounce. As we can see from *Chart B*, almost three quarters of the respondents check the audio recordings on an electronic dictionary when they encounter an English word that they are unsure how to pronounce. Over half the students (56%) 'hardly ever' or 'never' check the phonetic spelling of the word in such situations (*Chart D*). The majority of students (56%) also 'hardly ever' or 'never' check the pronunciation respelling of such words (*Chart F*).

Figure 2 (below) shows the results of the second question of Part A, i.e. what the students do when they want to make a note of the correct pronunciation of English words. As we can see from *Chart H*, over half the students (51%) use katakana to transcribe the sounds of English words at least 'sometimes', while only 15% of students use the phonetic alphabet (*Chart J*) and 13% use pronunciation respelling (*Chart L*) for this purpose and to this degree.

Figure 1:
What students do when encountering English words they are unsure how to pronounce

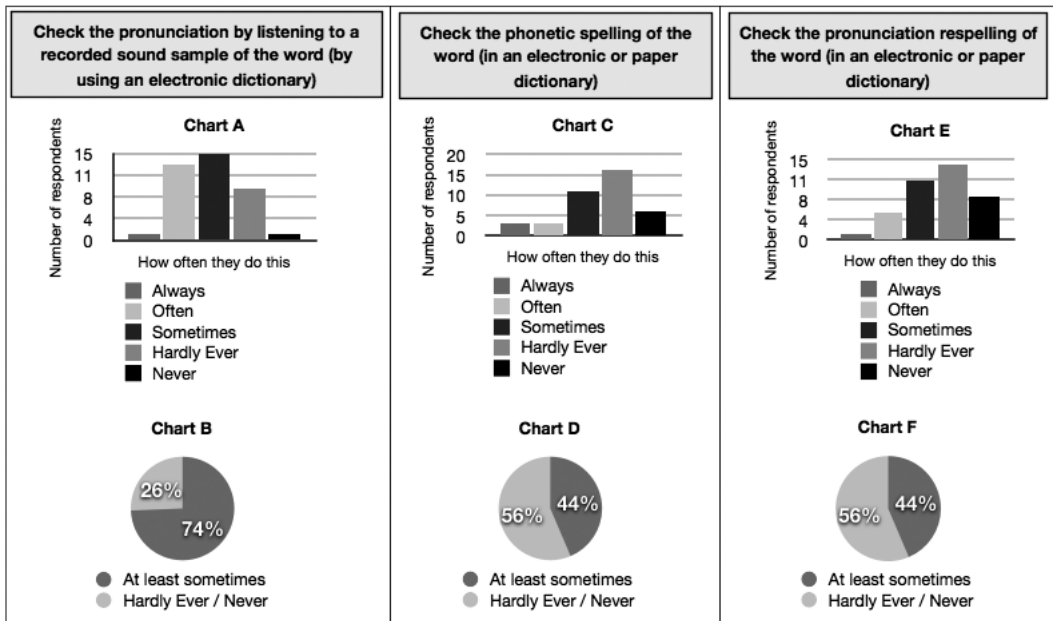


Figure 2:
What students do when they want to make a note of the correct pronunciation of English words

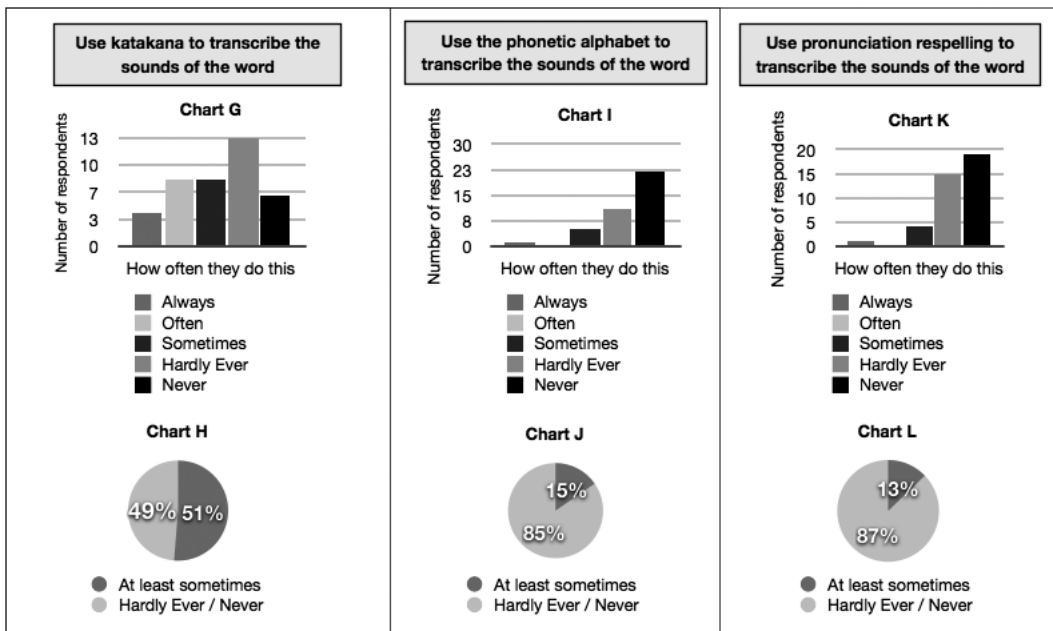


Figure 3 (below) shows the results of the first question of Part B of the questionnaire, i.e. to what extent the students agreed with the statement that they were able to ‘read the symbols of the phonetic alphabet fluently’. As we can see from *Chart N*, over three quarters of the students (77%) disagreed or strongly disagreed with this statement. In *Figure 4* (below) we can see the results of the second question of Part B, i.e. to what extent students agreed with the statement that they were able to ‘write the symbols of the phonetic alphabet fluently’. *Chart P* shows that almost all students (94%) disagreed or strongly disagreed with this statement.

Figure 3:
Charts to show the extent to which students agreed with the statement:
“I am able to read the symbols of the phonetic alphabet fluently”

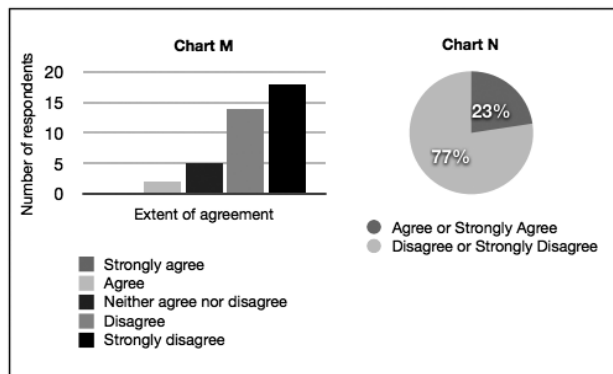
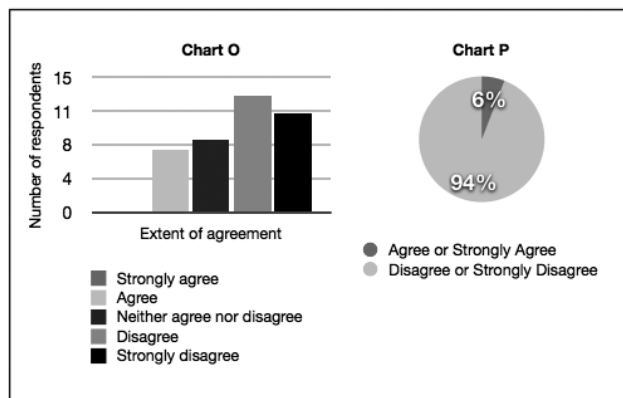


Figure 4:
Charts to show the extent to which students agreed with the statement:
“I am able to write the symbols of the phonetic alphabet fluently”



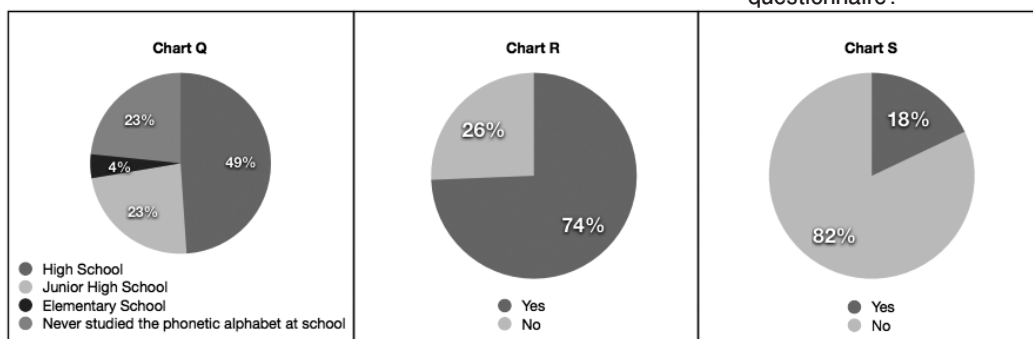
The results of Part C of the questionnaire are shown in *Charts Q, R* and *S* (below). *Chart Q* shows that while over three quarters of the students (77%) have studied the phonetic alphabet at some point in their educational career before university, almost a quarter (23%)

have never studied it. *Chart R* shows that almost three quarters of the students (74%) possess an electronic dictionary with recorded audio samples of English words. In *Chart S* we can see that the vast majority of students (82%) were unfamiliar with the technique of pronunciation respelling before responding to the questionnaire.

Chart Q:
Institutions at which students had studied the phonetic alphabet before university

Chart R:
Students responses to the question "Do you possess an electronic dictionary with recorded audio samples of English words?"

Chart S:
Students responses to the question "Were you familiar with the technique of 'pronunciation respelling' before taking this questionnaire?"



5. Discussion

In this section I discuss the implications of the results obtained, and provide recommendations for changes to English teaching and learning practices in Japanese universities, firstly with regards to methods for checking the pronunciation of unknown English words, and secondly with regards to notating the pronunciation of such words.

5.1 Checking the pronunciation of unknown English words

The most popular method of recourse for students when encountering words they were unsure how to pronounce was to refer to the audio recordings on electronic dictionaries. Almost three quarters of the students surveyed possessed an electronic dictionary providing this functionality.

Referring to phonetic transcriptions of unknown words was not a favored method of recourse for the majority of students. This is a logical finding in light of the fact that almost a quarter of the students had never studied the phonetic alphabet in school, and less than a

quarter felt confident in their ability to read the symbols of the phonetic alphabet fluently.

Checking pronunciation respelling versions of such words was also out of favor with the majority of students. This finding is also logical in light of the fact that over three quarters of the students were unfamiliar with the technique of pronunciation respelling. The disparity between the number of students who reported familiarity with the technique of pronunciation respelling (18%) and the number of students who reported referring to pronunciation respelled versions of words 'at least sometimes' (44%) seems peculiar. Some students may have mistaken unfamiliarity with the concept of pronunciation respelling for unfamiliarity with the terminology for the technique.

Checking the pronunciation of unknown words by listening to audio recordings provided by electronic dictionaries should be encouraged further. In some classes, I have noticed that sometimes students appear to be self-conscious when accessing this function on their electronic dictionaries, and such instances tend to evoke the laughter of other students. Teachers should reassure students that this is a perfectly acceptable learning technique to be used at any time when students are unsure of the pronunciation of English words. Perhaps the university could also provide one or two 'classroom' electronic dictionaries for the use of students who do not possess their own.

Other technological devices with similar or superior features to electronic dictionaries, such as smartphones and tablet computers, could also be introduced into the classroom. Websites such as *Inogolo* (<http://www.inogolo.com>) and *Forvo* (<http://www.forvo.com>), which provide vast databases of recorded audio samples of English words, including place, people and product names, might be utilized if the technological means to access them were more widely available to students.

Referring to phonetic transcriptions or pronunciation respelling versions of English words might also be encouraged as a second measure. Learning to read the symbols of the phonetic alphabet is a considerably lesser burden than learning to write the symbols. However, as highlighted above, the availability and near ubiquity of electronic dictionaries with audio samples seems to negate the necessity of learning to read phonetic script. This may not be the case in other teaching contexts where access to technology is limited.

5.2 Notating the pronunciation of unknown English words

Katakana was the most popular script for noting down the pronunciation of unknown English words, with over half the students using this method 'at least sometimes'. However, we should also note that almost half of the students 'hardly ever' or 'never' use katakana for

this purpose, which might indicate the awareness of some students that katakana is unfit for this purpose.

Phonetic script was deeply unpopular with the vast majority of students for noting down the pronunciation of English words. This finding makes sense in light of the fact that almost all of the students had no faith in their ability to write the symbols of the phonetic alphabet fluently and, as noted above; almost a quarter had never studied the phonetic alphabet at school. Pronunciation respelling was also deeply unpopular with the majority of the students for this purpose. Once again, this must surely be related to the fact that most students reported to have been unfamiliar with the technique before completing the questionnaire.

Despite the fact that the characteristics of katakana make it a woefully inadequate script for transcribing the sounds of English, it is still favored for this purpose by the majority of the Japanese university students surveyed in this study. Teachers should strongly convey to students that they should avoid using katakana for this purpose. Consciousness raising activities, which draw learners' attention to the differences between Katakana English and Standard English, and hence the inadequacy of katakana for denoting the sounds of English, should be utilized. Such activities have been developed by the likes of Kistler and Sandkamp (2008).

However, Japanese learners of English may feel that there are few adequate or convenient alternatives to katakana. Phonetic script takes a good deal of time and effort to learn, almost a quarter of the students surveyed have never studied it, and the vast majority of students had no confidence in their ability to write the symbols fluently.

Pronunciation respelling would seem to be less of a burden to learn, as the students already know the letters of the English alphabet. However, pronunciation respelling suffers from 'feedback loops' of ambiguity (see 2.2.2, above), which make it a counter-productive technique.

It might be possible to avoid the issue of notating the sounds of English altogether. The reason learners sometimes need to notate the sounds of English is to refer to the notes at a later date to remind them of the correct pronunciation. Instead of referring to such notes, students should be encouraged to 'bookmark' the relevant audio samples on their electronic dictionaries and 'listen and repeat' rather than 'read and speak'. However, this may not be appropriate in some situations, such as assessed speeches. Electronic dictionaries may also lack audio samples of rare words, colloquialisms, and place, people and product names.

6. Conclusion

This study has shown that, despite its inappropriateness for the purpose, katakana is still a popular method of transcribing the pronunciation of English words. Its use should be discouraged. Consciousness raising activities, which highlight the inadequacy of katakana for denoting the sounds of English, should be utilized.

It has also been shown that the vast majority of students possess electronic dictionaries featuring audio recordings of English words. The use of such devices should be encouraged. Supplementary electronic dictionaries for the use of those who do not possess them could be provided, and other technological devices (smartphones, tablets, etc.) could be adopted in the classroom.

In light of the technological alternatives to phonetic script and pronunciation respelling, the lack of recourse to such systems of notation seems inevitable, and not entirely lamentable. Devoting time and effort to learning to read and write phonetic script seems counter-productive, unnecessary, and an onerous burden to Japanese learners of English.

This investigation only examined autonomous methods of learning. It did not investigate other avenues of recourse, such as asking classmates or teachers for help. This might be a route of investigation for further study, although it is argued that autonomous methods should be preferred to the extent that they help promote autonomous learning.

This investigation also did not address the abilities and habits of teachers with regard to the use of phonetic script, pronunciation respelling, and technological aids to teaching English pronunciation. I predict we would see similar results as obtained in relation to the students; that most teachers do not feel confident in their ability to read, and particularly write, phonetic script and therefore do not utilize it for the teaching of pronunciation. I predict that teachers also favor technological alternatives, such as audio recordings available on CDs, or simply using their own voices to model the correct pronunciation of unknown words. Further research would be required in order to affirm these predictions.

Bibliography

- Bowen, J., & Stockwell, R. (1957). Orthography and Respelling in Teaching Spanish. *Hispania* , 40 (2), 200-205.
- Celce-Murcia, M., Brinton, D., & Goodwin, J. (1996). *Teaching Pronunciation: A Reference for Teachers of English to Speakers of Other Languages*. Cambridge: Cambridge University Press.
- Ezza, A.-S., & Saadeh, Z. (2011). Dictionary as a Major Resource for EFL Course in Pronunciation. *World Journal of English Language* , 1 (1).
- HC Deb. (1949, March 11). Spelling Reform Bill. 462 , 1599-687.
- International Phonetic Association. (1999). *Handbook of the International Phonetic Association: A guide to the Use of the International Phonetic Alphabet*. Cambridge: Cambridge University Press.
- Kikuchi, T. (2004). Current University Students' Views on Learning Pronunciation. *JALT Conference Proceedings* (pp. 259-271). Tokyo: JALT.
- Kistler, M., & Sandkamp, J. (2008). Helping Japanese Students Overcome Common Pronunciation Problems Caused by Katakana English. *The Internet TESL Journal* , 14 (1).
- Landau, S. (2001). *Dictionaries: The Art and Craft of Lexicography*. Cambridge: Cambridge University Press.
- Martin, A. (2004). The 'katakana effect' and teaching English in Japan. *English Today* , 20 (1), 50-55.
- Messerklinger, J. (2009). Teaching English with the IPA. *CELE Journal* , 17 (3).
- Mineo, S. (1992). An Experimental Study of Intelligibility of Japanese English. *International Review of Applied Linguistics* , 30 (2), 146-56.
- Munro, M., & Derwing, T. (1999). Foreign Accent, Comprehensibility, and Intelligibility in the Speech of Second Language Learners. *Language Learning* , 49 (S1), 285-310.
- Phillipson, R. (1992). *Linguistic Imperialism*. Oxford: Oxford University Press.
- Sherard, M. (1986). The effect of the Japanese kana filter on English phonotactics: Pedagogical considerations. *Doshisha Daigaku Eigo Eibungaku Kenkyu* , 40.
- Shudong, W., Higgins, M., & Shima, Y. (2005). Training English Pronunciation for Japanese Learners of English Online. *JALT CALL Journal* , 1 (1), 39-47.
- Stanlaw, J. (2004). *Japanese English: Language and culture contact*. Aberdeen, Hong Kong: Hong Kong University Press.
- Takeshita, Y. (2000). Japanese English as a Variety of Asian Englishes and Japanese Students of English. *Intercultural Communication Studies* , 10 (1).
- The English Spelling Society. (2011). *The problem of English spelling*. Retrieved September 6, 2012, from <http://www.spellingsociety.org>
- The Japan Institute for Educational Measurement. (2012). *Computerized Assessment System for English Communication*. Retrieved September 7, 2012, from <http://casec.evidus.com/english/index.html>

Appendix 1: Multiple choice questionnaire (English version)

Definition of terms:

“**Pronunciation respelling**” – use of the English alphabet to re-write words in a way that helps us to pronounce the words, e.g. “superstition” → “**soo-per-stish-uhn**”

“**Phonetic alphabet**” – the individual sounds of the English language as represented by the International Phonetic Alphabet (IPA), e.g. “superstition” → “**su:pər stʃən**”

Part A

1. When encountering an English word that you are unsure how to pronounce, do you:

a) Check the pronunciation by listening to a recorded sound sample of the word (by using an electronic dictionary)?

Always Often Sometimes Hardly ever Never

b) Check the phonetic spelling of the word in an electronic or paper dictionary (e.g. “superstition” = “su:pər stʃən”)?

Always Often Sometimes Hardly ever Never

c) Check the pronunciation respelling of the word in an electronic or paper dictionary (e.g. “superstition” = “soo-per-stish-uhn”)?

Always Often Sometimes Hardly ever Never

2. When you want to make a note of the correct pronunciation of an English word, do you:

a) Use katakana to transcribe the sounds of the word (e.g. “superstition” = “スパースティション”)?

Always Often Sometimes Hardly ever Never

b) Use the phonetic alphabet to transcribe the sounds of the word (e.g. “superstition” = “su:pər stʃən”)?

Always Often Sometimes Hardly ever Never

c) Use pronunciation respelling to transcribe the sounds of the word (e.g. “superstition” = “soo-per-stish-uhn”)?

Always Often Sometimes Hardly ever Never

Part B

Please rate the extent of your agreement with the following statements:

1. I am able to read the symbols of the phonetic alphabet fluently

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

2. I am able to write the symbols of the phonetic alphabet fluently

- Strongly agree
- Agree
- Neither agree nor disagree
- Disagree
- Strongly disagree

Part C

1. Please check the institutions at which you studied the phonetic alphabet (you may check more than one answer):

- High school
- Junior high school
- Elementary school
- I've never studied the phonetic alphabet at school

2. Do you possess an electronic dictionary that provides recorded audio samples of English words?

- Yes No

3. Were you familiar with the technique of “pronunciation respelling” before taking this questionnaire?

- Yes No

Appendix 2: Multiple choice questionnaire (Japanese version)

用語の意味:

発音表記 (リスペリング) – アルファベットを用いて単語の発音がし易いように書き換えたもの 例：“superstition” = “soo-per-stish-uhn”

発音記号 – 国際音声記号(IPA)で表される英語の個々の音 例：“superstition” = “su:pər'stɪʃən”

Part A

1. 発音の仕方がわからない英単語がある時：

a) その単語を発音した音声を聴いて発音を確認しますか（電子辞書を使用して）？

常に確認する しばしば確認する 時々確認する 殆ど確認しない 全く確認しない

b) 電子辞書や紙の辞書でその単語の発音記号を調べますか
(例：“superstition” = “su:pər'stɪʃən”)？

常に確認する しばしば確認する 時々確認する 殆ど確認しない 全く確認しない

c) 電子辞書や紙の辞書でその単語の発音表記（リスペリング）を調べますか
(例：“superstition” = “soo-per-stish-uhn”)？

常に確認する しばしば確認する 時々確認する 殆ど確認しない 全く確認しない

2. 英単語の正しい発音を書き留める時 :

a) その単語の音をカタカナに直しますか (例 : “superstition” = “スパースティション”) ?

常に確認する しばしば確認する 時々確認する 殆ど確認しない 全く確認しない

b) その単語の音を発音記号に直しますか (例 : “superstition” = “su:perˈstɪʃən”) ?

常に確認する しばしば確認する 時々確認する 殆ど確認しない 全く確認しない

c) その単語の音を発音表記 (リスペリング) に直しますか
(例 : “superstition” = “soo-per-stish-uhn”) ?

常に確認する しばしば確認する 時々確認する 殆ど確認しない 全く確認しない

Part B

以下を読み、どの程度そう思う/思わないかをお答えください：

1. 私は発音記号をスラスラと読むことができる

非常にそう思う	そう思う	どちらとも 言えない	そう思わない	全くそう思わない
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

2. 私は発音記号をスラスラと書くことができる

非常にそう思う	そう思う	どちらとも 言えない	そう思わない	全くそう思わない
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Part C**1. 発音記号を習った教育機関をチェックしてください（複数でもかまいません）**

- 高等学校
- 中学校
- 小学校
- 学校で発音記号を習ったことがない

2. 英単語の音声で聴ける電子辞書をお持ちですか？

- はい いいえ

3. このアンケートに回答する前から「発音表記（リスペリング）」法を熟知していましたか？

- はい いいえ