Journal of
Creative Practices in Language Learning and Teaching (CPLT)
Volume 7, Number 2, 2019

Students' Perceptions towards Multimedia Elements in Sounds and Pronounce Interactive Software (SPISE) for English

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Received: 10 Sep 2018. Accepted: 1 Apr 2019/Published online: 31 May 2019

ABSTRACT
This paper presents students' perceptions towards multimedia elements in Sounds and Pronounce Interactive Software (SPISE) for English. SPISE is an interactive multimedia software, which attempts to introduce learners to the English phonetic system. It is a learning aid that teaches learners the correct pronunciation of English words. The collection of data for this research paper involved the administration of questionnaires to 74 students of SK TASUDA (Tan Sri Sulaiman Daud), Kuching, Sarawak, comprising Primary 5 and 6 students. Prior to the distribution of questionnaires, the participants were guided on how to use SPISE, and they experienced learning the English phonetics using the software. From the findings, high responses were obtained for the software's interface, text, graphic, audio, interactivity and effectiveness (above 3.80). In addition, as SPISE promotes self-directed learning by providing immediate feedback, the students found the learning fun and interactive. Hence, it could be concluded that SPISE is a useful, fun and interactive software for a teaching and learning aid, which could help learners master their English phonetics.

Keywords: SPISE. Pronunciation. English language learning.

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1 INTRODUCTION

Pronunciation efficacy depends to a large extent on the propensity for acquiring sounds discrimination skills and understanding how these sounds are perceived and understood at the phonemic and phonological level (Collins & Mees, 2003). Phonetics, which studies the way sounds are produced and how each sound represents a particular meaningful unit of individual sound is one of the less visited areas in language learning although there has been a resurgence of scholarly interest in the subject in recent years (Jenkins, 1998). With the status of English as a global lingua franca and the most important second language in Malaysia, the need to communicate effectively and be clearly understood – meaning good and clear pronunciation- has become an increasingly pertinent issue in the context of English language learning in the Malaysian ESL classroom. Computer-assisted language learning (CALL), which brings new dimension into the pronunciation teaching and learning has been instrumental in introducing various language learning software of which pronunciation awareness has also seen a remarkable development in terms of readily available computer-based interactive software in the market (Celce-Murcia, Brinton & Goodwin, 1996).

Sounds And Pronounce Interactive Software (SPISE) is an interactive software which attempts to introduce learners to the world of phonetics in a fun and engaging atmosphere with a clear focus on self-paced learning. Unlike other interactive software, SPISE's novelty lies in the pre-activity stage in which the learners are gently immersed in instruction on certain basic phonemes of English found in the International Phonetic alphabet (IPA). The element of student-teacher interaction amidst a friendly environment manifests itself readily in the Modeling-Perception Phase when students are free to ask questions to seek further clarification even when the instruction is in progress. To build confidence in the learners, they are required to repeat the phonemes and later individual words after the facilitator correctly. Only when the learners are reasonably comfortable in their understanding of how phonemes work would they then be ready to engage in computer-based pronunciation awareness and enrichment activities in SPISE.

1.1 Objectives of the Study

SPISE aims to bridge the gap in learners' existing lack of knowledge about phonetics through familiarizing them with the English phonetic system by introducing basic phonemes in the International Phonetic alphabet (IPA) as its first objective, and second, to enable learners with knowledge of basic English phonetics to engage in computer-based interactive activities with a view to improving their pronunciation.

1.2 Description of SPISE

SPISE is a multimedia software which gives a new dimension to pronounce English words correctly through its interactive approach. This innovative software is developed specifically for Malaysian learners of English as the target focus. It emphasizes phonetic sounds and symbols from the English phonemes (44 phonemes) to guide learners on the correct pronunciation of words. SPISE functions as a supplementary learning software that can benefit the target users in acquiring correct pronunciation of English words.

There are several advantages of using SPISE:

1. It promotes self-directed learning.
2. It provides immediate feedback to the learners.
3. It makes learning fun and interactive.
4. It enables learners to do their self-assessment.

SPISE provides the learners with a learning menu, exercises and ways to pronounce the word correctly, as well as educational songs for fun learning. All learning items are inclusive of 44 English phonemes (refer to Fig 1). The Learning Menu comprises 13 categories of learning items, from which the learners can choose from according to their preference, namely, animals, places/buildings, clothing, flowers, fruits, insects, modern appliances, occupations, parts of the body, tools, transportation, utensils, and vegetables (refer to Fig 2). For instance, for the 'Parts of the Body' category, words include body parts such as ankle, ear, elbow, eye, finger, foot, hand, knee, mouth, nose, teeth, toe, and tongue. The learner interacts with the learning process by clicking on the speaker icon to hear the correct pronunciation of the word, and respond to the questions in the Learning Menu accordingly.

In addition, the Learning Menu also includes the English parts of speech, namely, nouns, pronouns, verbs, adjectives, adverbs, articles, and prepositions. The software provides definitions of the parts of speech, and how they are used in English sentences. Similarly, the learner clicks on the speaker icon to listen to the pronunciation. The Revision Menu is also provided to enhance the learners' understanding and learning process. This menu consists of three competency levels: elementary, intermediate and advanced.

The Song Menu provides the learners with songs connected to the learning categories, for instance, children songs, such as 'Head, shoulders, Knees and Toes', 'My Feet', 'Wash You Hans', and 'My Body'. Learners listen to the songs while paying attention to how words are pronounced correctly.

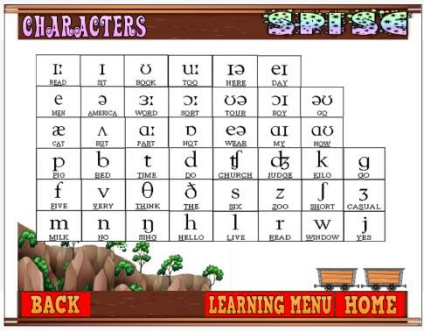

Fig 1. 44 English phonemes

Fig 2. The learning menu

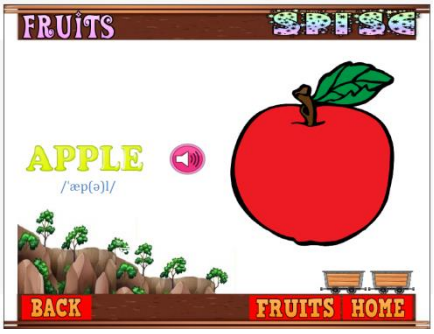

Fig 3. A sample practice of the learning menu for 'Fruits' category

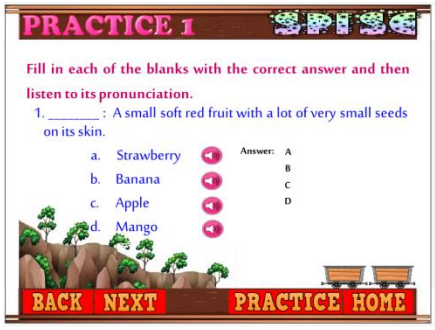

Fig 4. A sample exercise of the 'Practice' menu for 'Fruits' category

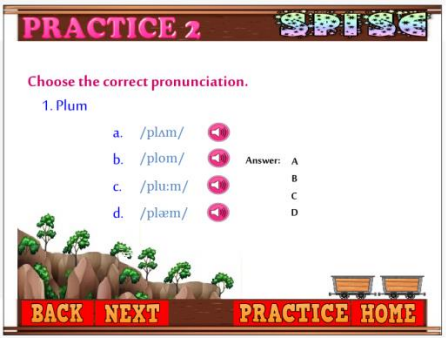

Fig 5. A pronunciation practice for the 'Practice' menu

2 LITERATURE REVIEW

Difficulty in mastering clear and intelligible pronunciation is most prevalent among non-native English speakers, and Malaysian learners of English are no exception. Given the many English phonemes, word pronunciation can be challenging and inconsistent. English is considered to have 44 phonemes, which comprise 24 consonants and 20 vowels. A phoneme is the smallest unit of sound in any language that can distinguish two words, e.g. in English, the words *pan* and *ban* differ only in their initial sound – i.e. /pan/ and /ban/ (Richards et al., 1985). In learning the English language, certain phonetic variations are particularly tricky to pronounce by the non-native speakers, for instance, the distinction between *"three"* and *"tree"* can be difficult to pronounce. Furthermore, different nationalities may encounter problems with different aspects of English pronunciation; for example, the Japanese and Chinese may find it hard to distinguish between *"r"* and *"l"* sounds, while the Spanish and Arab speakers may find the distinction between *"b"* and *"v"* problematic. Inevitably, incorrect pronunciation of English words can give a negative impression and cause unintelligibility on the part of the listener. It may also lead to ineffective communication among the speakers.

It is crucial to properly pronounce the English words because correct pronunciation is the basis for effective communication in English. According to Richards et al. (1985), pronunciation is the way a certain sound or sounds are produced. Unlike articulation that refers to the actual

production of speech sounds in the mouth, pronunciation places more emphasis on the way sounds are perceived by the hearer. In addition, pronunciation is the production of sounds that is used for creating meaning.

Gilakjani (2011) stated that it is important to perceive pronunciation as a crucial part of communication, which should be integrated into language teaching and learning. Proper pronunciation is an important component of communicative competence. If a learner is unable to articulate the correct sound of a word, he or she may not be able to communicate accurately, thus, leading to misunderstanding or miscommunication. "Pronunciation instruction helps learners to have a better understanding of native speakers and improves their ability to communicate easily and effectively" (Gilakjani, 2012).

Modern technology has enabled the usage of multimedia for effective teaching and learning processes. By using the multimedia software, in particular, language learning can be conducted in a more effective manner as it offers an efficient pedagogical medium of delivering instructional materials (Neo, 2001). With the teacher's guide, learners should be presented with some appropriate materials to reduce the learners' pronunciation problems (Shahzada, 2012, as cited in Gilakjani (2011)). In addition, teachers should use the computer technology, namely, computer software, in their classes to assist their learners in improving their pronunciation through exposure to authentic materials (Rasekhi Kolokdaragh, 2010, as cited in Gilakjani (2011)).

Several studies had been carried out on the use of computer-assisted language learning. Farhat and Dzakari (2017) carried out an experimental study to investigate the effect of computer (using phonetic videos) on pronunciation. The study involved a sample of 24 out of 240 ESL learners of Grade 10 in Pakistan. Employing pre-test and post-test to check the pre-existed competency level of learners, the researchers found that the phonetic videos had resulted in significant improvement in terms of recognition, production and articulation of the vowel and consonant sounds. According to Levis (2007), as cited in Farhat and Dzakiria (2017), learning pronunciation skills through computer-based approach is an ideal setting because technology presents the learners with "individual attention, repetitive drilling of listening exercises, automatic visual assistance" in which they could emulate the native speakers' pronunciation model.

In another study, Lee (2008) conducted an action research on the teaching pronunciation of English using computer assisted learning software in an Institute of Taiwan. Lee's attempted investigate approaches to develop and enhance the learning of English pronunciation in Taiwan by using CALL to teacher-directed learning. The research involved one teacher/researcher and 153 college students across four classes at Institute of Technology in Taiwan. Lee's data collection method comprises an open-ended questionnaire and participant observation. The findings revealed that the learners favored the program with clear correction feedback, as well as with repetition and other specific functions. The learners also preferred the facility for self-paced and self-directed learning. It was apparent from the study result that CALL is a useful device that has great potential in developing and enhancing learners' pronunciation skills, particularly those

with low motivation and low English pronunciation skills. They enjoyed the learning of pronunciation, which was shifted from the traditional classroom to multimedia speech laboratory.

The use of software, particularly for teaching pronunciation, is an innovative approach to teaching and learning processes. According to Morley (1994), the teaching of pronunciation should not be limited to some habitual activities. In fact, the use of electronic software can offer learners with an entertaining and fun learning atmosphere which could boost language acquisition. Visual images of the sounds and phonetic symbols could be used by the teachers as motivating agents for teaching pronunciation (Tahereen, 2015).

2 METHOD

2.1 Sample

The software was tested out with 74 students of SK TASUDA (Tan Sri Sulaiman Daud), Kuching, Sarawak, comprising Primary 5 and 6 students.

2.2 Instrumentation

For the purpose of this study, a set of questionnaires was used. The questionnaire was Usability Instrument. The instrument was selected because it has strong validity and reliability indices and has been used extensively in research. The estimated reliability at the overall level of Usability Instrument using Cronbach's Coefficient Alpha was. .887.

The Usability Instrument consists of three sections : (1) Profile of the Respondent, (2) Evaluation of multimedia elements and (3) User satisfaction. A five-point scale for rating was used and valued. The level of satisfaction of each item is indicated by referring to the mean score of each item (See Table 1).

Table 1. Mean scores of satisfaction level

Level of	Satisfaction
Low	1.00 to 2.39
Medium	2.40 to 3.79
High	3.80 to 5.00

Source: Landell, K. (1997)

2.3 Testing of Software

The software was tested out on the 11th of August 2017 with the primary 5 and 6 students of SK TASUDA, Kuching, Sarawak. The time taken was one lesson period, which was approximately 40 minutes. The class began with the students viewing the software. Two units were selected: Fruits and Parts of the body. They viewed each picture and listened to its correct pronunciation.

The students were also asked to do the various exercises that followed. After the class had ended, the students were given a set of questionnaires and they were asked to rate each item that related to SPISE.

3 DATA ANALYSIS AND FINDINGS

3.1 Interface

Table 2 shows the mean score and the standard deviation of the interface element in SPISE. The findings depicted that all the items had high mean scores ranging from 4.52 (SD=0.714) to 4.70 (SD=0.571, SD=0.518). From the findings, it concluded that the respondents were satisfied with the interface element in SPISE.

Table 2. Mean scores of the Interface Element in SPISE

Item	N	Min	Max	Mean	Std. Deviation
Instructions given in the multimedia application are clear.	71	3	5	**4.70**	.571
The multimedia application is easy to use.	71	3	5	**4.70**	.518
The buttons used in the application are suitable.	71	2	5	**4.52**	.714
Valid N (listwise)	71				

3.2 Text

Table 3 shows that 4 out of the 5 items of the text element in SPISE had high mean scores ranging from 4.03 (SD=1.121) to 4.58 (SD=0.822). Only 1 item was considered average with a mean score 3.59 (SD=1.226). It showed that respondents were satisfied with the text element in SPICE. However, the respondents were slightly satisfied with the text layout.

Table 3. The mean scores of the Text Element in SPISE

Item	N	Min	Max	Mean	Std. Deviation
Easy to read texts.	71	1	5	**4.48**	.808
Fonts are suitable.	71	2	5	**4.28**	.778
Clear text layout (how the text is placed and displayed on a screen).	71	1	5	**3.59**	1.226
Information positions are standardized.	71	1	5	**4.03**	1.121
Easy to understand the text explanations.	71	1	5	**4.58**	.822
Valid N (listwise)	71				

3.3 Sound

As depicted in Table 4, all of the items of the sound element in SPISE had high mean scores ranging from 4.24 (SD=0.819) to 4.69 (SD=0.623). From the findings, it concluded that the respondents were satisfied with the sound element in SPISE.

Table 4. The mean scores of the Sound Element in SPISE

Item	N	Min	Max	Mean	Std. Deviation
Clear sound.	71	1	5	**4.24**	.819
Sounds are suitable.	71	2	5	**4.68**	.580
Clear pronunciation.	71	2	5	**4.63**	.681
Explanations using audio are easy to understand.	71	2	5	**4.69**	.623
Valid N (listwise)	71				

3.4 Graphic

As shown in Table 5, all of the items of the graphic element in SPISE had high mean scores ranging from 4.45 (SD=0.842) to 4.58 (SD=0.690). From the findings, it concluded that the respondents were satisfied with the graphic element in SPISE.

Table 5. The mean scores of the Graphic Element in SPISE

Item	N	Min	Max	Mean	Std. Deviation
Colors used are attractive.	71	2	5	**4.45**	.842
Graphics are clear.	71	2	5	**4.58**	.690
Graphics used are suitable.	71	3	5	**4.49**	.606
Explanations using graphics are easy to understand.	71	2	5	**4.54**	.771
Valid N (listwise)	71				

3.5 Interactivity

Table 6 shows that all the items of the interactivity element in SPISE had high mean scores ranging from 4.49 (SD=0.694) to 4.65 (SD=0.537). From the findings, it revealed that the respondents were satisfied with the interactivity element in SPISE.

Table 6. The mean scores of the Interactivity Element in SPISE

Item	N	Min	Max	Mean	Std. Deviation
Interactivity tools are easy to use.	71	3	5	**4.65**	.537
Navigations are easy.	71	3	5	**4.61**	.547
The links used are correct.	71	2	5	**4.49**	.694
Buttons used are standardized.	71	2	5	**4.61**	.597
Valid N (listwise)	71				

3.6 User Satisfaction

As depicted in Table 7, all the items of the user satisfaction element in SPISE had high mean scores ranging from 4.39 (SD=0.686) to 4.86 (SD=0.350). From the findings, it is revealed that the respondents were satisfied with the user satisfaction element in SPISE.

Table 7. The mean scores of the User Satisfaction Element in SPISE

	N	Min	Max	Mean	Std. Deviation
I found that the multimedia application was easy to understand and use.	71	4	5	**4.86**	.350
The ideas and concepts incorporated within the multimedia application were clearly presented and easy to follow.	71	3	5	**4.66**	.559
I was able to fully use the multimedia application; e.g. complete the interactive learning activity by following the instructions provided.	71	2	5	**4.39**	.686
I understood from the content what I was expected to learn.	71	3	5	**4.73**	.533
The content covered all essential information (both theory and practice).	71	2	5	**4.52**	.694
Valid N (listwise)	71				

3.7 Overall Analysis

Table 8 shows the mean score and the standard deviation of all of the multimedia elements in SPISE. The findings depicted that all of the multimedia elements in SPISE had high mean scores ranging from 4.19 (SD=0.659) to 4.64 (SD=396). From the findings, it is revealed that the respondents were satisfied with all of the multimedia elements in SPISE.

Table 8. The mean scores of all of the Multimedia Elements in SPISE

Item	N	Min	Max	Mean	Std. Deviation
Interface	71	3.67	5.00	**4.64**	.396
Text	71	1.40	5.00	**4.19**	.659
Sound	71	2.50	5.00	**4.56**	.454
Graphic	71	2.75	5.00	**4.51**	.556
Interactivity	71	3.25	5.00	**4.59**	.410
User Satisfaction	71	3.20	5.00	**4.63**	.364
Valid N (listwise)	71				

4 DISCUSSION

As is evident from the survey, SPISE was used to good effect as a supplementary learning aid. SPISE was able to attract the students' attention to the lesson and they displayed a desire to know more about the learning software and also the anxiety to know what would happen next in the learning process. SPISE proved it could convey information instantly. Besides, the pronunciation and the meaning of each word was supplied in SPISE and this acted as a trigger to the students to learn more.

5 CONCLUSION

SPISE has great potential for success in any pedagogical setting, from schools to universities as it combines strong general learning principles with a clear focus on practical phonetics taught in a fun and friendly atmosphere through its Modeling-Perception Approach. SPISE's emphasis on self-paced learning and confidence building through guided awareness, mediated practice and production when learners are engaged in SPISE's activities suggests it is highly implementable in any pedagogic setting. The overwhelmingly positive response of the student subjects in the pilot experiment adds credence to SPISE's ability to create strong learner interest in practical phonetics in general and pronunciation learning in particular.

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