

Word Clouds and English Language Teaching in Thai Classroom

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Abstract

Word clouds or text clouds are graphical representations of word frequency, which are shown in different sizes or colors according to their importance and occurrences. Recent research in English language teaching has suggested using word clouds for studying vocabulary, getting overview of students' written texts, as well as engaging students to read passages. This paper, therefore, intends to examine teacher's and students' attitudes on using word clouds as a pre-reading activity for teaching Thai university students. The participants in this study were twenty Thai university students and an English instructor at Rajamangala University of Technology Phra Nakhon, Bangkok, Thailand. They were asked to complete a Likert scale questionnaire and open-ended questions to report their attitudes towards word clouds as a pre-reading activity. The results obtained from university students showed that they expressed positive attitudes towards using word clouds because it was interesting, helped in creating learning motivation, and setting up an interactive classroom activity. In addition, the English instructor also reported that word clouds could draw students' attention to English reading texts and could help students to predict what the story was about. Pedagogical implications and suggestions are proposed in this paper.

Keywords: Word clouds, Pre-reading activity, Thai students

1. Word Clouds and English Language Teaching

Words are essential because they play a part in the fundamental understanding of reading, writing, listening, and speaking (Bromley, 2013). Learning vocabulary enables EFL/ESL students to understand the context (Leki & Carson, 1994), to communicate effectively (Moir & Nation, 2008), to develop skills of target language (Ellis, 1997; Nation, 2001), and to provide opportunities to be successful in academic and future careers. In other words, the more vocabulary students can learn, the more proficient in the target language they are (Nation, 2001; Kotchana & Tongpoon-Patanasorn, 2015). With the growth of technology, teachers can encourage students to expose new vocabulary more easily by using online tools, for example, "Wordle" (Feinbert, 2014), "Wordsift" (Hakuta & Wiles, 2018) and "TagClouds" (Steinbock, 2006) Figure 1 presents how word clouds were created by using Wordsift online tool.

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Figure 1 How to Create Word Clouds by Using Wordsift Online Tool

These online tools generate word clouds or text clouds referring to graphical representations of word frequency, which are shown in different sizes or colors according to their importance (Bromley, 2013). Generally, recent research shows that word clouds have been widely used for two main purposes: analytical tools for data visualization (e.g., Tracy & Geist-Martin, Putnum & Mumby, 2013) and teaching activities of English language (Baralt, Pennestri, & Selvandin, 2011). For example, in a reading class, word clouds can be used as a part of pre-reading activities of English: (1) to provide students with background information on what they are going to read, (2) to help them with word and phrases that they are not familiar with, and (3) to engage them in reading texts (Tafazoli, Chirimbu & Dejica-Cartiș, 2014). To give a clearer picture, Table 1 presents a summary of related literature on word clouds and English language teaching.

Table 1 A Summary of Word Clouds and English Language Teaching

Author(s)	Year	Research Purposes
Baralt, Pennestri, & Selvandin	2011	They conducted action research on using Wordle to teach foreign language writing by asking third-year-students to create word clouds of written essays. These word clouds were then used to give students' feedback and writing strategies. The results show that word clouds could be used to facilitate language teaching and vocabulary development according to dual coding theoretical framework.
Bromley	2013	This paper summarizes how to use word cloud generators and what activities could be used for teaching EFL/EFL classroom. For instance, the teachers could use word clouds to introduce new vocabulary and to get an overview of reading texts.
Brooks, Gilbuena, Krause, & Koretsky	2014	This article examines short written responses obtained from 70 science students. The results show that word clouds could be used in two ways: generating written explanations, and students' reflections how they have organized the written texts. In terms of teaching, word clouds enabled teachers to identify topics and concepts, as well as analyze students writing.

Table 1 A Summary of Word Clouds and English Language Teaching (Cont.)

Author(s)	Year	Research Purposes
Dalton & Grisham	2011	This study reviews ten ways how to use technology to teach English vocabulary. For example, using Wordle to create word clouds and show word frequency of the reading passage. For example, teachers may use word clouds to prompt discussion before or after teaching reading class. This can help students to relate themselves to the reading texts.
deNoyelles & Reyes-Foster	2015	This study investigates the effectiveness of using word clouds in given passages into online discussions. The 132 university students used word clouds as a discussion prompt and a survey to assess their critical thinking and engagement. The results show a positive relationship between the use of word clouds and critical thinking and engagement, as well as peer interaction.
Dumchoo & Waemusa	2018	This study investigates Thai students' English vocabulary retention, and their perceptions on using Wordsift to learn new vocabulary by comparing two groups of students (control group vs. experimental group). The results show there were statistically significant difference on vocabulary's retention between these two groups. In addition, the students' interviews report that Wordsift could facilitate students' learning vocabulary retention.
Hakuta	2018	Hakuta's work (2018) describes Wordsift, one of word cloud generators, which can be used to create an image of word clouds, to identify parts-of-speech, to display visual word net and thesaurus dictionary, and to provide examples where the word occurs. For English language teaching, Wordsift could help students to explore and learn new vocabulary.
Tafazoli	2013	This work presents different usages of word clouds in teaching language skills – reading, writing, listening, and speaking of English. For example, in reading, teachers can use word clouds to stimulate what they have already know about the topic, and to provide background information before reading the texts.
Tafazoli, Chirimbu, & Dejica-Cartiș,	2014	This paper demonstrates how Wordle could be used in English language learning and teaching four skills of English. For example, teachers can use word clouds to brainstorm idea, to introduce vocabulary, as well as, to reflect students written assignments.
Warner & Jones	2011	This articles shows how to use word cloud generators (Tagxedo, ABCya, Word Clouds, Wordsift and Wordle) for teaching English vocabulary, for example, predicting main idea, to learn vocabulary from visual Thesaurus by studying synonyms and antonyms.

Most studies in ELT heavily focus on how word clouds can be used for teaching various skills of English, especially in primary students (e.g., Warner & Jones, 2011). The related literature, in other words, was very restrictive since teachers' and students' attitudes towards the use of word clouds in classroom were neglected. While reviewing these studies, the researchers found only two research articles using word clouds at tertiary level (Miley & Read, 2011; Brooks, Gilbuena, Krause & Koretsky, 2014). In addition, there has been little information available on the use of word clouds for teaching in Thai EFL contexts. Particularly in the reading class, Thai university students sometimes could not guess the meaning from context clues and unfamiliar vocabulary (Petchinalert & Aksornjarun 2017). Considering this problem, this paper, therefore, aims to investigate teacher's and students' attitudes towards the use of word clouds as a pre-reading activity for teaching Thai EFL students at the tertiary level.

2. Research Methodology

2.1 Participants

The participants were twenty first-year students studying English fundamental course at Rajamangala University of Technology Phra Nakhon (RMUTP) in the second semester of academic year 2018. An English instructor with master's degree in English language teaching who participated in the workshop how to use technology for English language teaching, organized by the researcher. Both participants were selected based on consecutive sampling because of accessibility and voluntarily participation (Martínez-Mesa, González-Chica, Duquia, Bonamigo & Bastos, 2016)

2.2 Research Instruments

This section describes three research instruments used in this study: a picture of word clouds, the questionnaires asking teacher's and students' attitudes, and a lesson plan.

2.2.1 A Picture of Word Clouds

The reading passage entitled "The Secret of Long Life" (Buettner, 2005) was generated into word clouds by using Wordsift online program. In this study, we chose Wordsift because it provides a connection of words, identifies and highlights academic words found in the texts. Figure 2 presents a word cloud image used in this study to engage students to predict the overview of reading content.

	Time	Activity	Purposes	Interaction	Stages
Pre-teaching	1min	Opening class	Initiate thinking and set up context	T-SS	A) Greeting
	3min	Warm-up activity	Get students attention and link to the lesson: unit 8 lifestyles	SS-T	B) T lets SS describe what they've seen in photo. - <i>What does the photo show about the fisherman's lifestyle?</i> - <i>What have you seen?</i> - <i>What's your lifestyle like?</i>
	3min	Word Clouds picture	Set up context and get students attention	T-SS, SS-T	C) T shows SS wordsift file about 'the Secrets of Long Life' and asks relevant questions: - <i>What have you seen?</i> - <i>Can you guess what the main idea is?</i> - <i>What is a reading passage mainly about?</i>
	3	Word Clouds picture	Relate to the topic and pre-teach new vocabulary and link to the reading passage	T	D) T elicits vocabulary in plenary class; explain new vocabulary by showing the definition from the Wordsift program. T asks SS questions randomly about the meaning of each word. Then write their answers on the board.
	3	Reading passage	Practice reading about people's lifestyles	SS	E) T asks SS to read the reading passage and like to Wordsift picture again in order to summarize the main idea of the passage.

*T= teacher, SS= students, S = a student

Table 2 A Lesson Plan of Teaching English Lesson Using Word Clouds (Cont.)

Time	Activity	Purposes	Interaction	Stages
2	Transition	them in realizing the point for studying about people lifestyles and guide them which grammar focus they will learn	SS-T, T-SS	F) T guides that the reading passage is about Japanese lifestyle. After that, T asks students a question <i>'How about Thai people, what's our lifestyles like?'</i>

*T= teacher, SS= students, S = a student

2.3 Data Collection and Analysis

Before the data collection, the English instructor was trained in how word cloud generators could be applied for English language teaching. According to the lesson plan, the teacher firstly introduced word clouds of reading texts and engaged in a pre-reading activity. Both teacher and students were asked to complete the questionnaires reporting their attitudes towards the use of word clouds at the end of the activity. These responses were analysed by using frequency count, percentage, mean and standard deviation. In addition to analyzing the Likert-scale questionnaire, the range is calculated by $(4-1 = 3)$ and divided by four $(3 \div 4 = 0.75)$. The mean scores, therefore, were determined and interpreted as follows (Srisa-ard, 2003):

- mean score from 1.00 to 1.75 is “strongly disagree”
- mean score from 1.76 to 2.50 is “disagree”
- mean score from 2.51 to 3.25 is “agree”
- mean score from 3.26 to 4.00 is “strongly agree”

For the open-ended questions, the data were grouped and categorized descriptively.

3. Results

The results of the study were divided into two parts: the students' attitudes and the teacher's attitudes towards using word clouds as a pre-reading activity in the Thai EFL classroom.

3.1 Students' Attitudes

Table 3 shows that most students have positive attitudes towards the use of word clouds as a pre-reading activity in the Thai EFL classroom. The results report that they strongly agreed in items 4, 7, 9, 11, 13, and 14, indicating that word clouds were interesting, could motivate them to learn English outside the class, enabled them to learn new vocabulary and to understand reading text easily. They also added that using word clouds could encourage classroom interaction in English reading class.

Table 3 Students' Attitudes towards Using Word Clouds

No.	Statements	Strongly disagree	Disagree	Agree	strongly agree	M	S.D.
1.	Using word clouds makes me do my reading assignment easier.	--	--	85% (N=17)	15% (N=3)	3.15 Agree	0.37
2.	Using word clouds while reading activities or assignment saves time.	--	5% (N=1)	70% (N=14)	25% (N=5)	3.2 Agree	0.52
3.	Using word clouds enable learners get overview of information related to English reading texts.	--	--	75% (N=15)	25% (N=5)	3.25 Agree	0.44
4.	Using word clouds in reading English is very interesting	--	5% (N=1)	55% (N=11)	40% (N=8)	3.3 Strongly Agree	0.57
5.	Using word clouds in reading English makes me more enjoyable	--	5% (N=1)	70% (N=14)	25% (N=5)	3.25 Agree	0.55
6.	Using word clouds in reading English increases my creativity	--	5% (N=1)	75% (N=15)	20% (N=4)	3.1 Agree	0.45
7.	Using word clouds in reading English makes me have a passion to study English more outside class	--	--	65% (N=13)	35% (N=7)	3.3 Strongly Agree	0.57
8.	Using word clouds in reading English supports me to think more in order to read texts	--	--	75% (N=15)	25% (N=5)	3.25 Agree	0.44
9.	While using word clouds, I can improve my reading skills	--	--	75% (N=15)	25% (N=5)	3.3 Strongly Agree	0.47
10.	Using word clouds in reading English helps me learn and use new vocabularies	--	--	65% (N=13)	35% (N=7)	3.35 Strongly Agree	0.49

Table 3 Students' Attitudes towards Using Word Clouds (Cont.)

No.	Statements	Strongly disagree	Disagree	Agree	strongly agree	M	S.D.
11.	Using word clouds in reading English helps me understand text quickly	--	5% (N=1)	60% (N=12)	35% (N=7)	3.3 Strongly Agree	0.57
12.	Using word clouds in reading English helps me understand text easily	--	5% (N=1)	65% (N=13)	30% (N=6)	3.25 Agree	0.55
13.	Using word clouds in reading English makes me have learning motivation	--	--	60% (N=12)	40% (N=8)	3.40 Strongly Agree	0.50
14.	Using word clouds in reading English helps me communicate with my teacher and classmates	--	--	70% (N=14)	30% (N=6)	3.3 Strongly Agree	0.47

Table 4 presents a summary of students' responses obtained from the open-ended questions. All participants report that they liked word clouds as a pre-reading activity for teaching English. They also showed positive attitudes, which are summarized as follows.

Table 4 Students' Responses Obtained from Open-Ended Questions

Question 1: Do you like word clouds? If yes, why? or why not?

- Word clouds could help students to understand text easily
 - Word clouds highlight important keywords related to reading texts.
 - It was less time-consuming to get an overview of English reading texts.
 - The graphical image was very interesting and comprehensible.
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Question 2: What do you think about word clouds as a pre-reading activity in English class?

Vocabulary

- Word clouds allowed students to predict and understand the meaning of words
- Word clouds could draw attentions to the reading texts.
- Word clouds enabled students to remember new vocabulary easily.

Reading

- Word clouds help students to identify a main idea and overview of the reading texts in English easily.

Motivation

- Word clouds made reading class more interesting and increase learning opportunities.
 - Word clouds encourage them to use technology in English language learning and support learning atmosphere in the classroom.
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3.2 Teacher's Attitudes

For the teacher's attitudes towards using word clouds as a pre-reading activity in EFL classroom, the results report that word clouds could help engaging students to the lessons, identifying main ideas from reading texts easily, and creating interactive classroom. In addition, this instructor was strongly interested in using word clouds for teaching language skills of English such as writing in English.

Table 5 Teacher' Responses Obtained from Opened Questions

Question 1:	Do you like word clouds? If yes, why? or why not?
Answer	Yes, I like Word Clouds. I think it's an interesting educational tool. I think that there are advantages of using this kind of tool in class. Firstly, it helps getting students attention to the reading passage. Secondly, it helps students to get the main idea of the reading passage easier. And, finally, it helps setting up a stage for communication among students and teacher. I noticed that they enjoyed looking at the picture and predicted main ideas and vocabulary. Moreover, they talked to me more during reading activity which they never did before.
Question 2:	What do you think about word clouds as a pre- reading activity in English class?
Answer	I think I can use it for more challenging tasks. For example, writing your own essay using only words from an electronic image of Word clouds. In the class, the students got the main idea easily looking at the colors and words. However, there were some students who were confused for the first 2-3 minutes about what they had to do. They didn't understand the pictures so they had to listen to their friends first. And then they understood that they could find how important of each word from its sizes and colors.

4. Discussion and Conclusion

The overall results of the study indicate that both teacher and students expressed positive attitudes towards the use of word clouds for teaching English reading at tertiary level. The study is consistent with previous studies (e.g., Warner & Jones, 2011), confirming that word clouds can be used as a pre-reading activity to enhance English reading skills. In addition, some studies report positive results indicating that word clouds facilitate vocabulary learning and teaching through technology. However, there has been little information available, especially investigating the effectiveness of word clouds for teaching different skills of English for Thai university students.

The results may be somewhat limited by the small size of participants and relying solely on a questionnaire. In order to provide reliable results, it is suggested investigating the use of word clouds over a semester and using in-depth methods of data collection.

The results, while preliminary, suggest that using technology such as word cloud generators could help students to learn English in various aspects, especially learning new vocabulary, getting an overview of reading texts, understanding main idea of what they are going to read, and creating interactive classroom for Thai EFL students at tertiary level.

Considering Thai EFL contexts, word clouds can be used for teaching reading skills of English at tertiary level. However, different word cloud generators provide different graphical images. Wordsift, for example, displays only content words where functional words are secluded. However, it shows the relationships of words in reading passage better than other online tools. Other English language teachers should take this issue into consideration before using word cloud generators for supporting English language learning and teaching.

For teaching implications, it is also suggested that word clouds can be used with other teaching activities. For example, in writing class, teacher can encourage students making sentences from the vocabulary learnt, using word clouds as visual prompt, or as self-reflection on written tasks since word clouds show the larger word is, the more frequently it is used so the students will be able to see at a glance which words or phrases they are over-using. In addition, word clouds can be used as a method of providing data visualization especially in analyzing qualitative data.

To sum up, this study therefore shows that word clouds can be used as a part of pre-reading activity for teaching Thai EFL students. However, given the low generalizability of the small sample in the study, we intend to continue our study on word clouds for different language skills with a larger class size to get a better understanding and to evaluate the use of technology for teaching English in Thai state university.

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