การใช้เวิร์ดคลาวด์เพื่อสอนทักษะการเขียนประโยคภาษาอังกฤษ
ในระดับอุดมศึกษา
Using Word Clouds for Teaching Sentence Writing in English at Tertiary Level

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บทคัดย่อ

เวิร์ดคลาวด์แสดงภาพกราฟิกของกลุ่มข้อมูลด้วยขนาดและสีที่แตกต่างกัน ซึ่งขึ้นอยู่กับความถี่ของคำที่ปรากฏในข้อความ ภาพกลุ่มคำเหล่านี้ถูกนำมาประยุกต์ใช้กับการเรียนและสอนภาษาอังกฤษ เช่น การมีส่วนร่วมต่อกิจกรรมในห้องเรียน ดังนั้นงานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาทัศนคติของผู้สอนภาษาอังกฤษและนักศึกษาต่อการใช้เวิร์ดคลาวด์เพื่อการสอนทักษะการเขียนประโยคภาษาอังกฤษสำหรับนักศึกษาไทยซึ่งใช้ภาษาอังกฤษเป็นภาษาต่างประเทศ ผู้เข้าร่วมวิจัย คือ นักศึกษาจำนวน 57 คน และผู้สอนภาษาอังกฤษ 1 คน เครื่องมือวิจัย คือ แบบสอบถามจำนวน 2 ชุด ซึ่งได้รับการตรวจสอบจากผู้เชี่ยวชาญจำนวน 2 คน ผู้เข้าร่วมวิจัยได้ตอบแบบสอบถามด้านทัศนคติต่อการประยุกต์ใช้เวิร์ดคลาวด์ภายหลังการจัดกิจกรรมการเขียนประโยคภาษาอังกฤษ

ผลการวิจัยพบว่า ผู้ตอบแบบสอบถามมีทัศนคติเชิงบวกต่อการใช้เวิร์ดคลาวด์เพื่อสอนทักษะการเขียนประโยคภาษาอังกฤษ เพราะสามารถเน้นคำศัพท์ที่นักศึกษาไม่คุ้นเคย และแสดงหน้าที่ของคำในภาษาอังกฤษ (Parts-of-speech) นอกจากนี้พบว่า ผู้สอนภาษาอังกฤษมีทัศนคติเชิงบวก รายงานว่า

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เวิร์ดคลาวด์สามารถแสดงการเชื่อมโยงของคำ โครงสร้างประโยค และส่งเสริมความคิดสร้างสรรค์ บทความนี้ได้อภิปรายการนำเวิร์ดคลาวด์ไปใช้ในการเรียนการสอนภาษาอังกฤษและข้อจำกัดของงานวิจัย

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Abstract

Word clouds present graphic visualizations of text data in different sizes and colors depending on how frequently words appear in the text. These images have recently been applied to English language teaching as example, engaging students in classroom activities. This paper aims to examine the teacher's and students' attitudes towards the use of word clouds as a sentence writing activity for Thai EFL students. The participants in this study were fifty-seven undergraduate students and one English instructor. The research instruments were two sets of questionnaires verified by two experts. Expressing reporting their attitudes towards the use of word clouds at the end of the writing task.

The results show that most participants had positive attitudes using word clouds in sentence writing activity because it could highlight unfamiliar vocabulary and identify English parts-of-speech. The teacher also showed positive attitude reporting that word clouds could demonstrate word connection, sentence structure, and enhance their creativity. The implications of using word clouds and the limitations are discussed in this paper.

Keywords: Word Clouds, Sentence Writing Activity, Thai University Students

Word Clouds and Word Cloud Generators (WCGs)

"Word clouds" or "tag clouds" refer to data visualizations which display how frequent words appear in the text (McNaught & Lam, 2010). The more specific words appear in textual data (such as political speech, interview data, customers' reviews etc.), the bigger and bolder they appear in different sizes or colors according to their importance (Bromley, 2013). Generally, these graphic visualizations have been used in business, social network advertising, qualitative data presentation, and cloth design (Harrison, 2014; Watson, 2016). In addition to creating word clouds, Table 1 provides a list of online word

cloud generators (WCGs) which can be used to design various graphic visualizations. However, the text length and different text types may result in word cloud representations (Hein, 2019).

Table 1 Word Clouds and Online Word Cloud Generators (WCGs)

Word Clouds	Online Word Cloud Generators
	www.wordle.com https://wordsift.org/ www.wordle.com https://tagcrowd.com https://wordart.com https://worditout.com

Word clouds have been used as part of classroom activities, for example, stimulating visual learners, summarizing the theme of essay and discussion, encouraging students to connect each other and share their ideas, checking the students' comprehension, as well as reflecting on experience (Burns, 2021). Considering these advantages, these graphic visualizations have been widely used for English language teaching, especially, in teaching vocabulary and reading.

Word Clouds and English Language Teaching

Regarding English language teaching, word clouds have been used for various purposes such as getting an overview of reading texts (e.g., Jumpakate & Rungruangthum, 2020), summarizing students' written responses (e.g., Brooks, Gilbuena, Krause, & Koretsky, 2014), introducing unfamiliar vocabulary and engaging students in learning activities of English (e.g., McGee, 2019). While reviewing literature from 2010 to present, we found 171 studies on word clouds and English language teaching from Google Scholar. These studies can be divided into two research purposes: designing classroom activities (e.g., Filatova, 2016) and using word clouds for teaching and learning English (e.g., Dumchoo, 2018). 121 out of 171 studies or 70% investigated the use of word clouds for teaching English reading

and vocabulary. Only 15 studies (8%) examined the use of word clouds for teaching writing skills. We, therefore, have proposed using word clouds as one of alternatives to teach sentence writing activity for Thai EFL students.

Literature Review: Using Word Clouds for Teaching Writing of English

Traditionally, word clouds generators solely focused on the total number of words for data presentation and was firstly proposed for teaching English vocabulary and reading comprehension. The new features such as identifying parts-of-speech, illustrating word connections and examples, as well as summarizing statistics (e.g., readability) were then introduced and have been used for teaching writing since 2012 (Barath et al, 2012).

Some of previous works concerned how to use word clouds as writing activity, for example, asking students to write sentences based on word clouds pictures (Day, 2012), brainstorming ideas before writing essays (Love, 2014), identifying parts-of-speech and comparing different writing styles (Gorman, 2016), previewing vocabulary and introducing writing topics (Tafazoli, 2013) as well as getting an overview of written essays (Quivalian, 2019). Other studies have focused on the effectiveness of using word clouds for teaching English writing. For example, the investigation by Barath, Pennestri and Selvandin (2011) examined the use of word clouds for enhancing writing skills of Spanish as a foreign language. The instructor gave a writing workshop for 18 students and used word clouds to create word frequency count from the students' written essay. After that, the teacher wrote a teaching reflection about the class discussion and how they responded to the use of word clouds. The results showed that the better the students wrote in foreign language, the more words occurred in word clouds. The study suggested using word clouds for brainstorming ideas, getting reflections on writing assignments, building up vocabulary, and finding the main ideas.

Brooks et al (2014) used word clouds to get students' reflections. Thirty-three tertiary students were asked to submit anonymous comments on what was the most difficult topic in the classroom. After that, the instructor presented their reflections by using word clouds. The results of the study have suggested using word clouds for providing analytical technique before writing and scaffolded writing activities.

The latest study by Perveen (2021) used word clouds as pre-reading and pre-writing activity for teaching university students studying in the Virtual University of Pakistan (VUP). The 305 university students were assigned to do word clouds-based assessment activities in asynchronous e-learning. These participants were asked to complete the survey asking their attitudes towards the use of word clouds for pre-reading and pre-writing activities. The results showed that most students had positive attitudes toward using word clouds because of visual effects and developing learner autonomy. However, they had mixed opinions on the overall improvement of reading and writing skills.

These previous studies heavily focus on teaching writing activities and there has been little information available on the use of word clouds in Thai EFL contexts. This paper therefore aims to examine what are the teacher's and students' attitude towards using word clouds in a sentence writing activity according to learning objectives in the fundamental course that the undergraduate students would be able to identify parts-of-speech and write sentences in English correctly.

Research Methodology

Participants

Our target participants were undergraduate students who enrolled in the English fundamental courses and instructor of English who participated in the workshop on how to use technology assisted in English language learning and teaching. The samples of the study were fifty-seven university students studying in English fundamental course in 2019 and an English instructor at Rajamangala University of Technology Phra Nakhon, Bangkok, Thailand. Both groups of participants were selected based on convenient sampling due to the accessibility and voluntarily participating. In this course, the teacher presented how to use word clouds and introduced parts of speech, as shown in the lesson plan. At the end of the task, these participants were asked to complete the questionnaire expressing their attitudes towards the use of word clouds as an English sentence writing activity.

A Picture of Word Clouds and Parts of Speech

A short passage entitled "Who Uses English?" (Saslow & Ascher, 2015) was generated into word clouds by using an online word cloud generator, as shown in Figure 1 In this study, Wordsift (https://wordsift.org/) was chosen because this word clouds generator could present colorful graphics, parts-of-speech, and definitions related to reading texts. The picture of parts of speech, was used to engage students to identify parts of speech and write a sentence by using those words according to their types correctly.
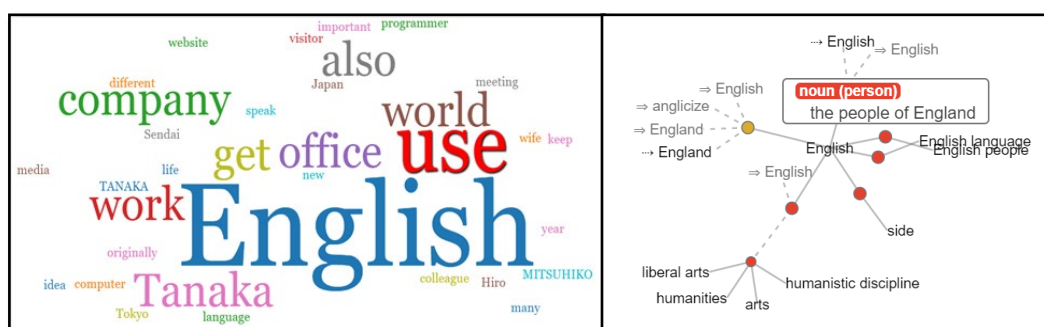
Figure 1 Picture of Word Clouds and Parts of Speech

Lesson Plan: Using Word Clouds for Sentence Writing Activity

In this course, the English instructor participated in the workshop on how to use word clouds in teaching English as a foreign language before the start of the semester. This English instructor introduced the use of Wordsift as a tool to help students determine parts of speech from reading texts. For sentence writing activity, it took thirty minutes for students to classify parts of speech and to write sentences in English. The steps of lesson plans were summarized as follows: First, the instructor reviewed parts-of-speech that the students had learned. Next, the instructor introduced Wordsfit and demonstrated how to create word clouds. The instructor then asked the students to work in pair and use Wordsift to identify English parts-of-speech. After that, the instructor asked the students to write parts-of-speech that they had seen from word clouds.

Questionnaires Asking Teacher's and Students' Attitudes

Two sets of questionnaires were used in this study to report the teacher's and students' attitudes towards the use of word clouds as a sentence writing activity for Thai EFL students. The first set is a teacher's questionnaire consisting of four open-ended questions, for example, the teacher's experience in using word clouds as a sentence writing activity and difficulties found in data collection. The sets of questions were verified by two experts in English language teaching and adjusted before the data collection. The other set is a four-point rating scale questionnaire used for asking students' attitudes towards the use of word clouds in a sentence writing task and two open-ended questions in order to get in-depth information on what they thought of using word clouds for a sentence writing task. This questionnaire was also proofread by two experts and piloted with five target participants before the data collection. The reliability of the students' questionnaire was calculated by using Cronbach's coefficient alpha measuring internal consistency. In this study, the reliability was .887, indicating high reliability (Mallery & George, 2003; Warmbrod, 2014).

Data Collection and Data Analysis

The data were collected from fifty-seven students and an English instructor at Rajamangala University of Technology Phra Nakhon, Bangkok, Thailand during the first semester of academic year 2019. At the beginning of the semester, this English instructor participated in a workshop on the usage of word clouds generators and how word clouds could be used for English language teaching in order to be proficient in using word clouds generators for a sentence writing activity. Furthermore, this study focused on a sentence writing activity by using word clouds to identify parts of speech and to write English sentences. By following the lesson plan, the instructor introduced the word cloud program to students and presented how parts of speech identified. After that, this instructor engaged the university students to write sentences in English from parts of speech learned. At the end of the task, both instructor and students were asked to complete the questionnaire reporting their attitudes towards using word clouds as a sentence writing activity. The students' responses were then analyzed by using frequency count, percentage, mean and standard deviation. To analyze the Likert-scale questionnaires,

the mean scores were determined and interpreted as follows: mean score ranging from 1.00 to 1.75 is 'strongly disagree', mean score ranging from 1.76 to 2.50 is 'disagree', mean score ranging from 2.51 to 3.25 is 'agree', and mean score ranging from 3.26 to 4.00 is 'strongly agree'. In addition, the data obtained from open-ended questions were grouped and thematically categorized.

Results of the Study

The results of the study are divided into two parts. The first part presents the results obtained from the students' responses on the use of word clouds, and the second part deals with the teacher's responses using word clouds for teaching a sentence writing of English.

The results of the study, as presented in Table 1, show that the participants strongly agreed in Item 3, 4, 5, 6, 8, 9, 10, 12, and 13, indicating that most participants had positive attitudes towards the use of word clouds because of getting to know new vocabulary and its function, increasing learning motivation, as well as supporting writing skills. In Table 2, they reported that word clouds benefits on identify parts-of speech, sentences samples and sentence structures. Moreover, they also reported that word clouds helps to motivate on writing English sentences as well as enjoyable and increased classroom interaction between teacher and students.

Table 2 Students' Attitudes towards the Use of Word Clouds as a Sentence Writing Activity

Item	Statements	Strongly disagree	Disagree	Agree	Strongly agree	M	S.D.
1.	Using word clouds helps learner do an English sentence writing assignment easier.	--	1.8% (N = 1)	73.7% (N = 42)	24/6% (N = 14)	**3.23** Agree	0.46
2.	Using word clouds while doing an English sentence writing activities or assignment saves time.	--	7.0% (N = 4)	66.7% (N = 38)	26.3% (N =15)	**3.19** Agree	0.55
3.	Using word clouds enable learner get overview of information related to English texts before using vocabulary for writing English sentence.	--	1.8% (N = 1)	63.6% (N = 36)	35.1% (N = 20)	**3.33** Strongly agree	0.51

Item	Statements	Strongly disagree	Disagree	Agree	Strongly agree	M	S.D.
4.	Using word clouds in writing English sentences is very interesting.	0.48	--	64.9% (N =37)	35.1% (N = 20)	3.35 Strongly Agree	
5.	Using word clouds in writing English sentences makes learner more enjoyable.	--	7.0% (N = 4)	50.9% (N = 29)	42.1% (N = 24)	3.35 Strongly Agree	0.61
6.	Using word clouds in writing English sentences increases learner's creativity.	--	--	47.4% (N = 27)	52.6% (N = 30)	3.53 Strongly Agree	0.50
7.	Using word clouds in writing English sentences makes learner have a passion to study English outside classroom.	--	10.5 % (N = 6)	56.1% (N = 32)	33.3% (N = 19)	3.23 Agree	0.63
8.	Using word clouds in writing English sentences supports learner to think before writing a sentence.	--	5.3% (N = 3)	59.6% (N = 34)	35.1% (N = 20	3.30 Strongly	0.57
9.	While using word clouds, learner can improve writing skills.	--	--	64.9% (N = 37)	35.1% (N = 20)	3.35 Strongly Agree	0.48
10.	Using word clouds in writing English sentences helps learner to learn new vocabularies and its functions.	--	8.8% (N = 5)	45.6% (N = 26)	45.6% (N = 26)	3.37 Strongly Agree	0.64
11.	Using word clouds in writing English sentences helps learner understand text easily.	--	14.0% (N = 8)	50.9% (N = 29)	35.1% (N = 20)	3.21 Agree	0.67
12.	Using word clouds in writing English sentences makes learner have learning motivation.	--	7.0% (N = 4)	59.6% (N = 34)	33.3% (N = 19)	3.26 Strongly Agree	0.58
13.	Using word clouds in writing English sentences helps learner communicate with teacher and classmates.	--	1.8% (N = 1)	59.6% (N = 34)	38.6% (N = 22)	3.37 Strongly Agree	0.52

Table 3 Students' Attitudes towards the Use of Word Clouds as a Sentence Writing Activity (Open-ended questions)

1. Do you like word clouds? If yes, why? or why not?
"I like it because it makes the contents to be easy to understand and the design is pretty, cute, extraordinary, not boring."
"I strongly agree. It is relax and motivate in learning to write simply."
"It makes self-study in classroom not boring. I get to know more things. Teacher can be advice and asking. It is fun and not boring."

2. What do you think of word clouds as a sentence writing activity?
"It is very good because it can tell about verb and noun clearly and also has samples with translation."
"Word Cloud helps to understand noun, verb, and adjective. It is easy to identify types of vocabulary."
"It is good. It helps to know sentence structure from each vocabulary."
"It is relaxing and motivating in learning. It teaches me how to write a sentence simply."

The students' responses show that these participants with positive attitudes using word clouds for sentence writing activity because the colorful graphic representation was very interesting, guided them to know unfamiliar words and to use words correctly by identifying parts-of-speech, as well as giving sentence examples. However, a few students pointed out that program was not compatible when creating word clouds on their smartphones.

Regarding the teacher 'responses, the results of teacher attitude, as shown in Table 3, report that the teacher had a positive attitude toward using word cloud as the program was very up-to-date, easy to use, and could motivate students to learn more about parts of speech and word types. The participant as the instructor of English also added that word clouds could be used for teaching other skills of English, such as listening by predicting the situation from word cloud.

Table 4 Teacher's attitude towards the Use of Word Clouds as a Sentence Writing Activity

1. Do you like word clouds? If yes, why? or why not?
"I strongly love it because word cloud is clear, colorful and easy to use. It can be applied for English language learning and teaching."

2. What do you think of word clouds as a sentence activity in teaching Thai EFL students?
"Word clouds are very interesting and can motivate students to learn more about parts of speech and word types. This helps students to understand vocabulary before writing sentences in English. For the online program, it was up to date, and I can adjust graphical image and its color."

3. What are the difficulties in using word clouds for a sentence writing activity?
"One of the problems that I've found is the program does not identify parts of speech when accessing website on mobile application. So it takes time for me to teach students each group to use this online program, especially if the students are not familiar with vocabulary learned."

4. Other suggestions and comments

"The teacher should teach sentence structure before sentence writing task so the students could reconstruct and identify parts of speech accurately, Perhaps, word clouds can be used for teaching other skills of English, listening, for example, let the students predict the situation from word cloud."

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 sentence writing tasks at tertiary level. The participants as students enjoyed their creativity in designing word clouds and identifying parts-of-speech according to the word definition and different positions from the examples. The English instructor in this study confirmed the advantages of using word clouds for teaching sentence writing. Although the results obtained from the English instructor was informative in terms of using word clouds for teaching sentence writing at tertiary level, the results seemed to be inadequate. Thus, the results may be somewhat limited by the small size of participants and relying solely on a questionnaire. So, to provide reliable results, we suggest investigating the use of word clouds over a semester and using in-depth methods of data collection.

When comparing our results to the previous studies, our results were consistent to the previous studies (e.g., Barath et al, 2012; Brooks et al, 2014; Perveen 2021) confirming that word clouds can be used as a sentence writing activity to enhance writing skills of English. Our results showed how English language teachers could use word clouds for teaching sentence writing of English, while other studies used word clouds for brainstorming and giving writing feedback. However, the improvement of writing skills by using word clouds was secluded from this present study.

Our results, while preliminary, suggest that using technology such as word clouds generators could help students to learn English in various aspects, especially learning new vocabulary, identifying parts of speech, writing sentences in English, and creating an interactive classroom for Thai EFL students at tertiary level. However, the teachers should take the text length, text selection, and word clouds generators into considerations as these factors may result in the graphic visualizations. In other words, different word clouds generators provide different results of data visualizations depending on word frequency and algorithms.

For teaching implications, we also suggest that word clouds can be used with other teaching activities. For example, in writing class, teachers can encourage students to make sentences from the vocabulary learned, using word clouds as a visual prompt, or as self-reflection on written tasks. Since word clouds show the larger the 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 (Tracy & Geist-Martin, 2013). However, one of the limitations is that word clouds provide a low level of information, or the frequent words appear and overemphasize long words over shorten words. The function words such as a, an, the, and other conjunctions are excluded so the graphical visualization might be disoriented. The English instructor, therefore, should pilot word clouds generators responding to the class objectives.

In conclusion, this study shows that word clouds can be used as a part of sentence writing activity for teaching Thai EFL students. However, given the low generalizability of the small samples 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 universities.

Recommendations for Future Research

1. The improvement of writing skills should be included in the further studies to determine how word clouds can be used to enhance English language learning.

2. Other factors including the program used for creating word clouds, and text length should be considered before the research design.

3. The data collection should be done by using both qualitative and quantitative approaches to obtain insights from both English instructor and students.

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