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Creative use of vocabulary in a problem-solving task: A pilot study

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Abstract

This paper looks at the design and piloting of a speaking task designed for future use in a study investigating the creative use of vocabulary through output. Using four design features proposed by Nation (2013), a problem-solving task was constructed and piloted with a group of first-year university students. The results highlighted some limitations in the design of the speaking task which may have contributed to the minimal creative use of vocabulary by the participants.

This research project investigates whether the presence of role-play in a speaking activity encourages the creative use of vocabulary. The design of the research study comes from the book “Researching and Analyzing Vocabulary” (Nation & Webb, 2011) in which the authors suggest a number of areas for research in the field of vocabulary studies. This project focuses on vocabulary learning through output and uses the following research question from Nation and Webb (2011):

Does the presence of role-play in an activity increase the amount of [creative] use of vocabulary in the activity? (p. 127)

Nation and Webb (2011, pp. 127-129) provide a suggested design for the experiment, which involves the construction of three separate pre- and post-tests of target vocabulary, as well as two speaking tasks. As part of the study design each speaking task needs to be

constructed so that it can be a stand-alone task, or used with role-play cards. This paper will focus on the design of one of these speaking tasks and the results of its piloting with learners.

Background

Teachers often need to create or adapt speaking activities for use in their language classes; however many teachers are unaware that a vocabulary learning goal may also be incorporated within these output activities. Nation (2013, p. 196) suggests that there are a number of simple design features which can be included in a speaking activity in order to provide the necessary conditions for the learning of vocabulary. One particular learning condition which increases the possibility of vocabulary learning is *creative use*. Other important learning conditions are: *motivation, noticing, retrieval and retention* (Nation & Webb, 2011, p. 7). Nation (2013) explains that:

creative processing occurs when previously met words are subsequently met or used in ways that differ from the previous meeting with a word. At its most striking, the new meeting with a word forces learners to reconceptualise their knowledge of that word. For example, if a learner has met the word *cement* used as a noun as in *We bought half a ton of cement*, and then meets *We cemented our relationship with a drink* the learner will need to rethink the meaning and uses of *cement* and this will help firmly establish the memory of this word. (p. 110)

In one study investigating the effects of the creative use of vocabulary, Joe (1998) had learners read and retell a text based on the topic of chronic pain. The written input given to learners contained 12 unknown target words and Joe found that the learners who used these

words creatively in the retelling task learned them more effectively than those learners who only used the words in the same way as they appeared in the input.

One way of encouraging the creative use of vocabulary in a speaking activity is the addition of a simple role-play element (Nation, 2013, p. 194) as, according to Nation (2013b), “one of the strong advantages of problem-solving role-play activities is that they get the learners to use language in ways which will be different from how they have used the language before” (p. 160).

Materials design

As suggested by Nation and Webb (2011, p.128) a topic from Nation’s (1991) article on designing problem-solving tasks was selected: *Choose places for a tourist to visit* (p. 10). Tokyo was selected as the tourist destination for the task as it was predicted that many of the local places of interest would be familiar to learners. The justification for this decision being that it may reduce the cognitive load for learners and allow them to focus their attention on vocabulary and language use when carrying out the task. The written input for the task was taken and adapted from various websites designed for visitors to Tokyo, such as ‘Top 10 Romantic Things to Do in Tokyo’ (McMahon, 2014).

When selecting target words for an output study Nation and Webb (2011, p. 121) point out that it is important to investigate both previously unknown, and partially known words, as some learners will not feel confident about using newly learned words. Therefore, the *Compleat Web VP!* program (Cobb, n.d.) from the *Compleat Lexical Tutor* website was used to identify the frequency of the words contained in the written input. *Compleat Web VP!* uses word lists created from the British National Corpus (BNC). Twelve words from the 1st 5,000 words of the BNC were selected by the researcher as the target words for the activity; three mid-frequency words from the 5th 1000 word list in the BNC, as well as

high-frequency words from the 1st, 2nd and 3rd 1000 word lists. These words are shown in Table 1.

Table 1. Target vocabulary selected for the speaking task.

| Target vocabulary | 1000 word list level |
|-------------------------------|----------------------|
| committee, district, suitable | 1 st 1000 |
| enormous, exhibit, official | 2 nd 1000 |
| ancient, dine, lawn | 3 rd 1000 |
| - | 4 th 1000 |
| auction, stroll, venue | 5 th 1000 |

At this point, any remaining words in the written text outside of the 1st and 2nd 1000 word lists in the BNC were deleted or replaced with a simple synonym. However, *Compleat Web VP!* did identify a number of words beyond these lists which were predicted by the researcher to be within the learners' knowledge. For example, words such as *picnic*, *museum*, *restaurant* and *cocktail* are loan words from English used in Japanese, while *delicious*, *souvenir*, *temple* and *sightseeing* were also likely to be known by learners from their time at secondary school. As a result these words were not replaced. Proper nouns, such as *Imperial East Palace Gardens*, *Blue Note*, and *Park Hyatt* were also kept in the text as they were also not predicted to be a burden for learners.

Once the text of the written handout was finalized, a qualified English language teacher, who is also a native Japanese speaker, was asked to read the text and circle the words she predicted learners would have difficulty understanding. At this stage, the teacher did not know which words had been selected as the target words. The teacher circled the following nine (out of a possible twelve) target words: *suitable*, *stroll*, *lawn*, *ancient*, *exhibits*,

enormous, venue, dine, official.

Incorporating the design features

The construction of the speaking task was informed by the four suggested design features provided by Nation (2013, p. 196), which are:

1. Make sure that the target vocabulary is in the written input to the task and occurs in the best place in the written input
2. Design the task so that the written input needs to be used.
3. Get each learner in the group actively involved.
4. Ensure that the vocabulary is used in ways that encourage learning.

These features include a number of suggested modifications that can be made to an activity in order to ensure the usefulness of each design feature. These modifications were incorporated in the design of the speaking task in the following way:

1. Make sure that the target vocabulary is in the written input to the task and occurs in the best place in the written input

| Modification (from Nation, 2013) | Adopted | How or why |
|--|---------|--|
| Have plenty of written input | ✓ | <ul style="list-style-type: none">■ extra written input in the introduction provides background to the activity■ a short description of each tourist destination is provided |
| Make sure about 12 target words occur in the written input | ✓ | <ul style="list-style-type: none">■ these target words are bolded in order to encourage noticing■ the remaining written input is controlled and predicted to be easily comprehensible |

| Modification (from Nation, 2013) | Adopted | How or why |
|---|---------|---|
| Try to predict what parts of the written input are most likely to be used in the task and put wanted vocabulary there | ✓ | <ul style="list-style-type: none"> ■ all parts of the written input are predicted to be used |

2. Design the task so that the written input needs to be used.

| Modification (from Nation, 2013) | Adopted | How or why |
|--|---------|---|
| Avoid the use of number in lists of items or choices | ✓ | <ul style="list-style-type: none"> ■ numbers are not provided for the list of tourist destinations |
| Use retelling, role-play, problem solving discussion based on the written input | (✓) | <ul style="list-style-type: none"> ■ one group will use role cards |
| Have a clear outcome to the task, such as ranking, choosing, problem solving, completion | ✓ | <ul style="list-style-type: none"> ■ ranking all the options from best to worst provides a clear outcome ■ learners must discuss and rank all the options |

3. Get each learner in the group actively involved.

| Modification (from Nation, 2013) | Adopted | How or why |
|--|---------|---|
| Split the information | ✗ | <ul style="list-style-type: none"> ■ the groups will be in a ‘cooperating arrangement’, which is particularly suitable for a ranking activity (Nation, 1989) |
| Assign jobs or roles | (✓) | <ul style="list-style-type: none"> ■ one group will use role cards |
| Keep the group size reasonable small (about four or five learners) | ✓ | <ul style="list-style-type: none"> ■ groups will be limited to four learners |
| Have learners of roughly equal proficiency in a group who feel comfortable negotiating with each other | ✓ | <ul style="list-style-type: none"> ■ learners are from the same class and are used to working together in small groups |

4. Ensure that the vocabulary is used in ways that encourage learning.

| Modification (from Nation, 2013) | Adopted | How or why |
|---|---------|---|
| Use tasks such as role-play that require changing the context of the vocabulary | (✓) | <ul style="list-style-type: none"> ■ one group will use role cards |
| Use a procedure such as the pyramid procedure or reporting back to get the vocabulary reused | ✓ | <ul style="list-style-type: none"> ■ a spokesperson will report back to the class the group's final decision, which will provide opportunities for productive retrieval (the spokesperson) and receptive retrieval (the rest of the class) |
| Remove the input so that recall is required, or after looking at the detailed sheet, use a reduced one for the task | ✗ | |
| After the task is completed, get the learners to reflect on what vocabulary they learned | ✗ | |

The role-play element

A successful problem solving role-play has three distinct features: (1) a clear outcome to the task, (2) requirements and restrictions, and (3) a procedure to follow (Nation, 2013b, p. 156). With regards to (2) requirements and restrictions, Nation (2013b) claims they “increase the opportunity for learners to discuss and argue with each other. ... Assigning roles to the learners can be a part of the restrictions and requirements, because each role may suggest different restrictions” (pp. 157-158). In the design of the role-play cards, restrictions were provided in a variety of ways: age, marital status, previous experience in Japan, health, and their individual desires for the trip. These restrictions do not make it impossible for learners to complete the task; however they do provide an added challenge. Another consideration in the design of the role cards was that learners should be able to easily understand the vocabulary.

Piloting

The participants in this study were all from the same class and in their first year at university. These learners had been streamed into the same tier at the beginning of the academic year based on their level of proficiency so their level of speaking proficiency was roughly similar. Prior to undertaking the speaking task, the participants were placed in groups of four and did the *Say it!* activity (Macalister, 2014). *Say it!* is a simple role-play activity which had been used a number of times throughout the academic year. Its use at this point was intended to refamiliarise the learners with the concept of role-play. The participants remained in these same groups of four for the piloting of the speaking task based on Nation's (1991) suggestion of *choosing places for a tourist to visit*. Each group was given a single A3 copy of the handout to use throughout the task (see Appendix A). One group was provided with a set of role cards which are shown in Appendix B. Two of the groups participating in the activity were audio recorded: the role-play group and one of the non-role-play groups. The task took approximately twenty minutes to complete.

Preliminary results

At first, the researcher counted the number of times a target word was used during the speaking task. Then, the researcher checked to see if the learner had used the word verbatim (with no change from the written input) or if there had been a degree of creative use. In order to rate the degree of creative use, Joe's (1998, p.364-365) scale was used to compare the use of the target word by the learners with the form of the target word in the written input. The four points on the scale are: (0) *no* creative use; (1) *low* creative use; (2) *reasonable* creative use; (3) *high* creative use.

Table 2. The number of times a target word was used in the activity

| Target word | Non-role-play group | | Role-play group | |
|-------------|---------------------|--------------|-----------------|--------------|
| | Verbatim | Creative use | Verbatim | Creative use |
| committee | 1 | - | - | - |
| district | 1 | - | 2 | - |
| suitable | - | - | 1 | - |
| enormous | - | - | 1 | - |
| exhibit | 2 | 1 | 1 | - |
| official | - | - | - | - |
| ancient | 1 | - | 1 | - |
| dine | 5 | 1 | 6 | - |
| lawn | - | - | 5 | - |
| auction | 9 | - | 9 | - |
| stroll | 3 | - | 7 | - |
| venue | 3 | - | 2 | - |

As shown in Table 2 there was a complete lack of any creative use of vocabulary throughout the speaking task in the role-playing group, while in the non-role-playing group there were only two occasions in which there was a degree of creative use. In both instances the degree of creative use was low and occurred while learners were negotiating the meaning of the word together, such as in this example:

Learner A: Dine means...uh...eating

Learner B: Dine? *Dining restaurant?* Haha.

Learner A: Dine means...

Learner B: Dine in

Learner A: Kaiseki. So... not ... casual.

Learner B: Mmmm. ... Dinner.

Learner A: Yeah, yeah, yeah.

Learner B: Aaaah. Have dinner.

Learner A: In high quality restaurant

Table 2 also shows that four of the target words for the speaking task were not used by the non-role-play group (*suitable*, *enormous*, *official* and *lawn*) and two words were not used within the role-play group (*committee* and *official*). In addition, there were a number of other target words which were only used once throughout the twenty-minute speaking task by members of either group. The most frequently used target word was *auction*, which was used nine times in both groups. The only other target words used five times or more were *dine* (in both groups), *lawn* and *stroll* (in the role-playing group).

Design limitations

The piloting of the speaking task highlighted some issues with the design of the handout, as well as the problem-solving task itself. For example, the non-role playing group failed to follow the written instructions, which state, “Explain the descriptions to each other so that everyone understands them.” Rather than read the descriptions carefully and explain them to each other, learners read them silently and then spent the majority of their discussion time ranking the different options. The inclusion of instructions in Japanese may be a possible solution to this issue.

Another possible factor that contributed to the lack of target word use could be the choice of Tokyo as the destination city. In this case, contextualizing the task so that students

are already familiar with majority of tourist destinations such as Disneyland, Tsukiji and the Studio Ghibli Museum meant that students did not need to read each description carefully. Perhaps it would be beneficial to change the content of the task and ask learners to choose places for a group of Japanese people travelling to a foreign city such as New York, instead. One advantage in doing this could be that while learners would have a clear image of the Japanese tour group, they would need to pay careful attention to the descriptions of the possible tourist destinations.

The results of the piloting showed that neither group used the target word *official*. This is probably explained by its placement in the explanatory paragraph at the top of the handout. As Nation (2013, p.196) suggests, vocabulary should be put in areas of the written input likely to be needed by the learners. The piloting of the task showed that learners rarely referred to the explanatory paragraph. In this task, target words which were included within an option (e.g. Go to a tuna auction; *Dine* in style) were used the most frequently. Learners are required to rank all the different options to complete the task so it may be more beneficial to place target words in this area of the handout.

A further issue which became apparent during analysis was that some of the non-target words were not easily understood by learners. For example, the role-playing group spent over one-minute trying to understand the word *cocktail* before finally guessing its meaning. Also, the proper noun *Imperial East Palace Gardens* proved to be problematic for some learners. In the end, learners were able to successfully guess the meaning of these words from context but as these words were not crucial for the task they should be replaced or adapted.

Finally, one possible reason for the lack of creative use could be that all learners were in a cooperative arrangement and had access to the text throughout the task. Perhaps, as Nation proposes (2013, p. 196), the written text could be removed once it is understood

and replaced with a handout with reduced written input. By doing this, recall of the target words would be required, and may increase the likelihood of creative use, as in Joe's (1998) experiment in which she found that learners without access to the written input during retelling used their target words more creatively than those learners who had access.

Conclusion

The results of this pilot study revealed a number of limitations in the design of the speaking task which will need to be addressed before the task can be used in the research experiment outlined by Nation and Webb (2011, p. 127-129). The next stage of the project will involve the piloting of the speaking task once the limitations of its design are addressed. Also, construction of a second problem-solving activity, as well as pre- and post-tests for the target words is required.

Note: This research project was originally conceived as a two-year project however the time frame was condensed to one-year. Therefore, this paper is limited to the design and piloting of one of the speaking tasks.

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Appendix A

Problem solving activity: Visiting Tokyo

A group of important people from the International Olympic Committee (IOC) is visiting Tokyo for three days. This group will carefully review the progress being made for the 2020 Olympic Games. They will spend the first two days of their visit in meetings with various Japanese



officials, however on their last day they will have the whole day off and want to go sightseeing. Where should the group go?

- Look at the following list of ideas and short descriptions.
- Explain the descriptions to each other so that everyone understands them.
- Rank all of the ideas from 1 to 10 putting the most **suitable** idea first. Which should be first on the list? Which should be second?

| | |
|--|--|
| Stroll through Japanese gardens | Stroll through one of Tokyo's beautiful gardens and stop for <i>matcha</i> (green tea) and dessert in a Japanese teahouse. Try Rikugien, Koishikawa Korakuen, Kiyosumi Teien and Hama Rikyu Garden. |
| Visit Disneyland Japan | Visit after 6pm to enjoy the light shows, parks and rides without too many people around. |
| Go to a tuna auction | Tsukiji is a very popular tourist destination. Watch the live tuna auctions at the world's busiest fish market from 5am. |
| Picnic in the Imperial East Palace Gardens | These beautiful gardens are located in the centre of Tokyo. Take a break from walking around and enjoy a picnic on the lawn . |
| Take a day trip to Kyoto | Catch an early morning <i>shinkansen</i> to Kyoto and spend the day visiting ancient temples in the Gion and Higashiyama districts . |
| Visit the Studio Ghibli Museum | This museum is filled with fun exhibits and famous Ghibli characters. There is also a restaurant and gift shop where you can buy food and souvenirs. |

| | |
|---------------------------------|---|
| Go shopping in Harajuku | Go shopping for fashionable clothes in Harajuku. Many people say it has the best street fashion in the world. |
| Go dancing at the 'W' nightclub | Only 15 minutes walk from Shibuya, this nightclub has an enormous dance floor, beautiful lights and great sound. It's the perfect place for dancing all night! |
| Listen to live jazz | The Blue Note Tokyo is the best venue for live jazz in Tokyo. This famous club has performances from world-famous jazz musicians and you can enjoy delicious food, cocktails and wine. |
| Dine in style | Dine in the Kozue restaurant which is on the 40 th floor of the Park Hyatt Hotel in Shinjuku. The restaurant serves high-quality <i>kaiseki</i> (traditional Japanese food) and there are beautiful views of Tokyo. |

Appendix B

ROLE CARD

You are the **President** of the International Olympic Committee. You are a **70-year-old man** and have **visited Tokyo many times**. You have a **sore leg** and **cannot climb steps**.

ROLE CARD

You are a **member** of the International Olympic Committee. You are a **41-year-old woman** and this is your **first time to visit Japan**. You are travelling with your husband and your two children. Your **two children** are **10 and 12 years old** and are **easily bored**.

ROLE CARD

You are a **member** of the International Olympic Committee. You are a **26-year-old woman** and this is your **first time to visit Japan**. You **married your husband two weeks ago** and this is your first overseas vacation together. You **would like to do something romantic** while you are in Tokyo.

ROLE CARD

You are the **son of the President** of the International Olympic Committee. You are a **22-year-old man** and you have **visited Japan many times**. You **have a lot of money** to spend while you are in Tokyo and **want to have as much fun** as possible. You are **not interested** in Japanese culture.