

Original Paper

What Impact Does A Content and Language Integrated Learning (CLIL) Approach Have on Vocabulary Acquisition?

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Abstract

This paper aims to investigate the efficacy of a CLIL-focused approach on vocabulary acquisition in a 2nd year college photography course taught entirely in English. In the first year the course was taught, many students reported difficulties with the specific vocabulary related to photography, a lot of which falls outside the top 2,000 words in the General Services List (West, 1958). Therefore, in the second year, a dedicated CLIL approach was adopted and implemented. Students (n=24) were given a vocabulary quiz on the first day of class and the same quiz on the last day of class. Results clearly indicated that a CLIL-focused approach to teaching vocabulary is extremely effective.

Keywords

Vocabulary Acquisition, CLIL, L2, English, Teaching With Technology

1. Introduction

At this small liberal arts college in rural, south-west Japan, where English is used as the language of instruction in all classes, students in their first year English courses are streamed according to English language proficiency. The English courses that make up part of the curriculum and are compulsory for all students include: Oral Communication with a communicative grammar component; Intensive and Extensive Reading, done both in class and online; and Academic Writing. These classes are taught by a single teacher in the classroom. As part of the curriculum, first year students must also take some content-based courses in liberal arts subjects such as psychology, philosophy, sociology, and economics. These classes are team-taught, meaning there are two teachers in the classroom at all times: one content teacher who has expertise in the chosen subject, and an English teacher to help with language issues that might arise.

When students reach their second year (sophomores), they can elect some content-based courses that

are not team-taught. Some of these classes include, but are not limited to: Photography in a Japanese Context; Visual Art in Japan; Japanese Popular Culture and Media. When students take these courses, it is their first experience at the college studying a content-based course without two teachers in the classroom. Importantly, in the context of this research, these elective, content-based courses are not organised according to English proficiency. This means that there is a mixture of levels in the classroom, for example, some students might have a TOEIC score of 700 or more (990 is the maximum score), while others might have a TOEIC score closer to 300. On the one hand, this opens up a wide array of learning opportunities for students, but on the other hand, it presents challenges for both the teachers and the students, as some class content and concomitant language may prove difficult, especially for lower-level students.

During the inaugural year of teaching a newly created, elective photography course to 2nd year students, it became apparent in the first few weeks of the class that some of the English language specifically related to photography was far beyond the grasp of many students. It was understandable considering many of the course-specific terms fell outside the top 2,000 words in the General Service List (GSL) and many students would not likely have encountered those terms before. Nonetheless, this was problematic because a lot of the language employed during the classes was context-specific, lesson-specific, and in many cases, unavoidable. However, in anonymous class evaluations at the end of the semester, students reported that their biggest problem during the course specifically related to photography terms and vernacular that they were unfamiliar with and unable to grasp sufficiently throughout the duration of the 16 week semester.

To counter the obvious vocabulary difficulties students experienced in the first year of the course, in the following year a concerted effort was made to adopt and implement a more dedicated Content and Language Integrated Learning (CLIL) approach to the course. This meant that there was much more attention paid to both language and content in each class and in all class materials and worksheets, and language tasks were far more scaffolded throughout the course. This was significantly different from the approach taken during the inaugural year of the course, whereby a large majority of individual classes focused specifically on content, somewhat at the expense of language.

In this context, this research aims to examine the efficacy of a dedicated CLIL approach to course-specific vocabulary acquisition. In order to test the null hypothesis – that a CLIL approach has no impact on vocabulary acquisition – a vocabulary quiz specifically related to photography vernacular was given to students on the first day of class, and the identical quiz was given again on the last day of class.

2. Literature Review

What Is Content and Language Integrated Learning (CLIL)?

There are several definitions of CLIL, but Coyle et al. (2010) offer a definition that is as specific as most. That is, “Content and Language Integrated Learning (CLIL) is a dual-focused approach to

education whereby a second, or additional language is utilised for both the learning and teaching of content and language”. With regards to this definition, CLIL can include a broad spectrum of educational practices as long as these practices are conducted via an additional language so that ‘both language and the subject have an equally important role to play (Marsh 2002). Many scholars have comprehended the twin role of language and content in a variety of ways. For example, according to Ting (2010), CLIL should promote an even 50:50 divide between content and language. However, while this may be an ideal, research that has been done in actual CLIL classrooms indicates that it is difficult to achieve such a perfectly balanced language and content split (Dalton-Puffer, 2007; Mehisto, Marsh, & Frigols, 2008; Pérez-Vidal, 2009). On the other hand, Marsh (2002), says that there should always be a dual focus on language and content for instruction to qualify as CLIL even if that results in a disproportionate split such as 90 per cent versus 10 per cent. Even so, such a differing view of CLIL that embraces this wide a variation in content and language teaching is, perhaps, inherently problematic because it is rather difficult to envisage a traditional non-CLIL second language/foreign language class that has less than 10 per cent focus on some type of content. Such a malleable definition makes CLIL very broad, but perhaps overly inclusive and at the cost of specificity

Coyle’s definition also sees CLIL as an ‘educational approach’. This can be understood in several ways. For example, some scholars view CLIL more in relation to the actual instructional techniques and practices that are used by educators to facilitate second/foreign language learning (Ball et al., 2010; Hüttner et al., 2010), whereas others see CLIL as methodological (Marsh 2008) a tool for pedagogy (Coyle, 2002), or an innovative way of approaching methodology (Eurydice, 2006). Some scholars consider CLIL in largely curricular terms (Langé 2007; Navés & Victori, 2010) while others, like Baetens Beardsmore et al. (2007), for instance, expound that CLIL is flexible in terms of curricular design and timetable organisation.

As can be seen from the text above, there are different ways to understand CLIL. In some instances, CLIL is seen as an entire program of instruction while in other contexts it is seen in isolated classes or in specific classroom activities that take place in a second/foreign language. As Coyle et al. (2010) says, there is no real cohesion around CLIL pedagogies, nor is there one, single CLIL approach or theory.

Nonetheless, it is generally accepted that any CLIL context must include reference to an additional language as a medium of instruction. Specifically, as defined by Marsh (2002), this means instruction in any language other than the learners’ first language, which may include foreign languages, a second language, or a minority language. This view is endorsed by those who initially adopted the term CLIL in the first place (Wolff & Marsh, 2007; Coyle, 2008) and is also used by the Eurydice (2006) report on CLIL. In comparison with more traditional second language/foreign language teaching, the hallmark of CLIL is without doubt content, and this is the part that is often thought of as different, unique, and perhaps innovative (Marsh & Frigols, 2008).

In the context of this research, the course in photography that students undertook utilised a CLIL approach insofar as it focused on content specifically related to photography such as composition and

color theory while always remaining mindful to include and focus on specific photography-related language.

Nation (2013) lists many typical methods that educators and learners can use: saying a newly acquired word out loud, writing the new word down on the board or in a workbook, providing a simple definition, searching for the specific word in a dictionary, making use of workbooks to define new words, and studying specifically targeted word lists and their first language translations among others. All of these techniques help in the development of the nine facets of word knowledge, which include: spelling, register, pronunciation, collocations, word parts, associations, meaning, grammar, and frequency (Nation, 2013). As there are multiple facets of word knowledge, ranging from just knowing how to spell and pronounce a word to learning its frequency and collocations, learning a new word is a process which happens incrementally. Nonetheless, Nation (2011) is at pains to remind educators that explicit vocabulary learning is almost always the most effective approach but urges instructors not to overspend valuable class time directly teaching vocabulary words that fall outside the 2,000 most frequently used words of English; rather, students should be encouraged to study these in their own time using effective vocabulary learning strategies as well as through natural encounters of the language delivered through class materials.

With regards to repetition, Schmitt (2008) has said that the number of times language learners must encounter a new word for them to sufficiently learn its meaning ranges from 8 to 10, while Webb (2007) has posited that in order to gain meaningful word knowledge, learners must have in excess of ten exposures to a new word. Naturally, the need for repeated exposure differs according to a variety of factors, including motivation, attention, how similar L1 and L2 words are, short-term memory ability, and the quality of teaching and materials from educators. Nation (2013) also indicated that as well as the number of repetitions, the spacing of repetitions also impacts acquisition, retention, and attrition, as have others (Ebbinghaus, 1913; Weltens & Grendel, 1993). With advances in accessible technology, a greater variety of resources are also now available to enhance vocabulary acquisition in a second language (Nurmukhamedov, 2012).

3. Methods

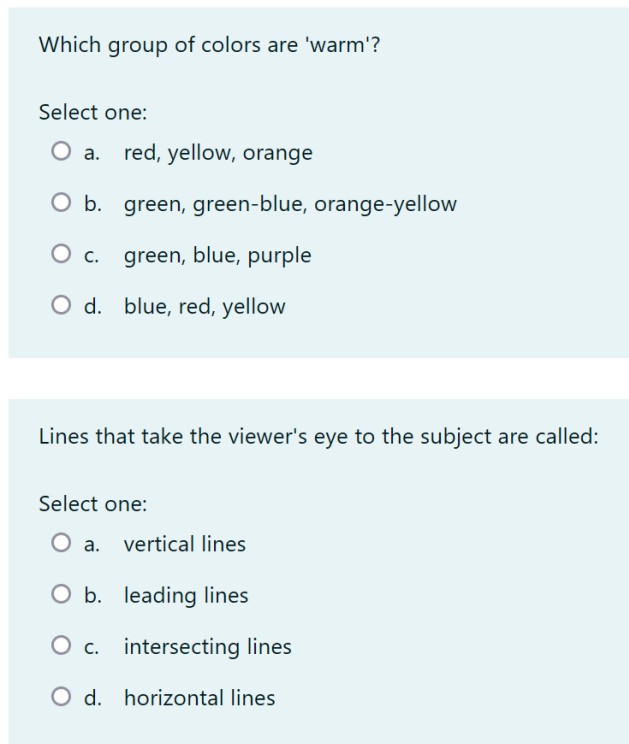
3.1 Participants

Participants in this research were 2nd year students from a small liberal arts college in south-west Japan (n=24). Each participant was informed of the research and made aware that any information attributed to them would remain anonymous. All students provided informed consent.

3.2 Instruments

An online vocabulary quiz was given to students on the first day of the course. The quiz was administered on Moodle, the college's Learner Management System (LMS). All 2nd year students have accounts on the college Moodle site and had to join the course using a password before they could take the quiz.

Questions on the quiz included 20 multiple choice questions and 10 True/False questions. Each question was given equal weight. Use of dictionaries and phones was not allowed and a time limit of 30 minutes was set. Upon completion, Moodle automatically calculated the quiz results and they were then exported to Microsoft Excel. Figure 1 below gives an example of the type of vocabulary that students were quizzed on. Specific photography vernacular such as “warm”, and “leading lines” were introduced – words that many students had not encountered in the context of photography.



Which group of colors are 'warm'?

Select one:

- ☐ a. red, yellow, orange
- ☐ b. green, green-blue, orange-yellow
- ☐ c. green, blue, purple
- ☐ d. blue, red, yellow

Lines that take the viewer's eye to the subject are called:

Select one:

- ☐ a. vertical lines
- ☐ b. leading lines
- ☐ c. intersecting lines
- ☐ d. horizontal lines

Figure 1. Moodle Quiz Questions

On the last day of the course, after 16 weeks of instruction (twice a week for 1.5 hours each class), students again took the identical quiz that they took on the first day of class, under the same settings. The results from the two quizzes (pre/post) were exported to Microsoft Excel and a paired samples t-test was run.

4. Results

Quiz Results

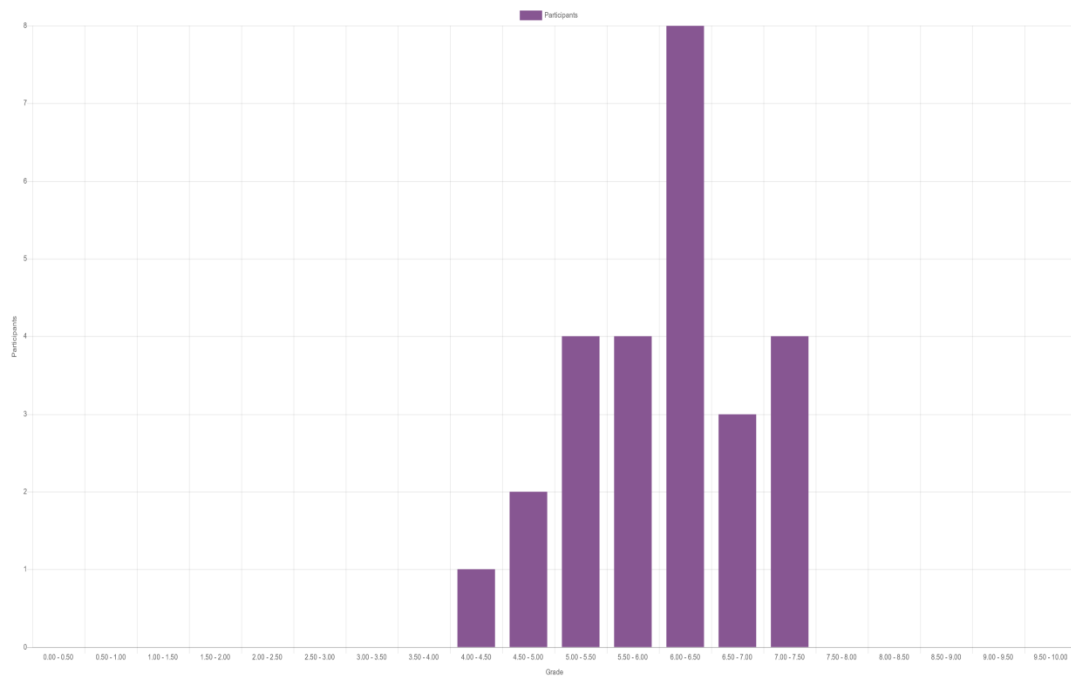


Figure 2. First Day Vocabulary Quiz Results (n=24)

Figure 2 shows the results of the vocabulary quiz taken on the first day of class. There were 24 participants in total. All student scores ranged from 4/10 to 7.5/10, once Moodle had done the calculations and converted raw scores out of the 30. The mean score among students following the first day exam was 5.94/10, or just under 60%. The most common score was in the range of 6-6.5/10 (n=8), while three students scored between 4-5/10.

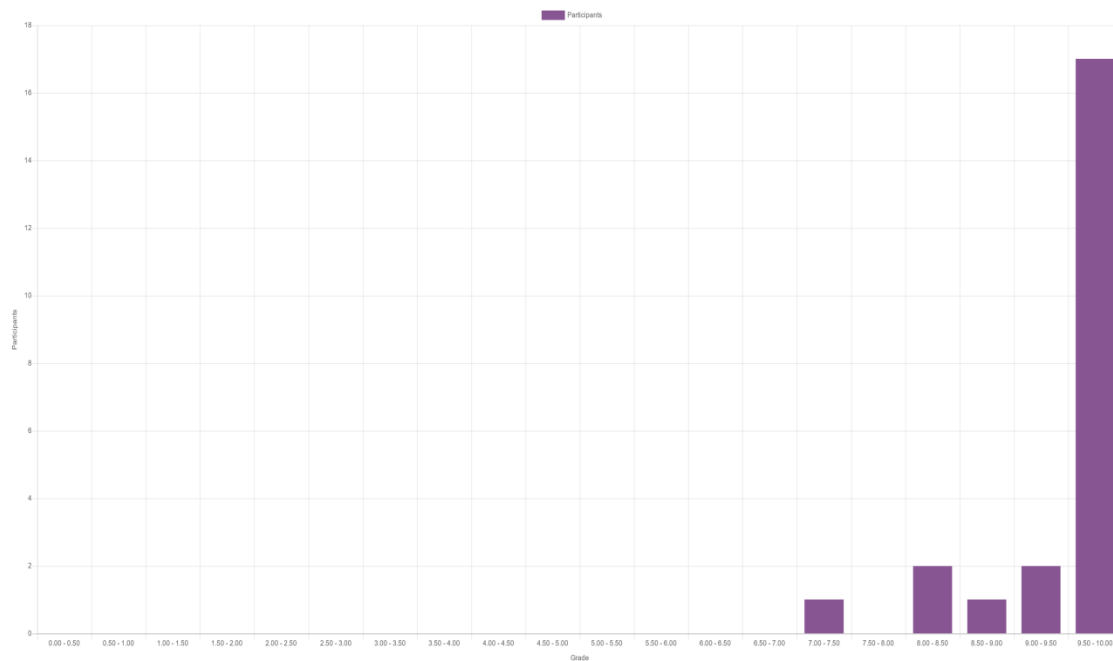


Figure 3. Last Day Vocabulary Quiz Results (n=24)

Figure 3 shows the results of the vocabulary quiz taken on the last day of class. All student scores ranged from 7/10 to 10/10, with the mean score 8.55/10. Seventeen (17) students scored between 9-9.5/10, while the lowest score (n=1) was 7-7.5/10.

Paired Sample t-test

Alpha	0.05	
Hypothesized Mean Difference	0	
	Post	Pre
Mean	8.554583333	5.944583333
Variance	0.7219737319	0.787721558
Observations	24	24
Pearson Correlation	0.1589848401	
Observed Mean Difference	2.61	
Variance of the Differences	1.489475667	
df	23	
t Stat	10.47681854	
P (T<=t) one-tail	0.0000000001575872766	
t Critical one-tail	1.713871528	
P (T<=t) two-tail	0.0000000003151745531	
t Critical two-tail	2.06865761	

Figure 4. Results of Paired Sample t-test for Pre/Post Vocabulary Quiz Scores

A paired-samples t-test was conducted on vocabulary scores pre-CLIL dedicated course, and post-CLIL dedicated course. There was a significant difference in the scores for pre-CLIL course (M=5.94) and post-CLIL course (M=8.55); $t(23)=10.47$, $p = 0.00000000031$. These results suggest that a dedicated CLIL approach to teaching specific vocabulary throughout a semester long course really does have a positive impact on vocabulary acquisition. Specifically, these results suggest that when content and language are taught in unison and both are given due weight over the course of an entire semester, students can acquire and retain the required vocabulary, regardless of language proficiency level.

5. Discussion

The results above indicate quite clearly how effective the Content and Language Integrated Learning (CLIL) approach to the course was. Within 16 weeks, or 48 hours of class time, students went from a mean score of 5.9/10 on the vocabulary quiz to a mean score of 8.5/10. While it might seem obvious, in hindsight, that focusing more dutifully on unfamiliar vocabulary terms throughout the duration of the course by way of class materials and handouts, specific vocabulary-related exercises, and peer to peer group work and discussions would produce better overall results, there were a number of contributing factors that determined a less vocabulary-focused approach in the first year the course was taught.

Firstly, the college promotes a class environment where active, student-centered learning takes place in each and every class. Most often, this takes place in the form of small group work in which students are grouped together in 3s or 4s. In the context of the photography course which this research is focused, each group of three to four students had learners of different language proficiency. Groups were not created randomly – they were deliberately designed to ensure that lower level students were placed together with intermediate and higher level students. This follows the ideas of Vygotsky (1978) and his Zone of Proximal Development (ZPD).

The basic premise of the ZPD, in an educational context, is that a more knowledgeable person (or student peer) can enhance and develop another student's learning by guiding them through class tasks or assignments that might be slightly above their proficiency or ability level. Then, as the lower level student becomes more adept, competent, and confident, the expert, or higher level student gradually draws back from explicitly helping until the student can complete the task or skill by themselves.

Thus, in the context of this research, in the first year of the course a Vygotsky model was adhered to so that students were deliberately placed into groups of mixed proficiency levels in the specific hope that higher level students could, and would peer tutor the lower level students in a range of concepts, including vocabulary. Unfortunately, as the student evaluations at the end of the course's inaugural year clearly indicated, this did not happen to the extent hoped for. There were many reasons for this outcome that are beyond the scope of this research, but the evaluations certainly precipitated the need for change and the introduction of a more CLIL-focused approach to the class.

Secondly, specifically focusing on vocabulary that does not fall within the first 2,000 words of the General Services List (GSL) (West, 1953) can have its drawbacks and disadvantages. As Nation says (2008), activities that focus on less common English words can be time consuming and, ideally, should be done by students at home or outside class learning time. Moreover, many 2nd year students at the college have anecdotally admitted to frustrations in team-taught classes in which they have had to spend (what they believe) an inordinate amount of time learning obscure English words related to their course.

Thirdly, the Japanese language uses a lot of borrowed words. Indeed, it has its own alphabet specifically created for borrowed words, called 'katakana'. In relation to photography, there are a lot of English words that are part of everyday Japanese usage. For example, words like camera, lens, zoom, digital, photo, image and more are commonly used, especially by those with even a small interest in photography. As almost all of the students in the class had Instagram accounts or professed to enjoying photography, it was fair to assume that they might know, or have at least a basic understanding of many photography-specific English words.

For these reasons, in the first year that the class was taught vocabulary did not play a central part in many classes. Rather, worksheets containing relevant photography vocabulary were given as homework and students were encouraged to create and keep their photography glossaries. Unfortunately, however, it is difficult to monitor close to 30 students if you take this approach, and as

the results and the student evaluations after the first year of the course showed, students had most trouble, and relayed most concern regarding vocabulary.

In turning to a more CLIL-focused approach to the class, the results could hardly have been more conclusive or rewarding. The vocabulary quiz results were evidence of the efficacy of a CLIL-focused approach to the class. This was not entirely surprising, as Nation (2008) says that explicit and repetitive teaching of vocabulary is the most effective approach. However, balancing that explicit teaching of vocabulary with the content side of class was the biggest challenge.

Another aspect that was equally as pleasing was the fact that students did not just perform well on the vocabulary quiz. They also repeatedly demonstrated a deeper understanding of newly acquired photography-specific vocabulary through a range of tasks throughout the course. This was best exemplified by their final projects, completed at the end of the 16 week semester. Students were asked to create a presentation in which they explained photographic images, using targeted vocabulary, they'd taken during the course. Examples can be seen in the graphics below.

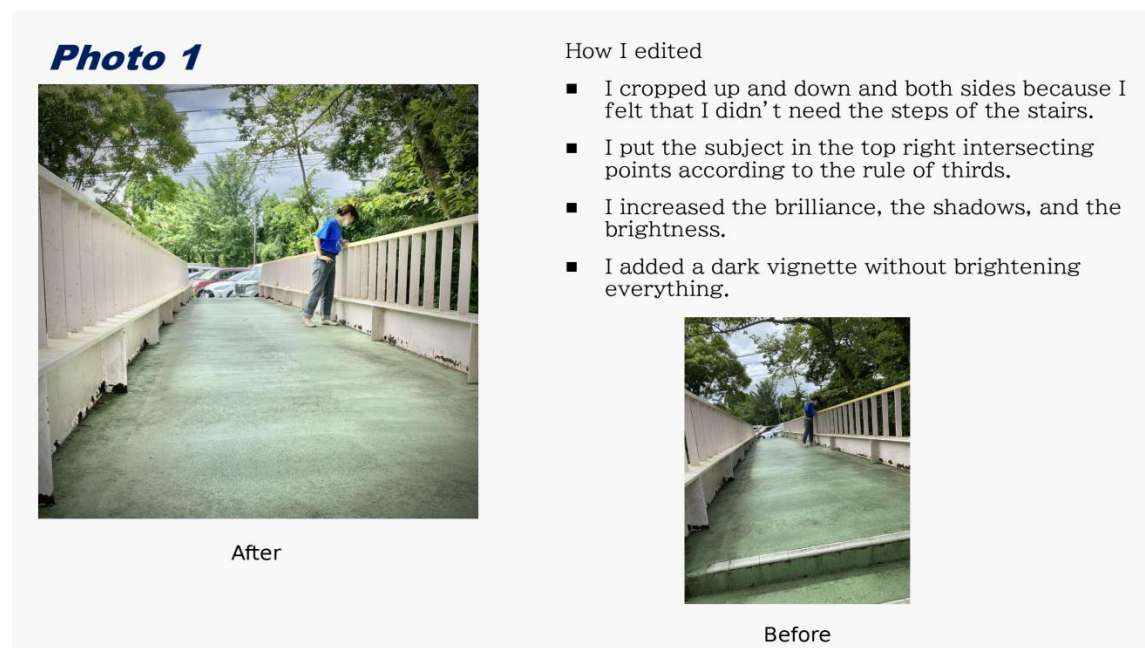


Figure 5. Example of a Final Presentation Slide Using Targeted Vocabulary

In Figure 5 above, there are numerous examples of newly acquired vocabulary being used. Terms such as: cropped; intersecting points; rule of thirds; shadows; and vignette were all terms learned during the course. They were also terms that students in the inaugural year of the course struggled with, as did students when they took the vocabulary quiz at the start of the course. Further evidence is given in the second graphic below.

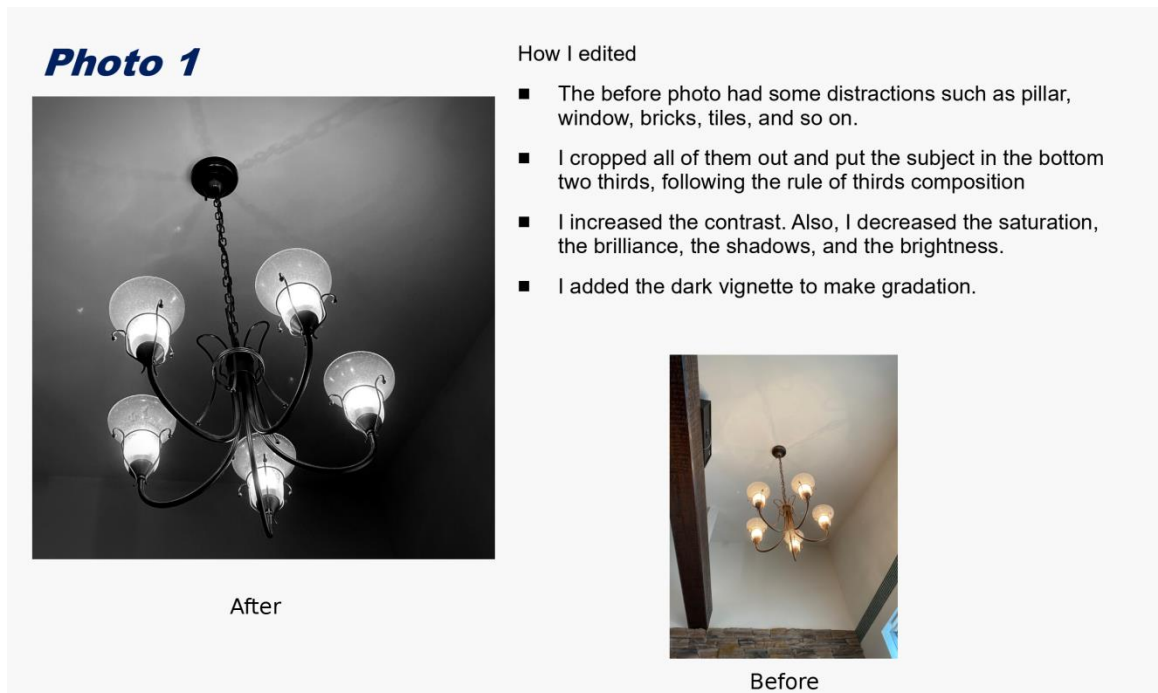


Figure 6. Example of a Final Presentation Slide Using Targeted Vocabulary

Again, several terms used in the description and explanation above offer evidence that students were able to grasp the meaning of words that they clearly did not know at the beginning of the course. Words such as: composition; contrast; saturation; and gradation indicate that this student had not only gained a level of familiarity with these terms, but also knew exactly how to use them in the context of explaining about photography and photographic techniques.

6. Conclusion

A CLIL-focused approach to language classes, and vocabulary acquisition in particular proved very effective in this research. Even though there are differing opinions regarding what kind of ratio between language and content should take place in a CLIL class, this research indicated quite clearly that deliberately and repeatedly putting vocabulary work and focus into class materials over a 16 week course is effective.

Educators have the freedom to implement different methods of teaching language or vocabulary in a CLIL-focused course, but they must ensure that explicit and specific attention is paid to target language. That did not happen in the first year of the photography course in this research, and the result was that students struggled with the language and vocabulary expectations. When a change was made to adopt a more CLIL-centered approach, the results were very pleasing and a conclusion can be drawn that a CLIL approach to teaching non-native English speakers in a content-based class is very effective.

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