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Smart Virtual Word Walls: Moving Away From the Traditional Into the Digital

Word walls have long been recommended for use in classrooms to help students acquire and reinforce new vocabulary. Word walls are particularly important for English Language Learners (ELLs), because ELLs "usually begin to learn to read before they have acquired the vocabulary normally associated with beginning readers" (Gunderson, 2007, p. 35). Vocabulary can also be a problem for ELLs if they are faced with learning content in the subject areas for which they have not obtained the requisite subject-specific vocabulary. This article introduces the concept of a multimodal virtual word wall, a technology-enhanced alternative to a traditional word wall, for use in classrooms with ELLs.

Connection to the Literature

Many scholars (e.g. Laufer, 2003) emphasize that a word is most likely to be learned when taught intentionally and practiced in a productive word-focused activity when compared to learning vocabulary through an incidental reading activity. Lomicka's (1998) study demonstrated that glosses—a short definition or note in order to facilitate comprehension and the reading processes for second language learners—were very helpful especially when associated with an image. Her research also found that giving students definitions in their native language helped the learning process.

Pinnell and Fountas (1998) describe a traditional word wall as a "designated section of a classroom wall that is devoted to the display and study of words" (p. 38). These authors refer to the word wall as being interactive. However, a display of words on a classroom wall is not necessarily interactive since the child is not able to physically touch or manipulate the words on the word wall. A more interactive option is to use technology as a tool to create a virtual word wall. Technology provides individuals with a diverse set of multimodal affordances.

Virtual Word Walls

An alternative to the traditional word wall is to use technologies, such as an interactive white board, as a tool to create a virtual word wall. Although there are many makers of interactive whiteboards, this article focuses on SMART Boards as a potential technology tool for language learning. Various research studies have been conducted which express the benefits of using SMART boards within a classroom (Schut, 2007; Hall & Higgins, 2005; Wuerzer, 2008). Using SMART Notebook software provides the user with a variety of affordances for meaning making; such software is ideal to use when creating a virtual word wall because it allows for a multimodal design environment. Individuals are able to embed sound clips, put images into the file, and use text to express meaning. It is important to note, though, that virtual word walls can be created in a variety of digital environments including online learning management systems and word processing software; in other words, virtual word walls are not limited to this software.

The design of a SMART virtual word wall starts with both the teacher and the students identifying the key content area vocabulary words within a unit of study. The examples shown in this article focus specifically on an electricity and magnetism unit.

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When designing a lesson, a teacher will include a word wall gloss (a short definition or note in order to facilitate comprehension and the reading processes for second language learners) on pages within a digital lesson (in Figure 1, the word wall gloss is the image in the lower right hand corner of the page). As mentioned previously, Lomicka's (1998) study addresses how glosses were particularly helpful when associated with an image. The word wall gloss in Figure 1 provides ELLs with a link to the virtual word wall where students can find definitions for words they are not familiar with. For example, if the student does not understand the word "circuit," she clicks on the word wall gloss, which takes her to the "virtual word wall" where she can look under C, find "circuit," click on the word, and discover a short multimodal definition (in video, image, text, etc.). This hyperlink gives ELL students a multimodal explicit vocabulary teaching opportunity.

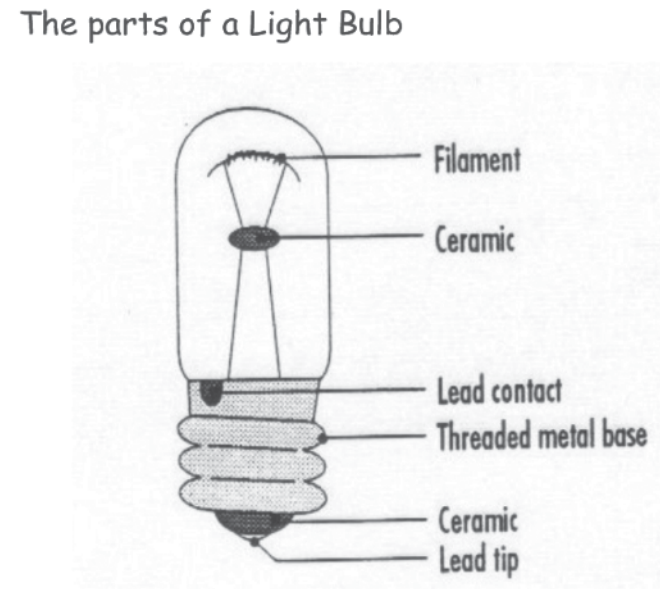

Figure 1. An example of a lesson page in a SMART notebook file.

In a virtual word wall teaching scenario, it is beneficial when students take control of the definition writing process as it teaches the vocabulary explicitly and allows students an opportunity to choose modes that work best to represent meaning for them.

Pictured in Figure 2 is a screenshot of an example of a SMART virtual word wall. Key content area vocabulary words are added to this word wall by the students and teacher. As bilingual dictionaries have been proven through research (Lomicka, 1998) to be useful for ELLs, the option to link to online bilingual dictionaries is possible with a SMART virtual word wall. (See "online dictionary" gloss in lower right-hand corner of Figure 2). The vocabulary words that are added to this SMART virtual word wall are hyperlinked to another page in the SMART notebook document so that students and teachers can create or view previously created multimodal definitions of these vocabulary words.

Figure 2. The main page of virtual word wall.

The screenshot in Figure 3 is an example of a definition page on the virtual word wall. Cummins, Brown, and Sayer (2007) emphasize that students should be supported to take control of and regulate their own learning. In a virtual word wall teaching scenario, it is beneficial when students take control of the definition writing process as it teaches the vocabulary explicitly and allows students an opportunity to choose modes that work best to represent meaning for them. For instance, as can be seen in Figure 3, when students click on the word "wire" on the virtual word wall, they will be hyperlinked to this particular page. Students are given a choice of representing the meaning as a visual or a written definition. Students can also listen to the word and definition read to them by clicking on the sound link. From this example,

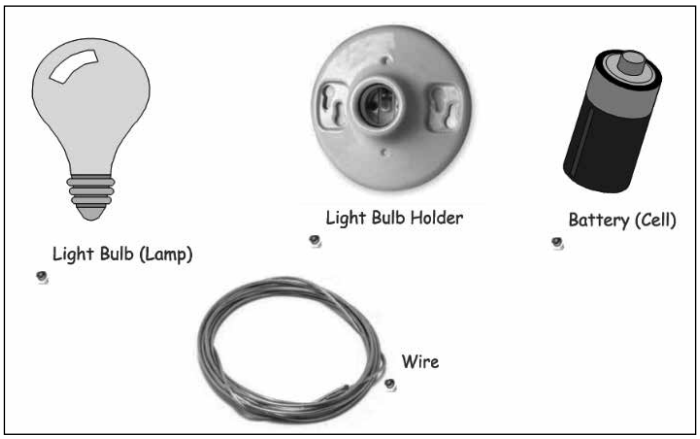

Figure 3. An example of a definition page of a virtual word wall

there are several implications in terms of design. First, students are able to choose the modes that work best for them to express the definition of a particular vocabulary word. Some students might prefer a typical written definition for a vocabulary word. But others are provided with options to represent their understandings in a variety of other modes (e.g., recording a sound clip, adding an image, embedding a video).

Conclusion

Research indicates the importance of teaching vocabulary explicitly and intentionally (Laufer, 2003). One way to address teaching of content area vocabulary within a classroom is to use a word wall. Virtual word walls provide students with a multimodal learning experience that addresses the needs of an ELL student when learning content area vocabulary. These affordances are not possible with a traditional word wall because the variety of modes is not presented.

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