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Guided Visual Vocabulary Practice: Spanish Language Vocabulary Instruction for Students with Learning Disabilities and Possibilities beyond the Foreign Language Classroom

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***Abstract*—Students with Learning Disabilities (LD) frequently struggle to learn and utilize vocabulary in the general education curriculum. The growing requirement that foreign language courses be completed to earn a high school diploma can be both a challenge for LD students and an area to more closely examine strategies to promote student success. Guided Visual Vocabulary Practice (GVVP) has been developed as one approach to helping students with LD more effectively learn concrete Spanish nouns. A demonstration of how to use GVVP for this purpose is provided, along with theoretical underpinnings of the strategy. Further suggestions are also provided for how GVVP may be used in other content areas and in future research.**

***Index Terms*—learning disabilities, foreign language instruction, vocabulary, ESL**

I. Introduction

The learning and usage of vocabulary has often been a challenge for students with learning disabilities (Shamir, Korat, & Fellab, 2012; Simmons & Kameenui, 1990); LD students may not implicitly understand the meanings of words and typically benefit from more explicit vocabulary instruction (Gersten, Fuchs, Williams, & Baker, 2001; Jitendra, Edwards, Sacks, & Jacobson., 2004). Difficulty with vocabulary acquisition can create obstacles in all academic areas, and has likely contributed to foreign language study as a major source of anxiety for students with LD (Barr, 1993; Scott & Manglitz, 1997). At present, numerous states require students to earn credits in a foreign language in order to earn a diploma (National State Council of Supervisors for Languages, 2012). This expectation rightfully includes many students with LD who are intellectually capable of succeeding in the general curriculum, with reasonable supports provided. Guided Visual Vocabulary Practice (GVVP) was developed as a resource to aid LD students in learning concrete Spanish nouns (Tolbert, 2013). The following discussion will address how GVVP can be used in the Spanish classroom, how GVVP might be applied in other content areas, and the potential use of GVVP for students learning English.

Development and Testing of GVVP

A guiding principle of GVVP is the importance of providing more engaging experiences in creating memories which can be stored and retrieved to enhance vocabulary learning. Medina (2008) synthesized a body of research on sensory engagement and memory by stating that "The more elaborately we encode a memory during its initial moments, the stronger it will be" (p. 119). GVVP was designed to facilitate the heightened learning and engagement promoted by Medina through prompting students to practice concrete Spanish nouns in a multi-sensory framework. Additionally, the Spanish nouns were divided into thematic groups, as recommended by Folse (2004), to aid memory and avoid merely reinforcing superficial recognition.

GVVP was also intended to utilize an explicit approach influenced by graphic organizers and guided notes. Archer and Hughes (2011) endorsed the use of graphic organizers, which rely upon a consistent structure and prompt students to perform tasks and provide responses in an interactive process. Guided notes similarly rely upon a structured format and appropriate guidance and corrections to help LD students participate more actively in learning (Hamilton, Seibert, Gardner, & Talbert-Johnson, 2000; Lazarus, 1996). Heward (2001) asserted that guided note formats aid with allocation of memory and attention and keep students engaged; a priority shared by Medina (2008). Konrad, Joseph, and Eveleigh

(2009) noted that guided notes not only increase student interest, but can be adapted to course content and to teaching styles.

GVVP was therefore designed as starting from a simple, adaptable template which could be filled with different elements and used to engage students in learning Spanish vocabulary. GVVP uses a consistent template of six panels, with each panel divided into three spaces, as demonstrated in *Figure 1*.

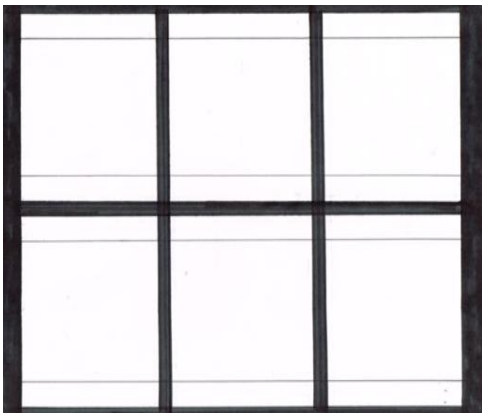

Figure1.

Each section of a completed GVVP template will contain a concrete Spanish noun, its English translation, and an illustration of the noun. When presented to students, each section of the GVVP template is missing one element (see *Figure 2*), and different templates can contain one of three possible iterations for each noun (see *Figure 3*). The style of a GVVP template is intended to resemble the format of a comic strip, as suggested by McVicker (2007) as an effective and visually appealing method to teach vocabulary to students.

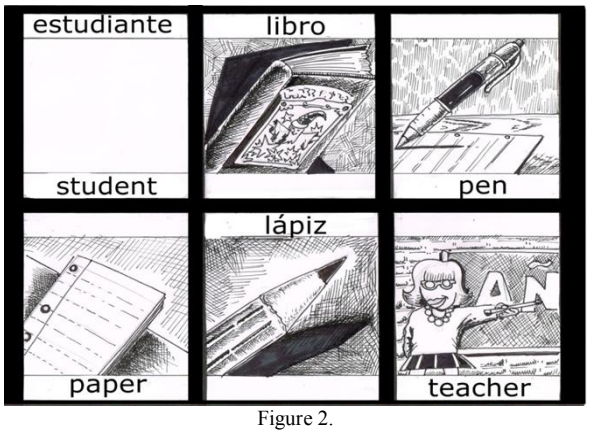

Figure 2.

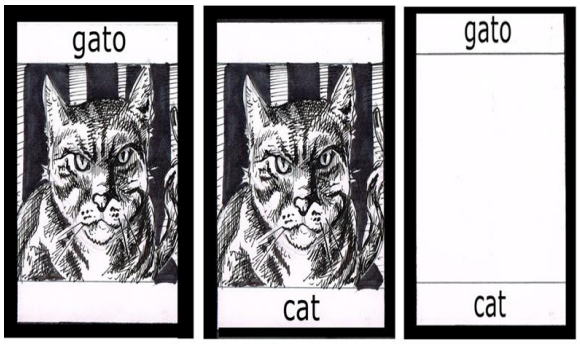

Figure 3.

A preliminary investigation of GVVP indicated that the strategy resulted in a moderate effect size for participants in grades 5-12. The largest effect in the study was found with middle school students, though it was emphasized that the small sample size limited the conclusions which could be drawn (Tolbert, 2013). Of the participants in the study, the students enrolled in grades 7-12 typically experienced a greater ability to recall the English translations of concrete Spanish nouns learned with GVVP than with traditional flashcards. Social validity data obtained from participants, parents, and teachers indicated support for explicit and multi-sensory approaches to learning Spanish vocabulary, as well as a generally positive attitude about using GVVP instead of flashcards (Tolbert, 2013).

II. Methods for Teaching Concrete Spanish Nouns with GVVP

Effective use of the GVVP strategy depends upon the instructor guiding a student through the GVVP template. To begin each session, the instructor should explicitly state the theme and ask the student to provide four English nouns related to the theme. For example, the instructor would begin with a statement like "Today we will be working with Spanish words for people or things you find in a classroom" before asking the student to provide four examples in English. If any of the four words were included on the GVVP template, the instructor can use this as a bridge into working with GVVP with a statement like "We will see some of the Spanish versions of that word today," followed by presenting the GVVP template to the student. Students should be guided through one section of the GVVP template at a time. Proceeding from top to bottom and left to right is advised, in order to simulate and reinforce the process of reading text.

When reading or writing a Spanish noun, the instructor divides the word into syllables. For example, *gato* (cat) would be divided as *gah/toe*, and then pronounced in its entirety. Repetition should be used as necessary until student pronunciation is accurate.

When students are asked to provide an illustration, it is advisable to provide a reasonable time limit. Tolbert (2013) employed a time limit of three minutes in order to create a standard expectation for the process and to encourage enough detail to keep students engaged while minimizing the possibility for distractions.

A. Panels Missing the English Words

When a panel lacks the English word (see *Figure 4*), it will contain the Spanish noun and an illustration. First, the instructor guides the student through pronouncing the Spanish noun by syllables by modeling the sounds and running a finger or pencil under the relevant letters. For example, the instructor would underscore the letters *ga* and have the student repeat */gah/* and then underscore the letters *to* while the student repeats /*toe*/. This procedure is practiced as necessary, and followed by the student repeating the entire word.

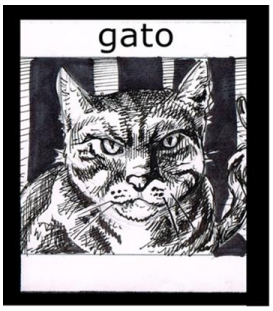

Figure 4.

Once the student has practiced the Spanish word, the instructor should gesture down to the illustration and use this as a hint to prompt the student to provide the equivalent English word. In this case, the student would say "cat," and would be guided to write the word letter-by-letter so that c-a-t appears in the bottom section of the panel.

B. Panels Missing the Spanish Words

In panels where the Spanish noun is missing from the top section of the panel (see *Figure 5*), the instructor begins by drawing the student's attention to the illustration in the center. Then, the instructor gestures at the English word at the bottom of the panel and ask the student to which noun that panel pertains. When the student replies "cat," the instructor confirms and proceeds to guide the student in filling in the space at the top of the panel with the Spanish word.

Figure 5.

After drawing the student's attention back to the top section of the panel, the instructor instructs the student to write the Spanish word in syllabic sections. For example, the student would first be instructed to write the letters *ga*, then the

letters *to*. Once the word has been written out correctly, the instructor underscores the syllabic sections and has the student repeat the syllables /*gah*/ and /*toe*/ before ultimately pronouncing the entire word *gato*.

C. Panels Missing the Illustrations

Some panels will have an open space in the middle in which the student will ultimately provide an illustration (see *Figure 6*). First, the instructor should focus the student's attention on the Spanish word at the top of the section. The instructor helps the student pronounce the Spanish noun by syllables, modeling the sounds and running a finger or pencil under the letters being pronounced. For example, the instructor would underscore the letters *ga* and have the student repeat /*gah*/ and then underscore the letters *to* while the student repeats /*toe*/. The instructor then gestures to the English word at the bottom of the panel and asks the student to read the English equivalent (cat) aloud.

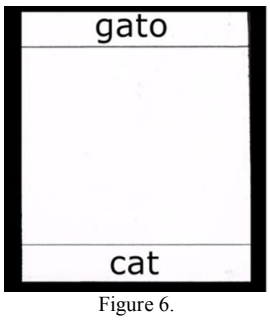

Figure 6.

Once the connection between the Spanish and English words has been established, time is provided for the student to create her own illustration. Instructions for this illustration should include both an explicit time limit and exclusive use of the Spanish vocabulary word. For example, the instructor might prompt the student by pointing at the center section and saying, "Please use the next three minutes to draw the best *gato* you can in this space."

D. Considering GVVP for Spanish Vocabulary beyond Concrete Nouns

At present, research and practice involving GVVP has centered mainly on concrete Spanish nouns. Concrete nouns represent a logical starting point, largely due to tangibility and recognition, which are also conducive to illustration. However, GVVP could certainly be used as a tool to teach other parts of speech in the Spanish language. For example, an adjective like *feliz* (happy) or *alto* (tall) could reasonably be introduced and practiced using GVVP. Verbs in the infinitive form, such as *hablar* (to speak) or *correr* (to run) would also be good candidates for use with GVVP. Conversely, more advanced Spanish grammatical processes like noun-adjective agreement or verb conjugations which require multiple steps and an established understanding of the relevant vocabulary would be better served by a strategy other than GVVP.

III. Implications for English Language Learners

The GVVP strategy was deliberately designed to be both multi-sensory and multi-lingual. Essentially, students are asked to connect Spanish and English vocabulary with pictorial representations while utilizing visual, auditory, verbal, and motor skills. Although GVVP was specifically designed as a strategy to support students with LD in learning one particular aspect of the Spanish language, the strategy could be applied as a method to teach concrete English nouns to students whose first language is Spanish.

GVVP was devised to incorporate the syllabic and phonetically friendly nature of Spanish spelling and pronunciation, as well as the need to explicitly learn spelling and sight-reading of many English words. The existing GVVP procedure could largely be maintained, but some adjustments and considerations are recommended. First, instructions may need to be translated and delivered in Spanish; discretion could be used in gradually using more English as students become familiar with the process. Second, more time would understandably need to be devoted to practicing the pronunciation of English words. Finally, it should be emphasized that existing GVVP templates focus on very basic concrete nouns; this would be most appropriate for students who are just beginning to learn English and/or quite young. The use of GVVP with languages other than Spanish and English is also considered an future area for exploration in research and practice.

IV. Beyond the Foreign Language Classroom

As previously noted, successfully learning vocabulary is challenging for students with LD in both foreign languages and other core curricular areas. Groves (1995) reflected upon the sheer volume of vocabulary in secondary education, suggesting that more new terms were introduced in a typical science unit than a comparable unit in a foreign language course. Scruggs, Mastropieri, Berkeley, & Graetz (2010) promoted visual strategies as effective across settings and content areas, and Bryant, Goodwin, Bryant, & Higgins (2003) emphasized both the importance of vocabulary for LD students and the need for engaging strategies conducive to deeper meaning and recall. Because GVVP relies upon

connecting concepts to both words and visual images, there is potential application to providing students with LD additional practice with key terms and concepts.

Although the basic format of GVVP can be maintained, understandable alterations would be needed for the strategy to be effective. First, the only language involved will be English, so translating between languages will not be necessary. However, the process can be adapted so that new vocabulary words are placed in the top space of a given panel, while definitions are placed in the lower section of the panel. Second, because the target vocabulary is likely to be much broader than concrete nouns, GVVP may be applied to abstract nouns or actions. In these applications, GVVP serves as an opportunity to explore new concepts more deeply, rather than a bridge between different languages.

A. Methods for GVVP in the Science Classroom

In consideration of Groves' (1995) assertions about the volume of vocabulary words relevant to science, many opportunities exist to use GVVP. The following examples concern the concept of covalent bonds, which may be covered in both Biology and Chemistry courses. As a general rule, definitions provided on GVVP templates have been streamlined to convey information as directly and succinctly as possible.

1. Panels Missing the Definition

Some GVVP panels would contain a vocabulary word and an illustration, but no definition (see *Figure 7*). In such cases, the instructor would run a finger under the vocabulary word while reading aloud, then asking the student to repeat. Next, the instructor would draw the student's attention to the illustration in the center of the panel and ask the student to describe what she believes is being represented visually. Once the instructor is satisfied that the student can describe the meaning of the vocabulary word, the student should be instructed to write a definition in the space at the bottom of the panel. It is recommended that definitions emphasize brevity and use of the student's own words.

Figure 7.

2. Panels Missing the Vocabulary Word

In panels where the vocabulary word itself is absent from the top section (see *Figure 8*), the instructor should begin by covering up the definition with her hand or a sheet of paper. The student should first be asked to describe what she believes is happening in the illustration. Once this occurs, the instructor should uncover the definition and read it aloud to the student. The student should then summarize the definition in her own words, to the extent possible. The instructor then asks the student if she can recall the relevant vocabulary; the instructor can provide the word if the student has forgotten or the word or term is still unfamiliar. Finally, the instructor should gesture to the space at the top of the panel and guide the student in writing the word or term letter-by-letter.

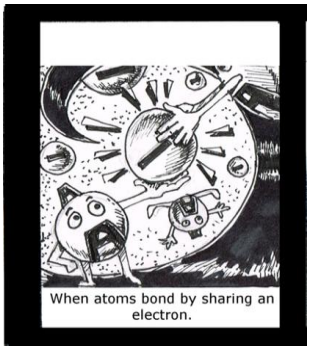

Figure 8.

3. Panels Missing the Illustration

The remaining panel contains the vocabulary word and its definition, but has a blank space in the center for an illustration (see *Figure 9*). The instructor should first cover the definition with paper or her hand and focus the student's attention on the vocabulary in the top section. The instructor should run her finger under the vocabulary word while

saying it aloud, having the student to repeat. Next, the student is asked to define the vocabulary word to the best of her ability. Once this is done, the instructor uncovers the definition and reads it aloud to the student. After establishing the relevant vocabulary and definition, the instructor should gesture at the space in the center and direct the student to create an illustration. A prompt such as, "Please use the next three minutes to draw the best *covalent bond* you can" may be used.

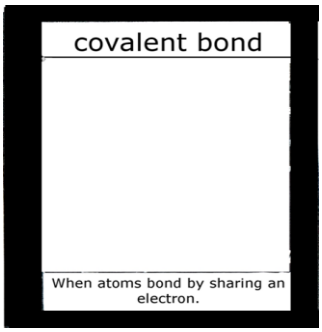

Figure 9.

B. Methods for GVVP in the Social Studies Classroom

Like science, various disciplines of social studies require students to learn a substantial amount of vocabulary. Additionally, much of this vocabulary may be more abstract nouns or concepts. Although some vocabulary does not lend itself easily to illustration, the mere act of attempting to do so may promote a more elaborate understanding of less tangible concepts.

In some instances, social studies vocabulary is more concrete or applicable to daily experiences. Terminology used in economics, for example, benefits from being based largely in the creation and exchange of material objects. The use of GVVP for such terms and concepts would adhere to the same procedures discussed previously for science vocabulary. In panels missing the definition like *Figure 10*, the process of oral practice and describing the illustration should culminate in the student writing a succinct definition in her own words.

Figure 10.

Panels which lack the vocabulary word itself like *Figure 11* would again rely upon description of the illustration and presentation of the written definition to lead the student to supplying the relevant vocabulary word in the top section.

Figure 11.

In the instances requiring the student to create an illustration like *Figure 12*, oral practice with the vocabulary and paraphrasing of the definition should lead to a visual depiction created by the student.

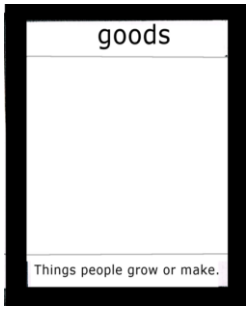

Figure 12.

C. Methods for GVVP in the Mathematics Classroom

As with the previously discussed content areas, secondary mathematics courses introduce students to an array of vocabulary which must be learned. However, mathematics already involves a fairly abstract system of symbols (numbers, signs and shapes) which must be integrated into operations and practiced toward mastery. While GVVP can certainly be used to develop recognition of terms and phrases, it is also important to also practice writing mathematical expressions and determining solutions.

Higher-level mathematics courses, like algebra, have often been problematic for students with disabilities (Gagnon & Maccini, 2001). As detailed by Muschia and Muschia (1995), there are a number of verbal phrases which can indicate a corresponding algebraic expression. In order to be successful in algebra, students need to not only recognize phrases which signal addition, multiplication, subtraction, or division, but will also need to be able to translate these phrases into algebraic expressions. The ability to communicate mathematically was emphasized by the National Council of Teachers of Mathematics (2000); difficulty with processing information or identifying important ideas were considered characteristic challenges of students with disabilities in secondary mathematics courses (Maccini & Gagnon, 2000). One means of incorporating GVVP into the algebra classroom guides students through converting verbal phrases (Muschia & Muschia, 1995) to algebraic expressions. The first stage in the process can be seen in *Figure 13*, which presents the template used to guide a student from an English phrase to an algebraic expression. In *Figure 13*, each panel has a phrase at the top and an integer or variable in the center. The instructor would begin by pointing to the phrase at the top and asking the student to read it aloud, providing assistance as needed.

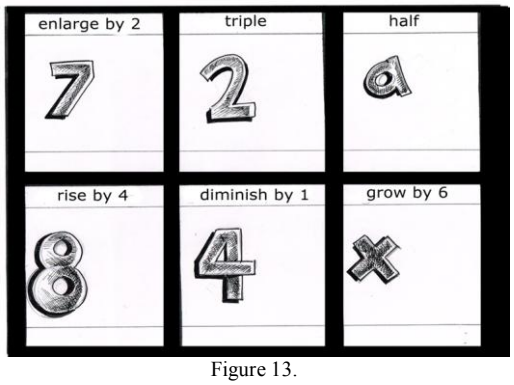

Figure 13.

Once the student has correctly surmised that, for example, “enlarge by 2” means to add two, the instructor should gesture to the box at the bottom and have the student write the correct operation and quantity in the space provided. An example of this can be seen in *Figure 14*, which presents the mathematical operations for all the verbal phrases.

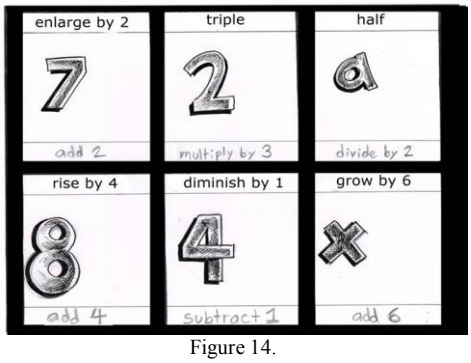

Figure 14.

The final stage of this process is shown in *Figure 15*, in which the instructor would gesture to the center panel and instruct the student to add the appropriate sign and integer to a pre-existing integer or variable. Instructor discretion can be used to emphasize practice writing algebraic expressions, or to prompt a student to write her solution to the expression. This determination will naturally depend upon the needs of an individual student. Completing equations with GVVP not only affords an opportunity to practice mathematical operations, but also a way to reinforce that an expression like "X + 6" cannot be taken further without additional information provided.

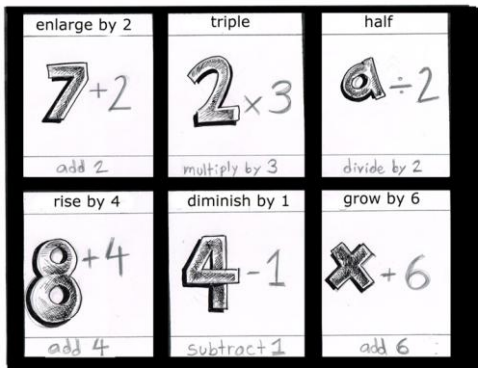

Figure 15.

V. Conclusion

Successful learning of vocabulary is crucial to academic success for students with LD, particularly in content areas at the secondary level involving specialized terminology. Foreign language courses are often challenging for this reason, as are courses in science and social studies. While LD students certainly possess the ability to succeed, individualized dysfunctions of the central nervous system mean that multi-sensory strategies are necessary to help these students realize their full potential. As a strategy, GVVP can be implemented to help students practice concrete Spanish nouns by connecting vocabulary in the target language with images and existing English vocabulary. With some alterations, the format of GVVP has the potential to be applied to other content areas by providing more elaborate practice with new terms, images, and definitions meaningful to the student. Although the effectiveness of possible applications of GVVP is considered an area for future research, the need to continue developing and implementing strategies to assist LD students in learning vocabulary is essential for their academic success.

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