



HAWAI'I TEACHERS OF ENGLISH TO SPEAKERS OF OTHER LANGUAGES

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Brain-based Learning and Video Games: Teaching with Immersive Gaming

By Jeff Mehring

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Hawai'i TESOL, the local affiliate of TESOL (Teachers of English to Speakers of Other Languages, Inc.), is a nonprofit organization dedicated to building a community of professionals teaching English as a Second Language (ESL) in the state of Hawai'i.

Introduction

The human brain is an amazing organ. About the size of a grapefruit and made up of 78% water, 10% fat, and 8% protein (Jensen, 2005), it is what makes us human. As humans, we have an ability to think, reason and, make choices about our lives. The brain has neuroplasticity, which makes neural pathways or synapses malleable, and with proper input and action, new connections can be made in the brain (Doidge, 2007). The ability to change and link ideas, and build upon those ideas is the source of innovation and the broadening of learning experiences. When teachers use brain-based research to guide classroom teaching, they can provide their students with the potential to expand the learning experience infinitely. Using brain-targeted research based on empirical evidence, incorporated with sound educational theories and teaching philosophies can become the foundation for new classroom methods and techniques. Therefore, in this paper I will introduce the importance of understanding how dopamine flow can improve learning outcomes, and then provide gaming techniques such as Teaching with Immersive Gaming (TWIG) to help teachers create successful lifelong learners.

Dopamine

As Figure 1 shows, there are many parts of the limbic system involved in learning. New learning puts tremendous stress on working memory. Students need to remember steps or ideas in immediate memory, part of the hippocam-

pus, as they work through an activity. This stress can prevent new learning, by causing frustration or disappointment, which in turn causes the amygdala, the emotional center of the brain, to secrete cortisol. Cortisol has the opposite effect of dopamine as it causes the brain to shut down and get in the fight or flight mode. Continuous rehearsal of a process makes it automatic, freeing up working memory for new learning. If the constant rehearsal asks students to predict an outcome, or offers uncertain rewards, dopamine flow will increase. Dopamine, pro-

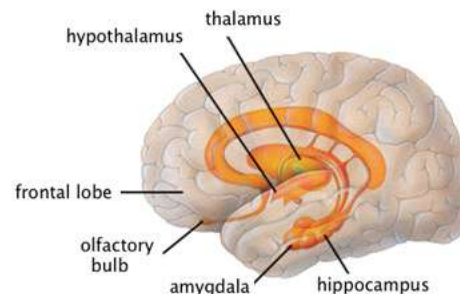


Figure 1. Limbic system. This figure shows the limbic system. webspaceship.edu

duced in the mid-brain, not only provides pleasure, but it focuses our visual attention, stimulating a part of the brain that improves memory capacity, and accelerates the rate at which neurons make connections with each other (Howard-Jones, Bogacz, Yoo, Leonards, & Demetrius, 2011). As dopamine is produced, it flows into the prefrontal cortex making connections to encode our knowledge, which is the basis of learning. (Willis, 2006). Raising dopamine levels dur-

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ing learning increases the possibility of neurons connecting and solidifying new learning. Uncertainty and prediction have been shown to increase dopamine production.

Prediction

Increasing dopamine levels through uncertainty and prediction is one method for increased dopamine production. Figure 2 shows how dopamine production changes depending on how a reward is perceived. The diagram shows the amount of dopamine generated in the brain from different visual stimuli. These three stimuli signal that a reward will arrive with a probability 'P' of 0% (B), 50% (C) and 100% (A).

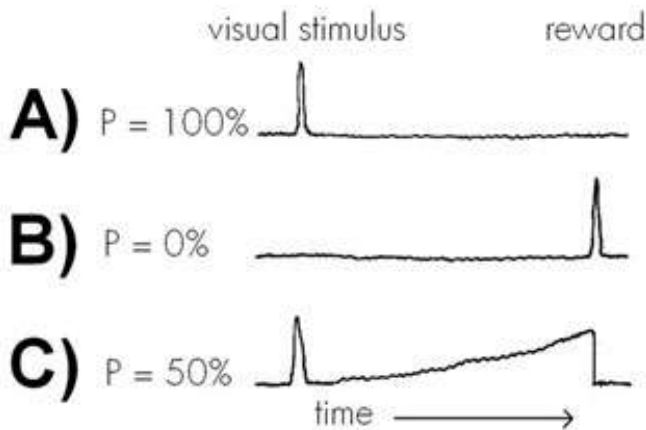


Figure 2. Dopaminergic response. This figure shows dopamine levels as they relate to rewards.

If someone is 100% certain of getting a reward, there is a small spike in dopamine because he anticipates the reward. The example of student A shows that when a stimulus signals 100% certainty of a coming reward, a spike of dopamine is generated when the stimulus is observed. When the reward arrives, no further dopamine is released.

On the contrary, if there is a degree of uncertainty, an element of chance, the anticipation creates a small spike in dopamine, and when the reward arrives, it results in a second and bigger boost of dopamine as in student C. However, Student B shows that a stimulus not associated with reward generates no dopamine, but a spike occurs when a totally unexpected reward arrives.

The highest dopamine levels are produced when there is a 50/50 chance of reward. Student C shows that when a stimulus associated with 50% chance of reward is seen, it generates a spike and then the dopamine ramps up until the outcome is revealed. Averaged over time, the uncertain reward thus generates a greater dopaminergic response than either certain or totally unexpected reward (Fiorillo, Tobler, & Schultz, 2003). When a teacher asks students to make a prediction and the students are given chances to evaluate

their prediction and change it over a period of time the teacher is keeping students in the C level, the ideal area for dopamine production and creation of learning connections. Students also get the reward effect whenever they see their opponents fail. (Howard-Jones et. al, 2011). In essence, gaming in a group environment can have even greater results; this is where TWIG is most beneficial.

TWIG

There is no clear relationship between learning and reward. Unfortunately, if you give a child three points today for good work and give them ten points tomorrow it does not double the likelihood of them remembering. However, there is a clear relationship between the brain's response to reward and learning. (Howard-Jones et. al, 2011). A great reward offering game is Zondle, (www.zondle.com). This game that can generate dopamine production through offering uncertain rewards. Games usually provide a rapid schedule of uncertain rewards, and this may explain their unusual ability to engage their players. However, stimulation of the

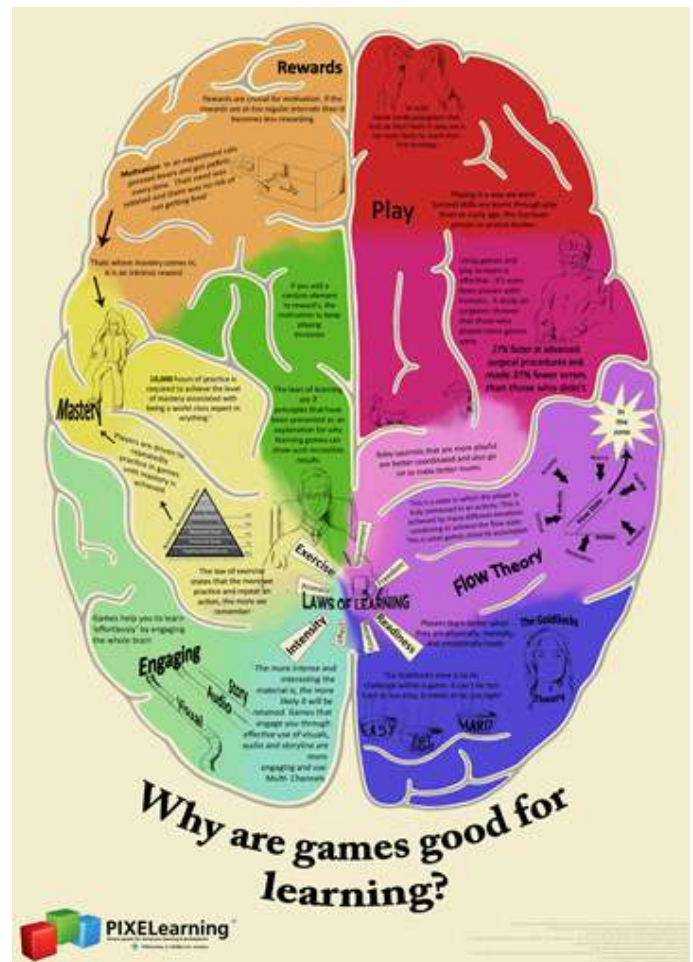


Figure 3 <http://edtechtimes.com/2012/10/05/why-are-games-good-for-learning-infographic>

Brain-based Learning and Video Games . . . (cont.)

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brain's reward system also supports learning which recent research has shown predicts memory performance (Howard-Jones, *et. al*, 2011). Team Play exploits the relationship between the brain's reward response and learning, by allowing the teacher to provide feedback on answer options just before the wheel of chance is spun. At this point, the rising anticipation helps create a "teachable moment," suitable for scaffolding student learning with maximum effect. Zondle Team Play builds on this research by allowing the random selection of teams for particularly demanding challenges. These challenges should have a higher likelihood of failure than normal but provide correspondingly higher rewards for success. This is likely to stimulate greatly the reward systems of the rest of the class, making it more likely that the rest of the class will learn.

Conclusion

Prediction and uncertain rewards lead to dopamine production which in turn helps encode new learning. Using games like Zondle and teaching with immersive gaming can create rich learning environments, build stronger connections in the brain, and engage students in a knowledge rehearsal that is a collaborative and fun competition.

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About the Author: Jeff Mehring (@nagoyajeff) is an associate professor at Ohkagakuen University in Nagoya, Japan. Presently he is working on his doctorate in educational learning technologies at Pepperdine University. His research interests include video games and educational neuroscience. He has presented at the JALT Conference 2010 on Brain-Based Classroom Learning Techniques and recently the Hawaii TESOL 2013 Conference on Brain-based Learning and Video Games—Teaching with Immersive Gaming. Publications and more information can be found on his website www.jeffmehring.com

Rethinking Reading for ESL Students: An Argument for Popular Contemporary Literature By Geraldine P. Eligan

It is challenging to keep students' attention in class; stimulating their imagination to develop ideas for writing can be equally difficult. The use of classical literature [i.e. Shakespeare, Chaucer, Milton] to teach ESL students is counter-productive because it touches upon themes that are outdated and styles that tax the understanding of even the most intellectual student. They represent a rich tradition and exhibit a literary quality that contemporary literature may not equal, yet teachers must consider the ESL student's needs. Instructors must turn to entertaining and educational materials to teach writing; hence, this author advocates for the use of popular contemporary literature and films instead.

Literature deals with significant human events, controversies, and social themes. If effective, students relate to its thought-provoking themes, keeping them attentive and improving their skills. If unsuccessful, they become disinterested in the premises and the opportunity for development

is lost. Contemporary Literature offers varied writing styles and focuses upon the contemporary issues; it allows students to increase their vocabulary and formulate critical ideas. For example, contemporary fiction provides an avenue for students to exercise their imagination, exemplifying the characters, developing their critical thinking skills as they evaluate, comment, react, and interpret the plot's meaning. Also, it permits students to alter the stories' plots in a way that satisfies their divergent perspectives. There are innumerable examples of contemporary literature that are worthwhile. It is wrong to insist that present authors could never equal or surpass the masters of the past. Exposure to recent works could heighten students' awareness and love for reading, encouraging them to explore texts available to them. Also, contemporary literature gives them

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Rethinking Reading for ESL Students . . . (cont.)

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the ability to easily analyze literary works that classics cannot because of their antiquated nature. It is best to introduce enjoyable materials that permit them to draw their own conclusions and facilitate their understanding.

After selecting the reading materials, the instructor promotes writing through a discussion of the elements, analyzing the unity, coherence, emphasis, and development. The first exercise should focus on the formulation of the thesis statement in the introductory paragraph. This is crucial because it explains the premise of the work, providing both its scope and limitation. The main ideas presented in the thesis statement must be equally supported in the body. Formulating a topic sentence is next; it explains the concepts found in each paragraph. It may either be implied or explicit; if explicit, it may be written anywhere in the paragraph. Most

importantly, paragraphs should end with an all-encompassing sentence that summarizes, concludes or restates the thesis statement. To connect the ideas, structural devices, time, space, and logical organizations should be taught to help students towards the main points. Parallel grammatical structure and climactic order should be taught in order to emphasize these points and achieve the promise of something new and interesting in their work. The teaching of the different modes in developing ideas is equally important. Students could develop their ideas in a story-like manner, describe a person or object, list similarities and differences or cause and effect, explain classes, define subjects, cite examples or write a process analysis. All these concepts along with the set of literary materials will prepare the teacher and the students for the writing class.

Writing Activity:

MY SISTER'S KEEPER

BOOK AUTHOR: Jodi Picoult, 2003

FILM DIRECTOR: Nick Cassavetes, 2009



Writing Guidelines:

- Write a character sketch analysis about Anna Fitzgerald; identify the specific place or encounter to talk about the subject; describe the characters in the story
- List Anna's traits found in the book and portrayed in film; choose at least 3 distinguishing characteristics from among those listed. (You can have many more, but be sure to equally discuss each); equally explain these distinguishing characteristics based from the book or the film
- End the story with notes only from the points given

Students must:

- Decide on a mode for developing ideas (narrative, character sketch, etc.)
- Write an introductory paragraph with a striking thesis statement/topic sentence. provide an overview of the study or general background
- Develop basic content for the body paragraph with topic sentence in every paragraph, an equal elaboration of the supporting details coupled with transition words
- Produce basic content for the concluding paragraph, which is a summary, conclusion or restatement of the thesis statement that brings readers to full closure.

An explanation on both form and content must be made clear. Below is a list of some popular contemporary works:

<p>POPULAR CONTEMPORARY LITERATURE</p>					
-----------------------------------------------	-------------------------------------------------------------------------------------	-------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------	---------------------------------------------------------------------------------------

Rethinking Reading for ESL Students . . . (cont.)

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There are a number of considerations in teaching ESL students how to write. A teacher must be selective in choosing materials that fit both the teacher's and student's goals, objectives, and needs. Both must be equipped with the basic skills to operate and maximize technology, and be innovative in matching existing academic and technological resources. If a teacher wishes to succeed, he/she must be open to using various materials, choosing those that grab the students' attention. Providing materials that motivate them to read will help to improve their reading ability and turn not just to their own literary preferences but to all valuable literature.

About the Author: Geraldine P. Eligan is currently a Fulbright Foreign Language Teaching Assistant at the University of Hawaii at Manoa. She has BA in English from Cagayan de Oro College and an MA in Education from Lourdes College. Geraldine is an English instructor at Xavier University-Ateneo de Cagayan, Cagayan de Oro City, Philippines. She's been teaching for over seven years.

Waves of Change

By Jenny Hickman

If I were to sum up 2012-2013 for Hawaii TESOL in one phrase, it would be "waves of change." This year has brought lots of development to our organization—new officers, a new board position, additional activities on our schedule, and a complete redesign of our website. Though the surge of all of these innovations has not been without its challenges, it has strengthened us as an organization.

At the beginning of the year, we welcomed two new board members—Aaron Faidley and Vanessa Balagtas. As our Vice President, Aaron was the driving force behind our Fall PDW on teaching in Virtual Worlds. Vanessa, our new secretary, has organized all our records and drastically improved communication with members. In order to further reach out to members, we also created a new board position—Social Media Chair. Peter Castillo is the first individual we've had in this position and he's doing a fantastic job. Through his initiative, we now have a presence on Twitter, Instagram, and Hi5 (a social network site). He has drastically expanded the reach and popularity of our Facebook page as well. All of his hard work has increased our visibility and has provided us with an additional avenue for exchanging ideas and information with our members.

Management of our membership has taken a leap for-

ward this year with the adoption of our new website through Wild Apricot. The site gives members more control in managing their membership by alerting them to when yearly membership dues are required. In addition, individuals can register and pay for events online as well as submit conference proposals and apply for grants. We hope to further expand the use of the site in the coming year by activating the forum component and by connecting our site to our social media sites.

This year at the Opening Social in September, a new activity was launched. Our first ever Activity Exchange/Round Table discussion drew 50+ participants. Attendees engaged in in-depth discussions with their colleagues and everyone left with some "Grab and Go" classroom activities. Our new event was the Spring Conference Follow-Up Workshop. We provided this event in response to members who were unable to attend the conference held in Hilo. This event included the broadcasting of two sessions—the plenary, Dr. Christine Higgins from the University of Hawai'i-Manoa, who spoke on World Englishes, and Stephen Moister's presentation on teaching in virtual environments—followed by discussion of the major themes raised in each

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Waves of Change . . . (cont.)

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session. We plan on continuing these events and perhaps adding more in the years to come.

Finally, in March Hawaii TESOL hosted the affiliate booth at the National Conference for the first time. We were able to share information about our programs in Hawaii and our unique teaching environment with individuals from all over the world. We also created quite a buzz for our spring conference in 2014. I have already had individuals from the mainland and a few different countries email me asking for the exact location and proposal deadline. If the trend continues, we have the potential of having one of the largest, most international state conferences in the US.

As we bring this year to a close, I can express nothing but gratitude to the board members and volunteers who have made all these innovations possible. They have had the ability to see beyond the moment and to move forward towards a vision despite obstacles and uncertainty. I only hope we as an organization can continue on this course to-

wards new horizons and toward an organization that seeks to connect and develop professionals within Hawaii and the world.

Good luck to everyone in the next TESOL year. We look forward to your increasing involvement and the great ideas that you have to share.



Contextualizing and Alternatively Assessing the Content of a Lesson By Tyson P. Umberger

As educators of language, we may be acquainted with the insipid paradigm of introduction of a topic, inundation of examples, and regurgitated examination. Usually, this examination is comprised of many traditional testing techniques such as multiple-choice, fill-in-the-gap, or true and false items (Hughes, 2003). However, albeit prevalent and common in content courses, this method of offering material through artificial and unauthentic means and then giving the students a one-shot-chance examination may be neither productive nor fruitful for language learners (Bailey, 1998). Language learners, first, need some sort of context to which they may relate and apply the material, and, second, they need a method of assessment which provides them a chance to use the language in an authentic, fun, and stress-free setting.

As a result, two different examples of activities will be presented, showcasing how to contextualize the content material and language taught in a given lesson as well as how to informally assess the students' subsequent understanding and application. The two activities were created in order to better provide the students with opportunities to use the vocabulary and expressions taught for two separate units: sports and international business. A relevant background context and a synopsis of the activities will be provided, as well. Additionally, the teacher's thoughts and reactions on and benefits of the activities after their application will be

discussed in the conclusion.

Background Context

Both of these activities were created for intermediate and upper-intermediate students in a vocabulary building class at a private language school in Honolulu, Hawaii. The students' goals in the program are to improve their listening, speaking, reading, and writing skills in English and, more specifically, their vocabulary knowledge through the course. As the international students are from all over the world and their interests involve in meeting new people and practicing English, the activities play to their international home countries and their eagerness to communicate and negotiate in English.

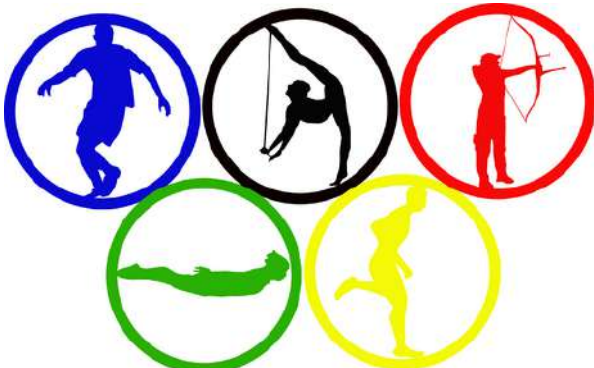
Furthermore, the activities were created for two different and separate units from the course: the first on sports and the second on international business. The units focused on the vocabulary, idioms, and expressions of these two semantic topics and the students had learned and practiced them prior to starting the following activities. Moreover, the activities' context and questions are explained here as the student would read them. Lastly, the students were provided with iPads to research their topics and a class time of about an hour to prepare and complete the activities' requirements.

Contextualizing and Alternatively Assessing . . . (cont.)

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Activity #1: “The International Olympic Committee”

1. First, the class is split into four equal teams.
2. Students are provided with a handout, entitled “The International Olympic Committee: Organizing & Planning Preparations,” and iPads for Internet access.
3. The context given to the students on the handout:
 - Hello and welcome to your first official IOC meeting! As the newest member of our training program, you will be in charge of the **2020 Olympic Summer Games** or the **2022 Olympic Winter Games**. Plan the event by and answering the following questions with your team members. Please feel free to use a class iPad or your iPhone to complete the preparations.
4. Two groups are given a handout for the 2020 Olympic Summer Games and other two groups are given a handout for the 2022 Olympic Winter Games.
5. The list of questions and preparations:
 - Which city and country will you choose to be the host of these **Summer** or **Winter Olympic Games**?
 - What dates will you choose for the Games? Keep in mind that different places in the world have **summer** and **winter** at different times of the year.
 - What venues will be needed for the Games? (Fields, stadiums, pools, etc.?)
 - What are the five main sporting events that you will have at the games? Use the prompts on *Popular Sports of the Olympic Games* to write descriptions for the events.
 - Where will you have the athletes stay during the Games? (A hotel?)
 - Where will the opening ceremony be held?
 - Whom will you choose to light the Olympic flame at the ceremony?
6. Each group negotiates and makes their decisions. (two for the Summer and two for the Winter Games)
7. All four groups present their planned Olympic Games while the teacher writes the cities, sporting events, locations, etc. on the board.
8. The whole class, as IOC members, vote on which cities and which sports to include in the next Summer and Winter Games.



Activity #2: “An International Trader”

1. Students are provided with a handout, entitled “International Trader,” and iPads for Internet access.
2. The context given to the students on the handout:
 - You are going to represent your home country on the international trade market. You decide whom you work for, what you are selling or services you are offering, and then get a chance to make international deals with other international traders (i.e. your class mates). Answer the following questions and complete the chart which ask you to make four trades with four other representatives from another country or company.
3. The list of questions and preparations:
 - Whom do you work for or represent? (the tourism department of your home country or a major international company)
 - What is your title? (e.g. an agent or an executive)
 - What is in your job description? (What is it exactly that you do?)
 - What are your services or goods? (gas, tourism, land, currency, security, produce, paper, lawyers, etc.)
 - How much do your services or goods cost? (per hour, by the pound, etc.)
 - Find four other international representatives or international traders and purpose a trade? Fill out the following information:

Name of Trader	Country	Company or Department	What is traded ?	How much?	Was the trade made?
			/	/	Yes / No
			/	/	Yes / No
			/	/	Yes / No
			/	/	Yes / No

4. Each student negotiates and makes their decisions with another student in the class.
5. Each student, as a successful international trader, tells the whole class of one international trade: with whom and for what.



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Contextualizing and Alternatively Assessing . . . (cont.)

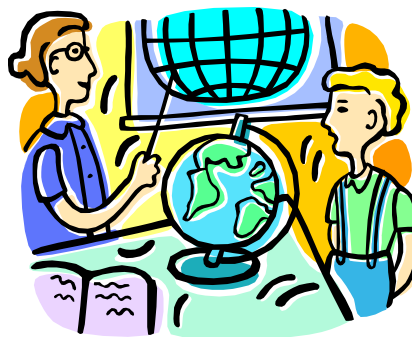
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During each activity, the teacher can circulate around the room while observing and monitoring the students' communication and use of the language in a meaningful way. Many students, when asked for their feedback, expressed that they not only enjoyed the activities and got great practice time, but also they did not even feel like they were being evaluated. Students were highly motivated and engaged throughout this activity. They became competitive and lost the feeling of being in an English classroom; and instead, they were simply negotiating and playing their roles with each other. Many students became enthralled in great discourse through negotiating and pleading their opinions.

In conclusion, both activities offer students the opportunity to apply what they have learned, use the language in a contextualized and meaningful way (negotiation), and are assessed in a motivating, stress-free, and fun task along with their peers. Through similar contextualized activities many semantic topics of vocabulary or grammar points can be showcased in fun and meaningful ways. The intent here is to provide alternatives to some traditional methods of assessing the listening, speaking, reading, and writing skills of English language learners. Such activities allow students to relax, actively engage in their learning, and par-

ticipate in creating an original and meaningful context, in lieu of passively observing and recapitulating on an exam.

About the Author: Tyson P. Umberger has just graduated from Hawai'i Pacific University with a MA in TESOL (May, 2013). His undergraduate degrees are in General Linguistics and Spanish from the University of Hawai'i at Manoa. He hopes to pursue further graduate education in the fields of Second Language Acquisition and Bilingualism (Spanish/English). He is currently teaching ESL at EF International Language Schools in Waikiki and is one of the most recent recipients of the HI TESOL Travel Grants.



Article Submission: *The Word*

Topics

We welcome any topic which would be of interest to HITESOL members or ESL professionals in Hawai'i. We are interested in, for example: recommended internet sites (or a tech type column), book reviews, a grad student's perspective, field trips/learning outside the classroom, reports from members working overseas, content-based teaching ideas, using video and music in the classroom, online teaching, CALL, a "gripes" column, DOE news/concerns, K-12 news, outer island news, applying theory to practice, interview with someone in the field, etc. This list is by no means exhaustive. Please feel free to send any articles about these topics or others that you consider interesting to ESL educators in Hawai'i. (You do not have to be a member of HITESOL to submit an article).

Format & Style

Articles should be no more than 4 pages, double-spaced, Times New Roman font, 12 point, attached as an MS Word document. Accompanying photos or clip art are optional but welcome. Please also include a short biography statement about the author (email address optional). In general, articles are written in a fairly informal, non-scholarly style. Please refer to previous issues of *The Word* to get a sense of the types of articles which appear in the newsletter, or contact the editors with questions.

Submission Deadlines

Please note that the next deadline for submissions will be posted on the website. Please submit the articles via E-mail to Lisa Kawai at <lkawai@hpu.edu>.

We look forward to receiving your submissions!

The Word Newsletter Committee: Lisa Kawai

Keep up to date with Hawai'i TESOL events online at
www.hawaiitesol.wildapricot.org

