

Web-Based Music Study: The Effects of Listening Repetition, Song Likeability, and Song Understandability on EFL Learning Perceptions and Outcomes

Robert E. Beasley
Franklin College, Indiana, USA
<rbeasley@franklincollege.edu>

Yuangshan Chuang
I-Shou University, Taiwan
<ychuang@allbest.org>

Abstract

This study adds to the body of empirical knowledge regarding the use of music in the EFL classroom. This original investigation centered around the following question: Does listening repetition, song likeability, and/or song understandability influence learning environment perceptions, learning perceptions, and/or learning outcomes in Taiwanese EFL learners engaged in web-based music study? The subjects in this study consisted of 196 Taiwanese students. Correlation and regression analyses were performed to determine if any statistically significant relationships existed between the study's variables of interest. The results suggest that both song likeability and song understandability significantly and positively influence web-based learning environment enjoyment, which in turn significantly and positively influences learning perceptions. Implications for practice are offered, including criteria for selecting appropriate songs for use in the EFL process.

Introduction

There is a significant move toward the adoption of the English language as the common protocol for global human communication. Indeed, English has become a language in which non-native English speakers could well surpass the number of native English speakers by the end of this decade (Yu, 2005). [1] As Fromherz (2005) asserts: Language compatibility and clear communication are required if we expect to achieve peace and understanding in our world. Thus, it is important that we not underestimate the value of empirically based English as a Foreign Language (EFL) instructional research.

Although music contains many features that would seem to make it helpful in the EFL learning process, most of the evidence for its benefits is anecdotal in nature. In terms of language development, for example, Lems (2001) asserts that, through music, EFL students can learn the natural stretching and contracting of the normal stream of English speech (e.g., *gotta* vs. *got to*, *I've* vs. *I have*, and so on), which can assist them in developing more natural English conversation skills. Likewise, Milano (1994) maintains that utilizing the story dialog and songs contained in Broadway musicals can help learners expand their vocabulary, gain familiarity with American colloquial expressions, and acquire an awareness of American speech patterns. The experiences of Diamond and Minicz (1994) suggest that utilizing country music songs in the EFL classroom can aid students in learning English vocabulary and American idioms. They assert that this type of music is especially beneficial because it utilizes the "language of the streets"—the language students will hear when they step into American culture. In addition, Lynch (2006) alleges that music can improve listening comprehension skills in EFL learners by exposing them to new vocabulary, idioms, expressions, and accents. Finally, Garza (1994) claims that the qualities found in music help facilitate quick memorization and easy imitation and can help learners more easily commit English phrases and word combinations to memory to be called upon later in real-life communications.

In addition to language development, some practitioners believe that music can be used to develop cultural literacy in EFL learners. For example, Milano (1994) asserts that EFL students can learn about American culture through studying (and performing) the story dialogs and songs contained in Broadway musicals. Likewise, Diamond and Minicz (1994) believe that EFL students can learn about American culture by listening to and interacting with country music songs. They assert that these songs, which are songs about real life that most everyone can identify with on an emotional level, are excellent "windows to American culture" that can be used to explore American emotions and biases. Similarly, Garza (1994) contends that music (music videos in particular) can be used to help foreign language learners discover information about target cultures. This information can then be used as a springboard from which these learners can express and support their own opinions on complex social issues. Finally, Kramer (2001) contends that the use of music in the EFL classroom can lead to in-class conversations about particular social or political norms in the target culture, thus improving cultural literacy in students. Although some criticize the teaching of American culture during English language instruction as imposing the American lifestyle on EFL learners, Johnson (2005) found empirically that teaching culture is both unavoidable and desirable for true communicative competence. He asserts that when students forget they are studying a language while discussing cultural issues in class, it is a sign that they are internalizing the language.

Although there is evidence that music can have a positive effect in the EFL learning process, there is little direct empirical support for such conclusions. Indeed, both Medina (2000, 2003) and Castellanos-Bell (2002) point out that research in the area of music in EFL learning is in its preliminary stages and that more qualitative and quantitative data

on the subject are necessary. Similarly, Huy Le (2000) states that the role of music in language learning has not received great attention in the educational research community and is still in an embryonic stage.

Research Methodology

Hypotheses

This investigation centered around the following research question: Does listening repetition, song likeability, and/or song understandability influence learning environment perceptions, learning perceptions, and/or learning outcomes in Taiwanese EFL learners engaged in web-based music study? The general null hypotheses were:

H1-3: Listening repetition is not a predictor of

- 1) learning environment perceptions,
- 2) learning perceptions, and/or
- 3) learning outcomes

H4-6: Song likeability is not a predictor of

- 4) learning environment perceptions,
- 5) learning perceptions, and/or
- 6) learning outcomes

H7-9: Song understandability is not a predictor of

- 7) learning environment perceptions,
- 8) learning perceptions, and/or
- 9) learning outcomes

Website Design

A website was created to facilitate this investigation. This website, called *Learning English Through Listening to Music*, was developed entirely in English and included a login page, an orientation page, an initial survey page, a pre-treatment page, four treatment pages, a post-treatment page, and a final survey page. All activities were coordinated by the website, and all data were collected automatically. Thus, the website represented a self-contained learning/experimental environment, including online help features.

Experimental Procedures

Before the study began, the onsite coordinators described for their students the general experimental procedures and asked them to participate voluntarily; participation earned extra course credit. Each volunteer was then randomly assigned a pre-created login ID and password combination. After receiving their login IDs and passwords, the subjects were asked to log into the website, complete the initial survey, and take the pre-treatment vocabulary level and lifestyle literacy (that is, cultural literacy) tests. After these tasks

were completed, the subjects were given three weeks to listen to and study the four treatment songs *as many times as necessary to fully understand them* as well as complete the associated learning activities. More specifically, for each song, the subjects were asked to summarize the theme of the song and describe any similarities and/or differences between American culture and their own culture in light of the song. In addition, they were asked how many times they listened to the song during the lesson, how much they liked the song, and how well they understood the words of the song.

To control for variation in the songs, the songs were automatically presented to each subject in random order. The six songs selected for this investigation were chosen because they all possess elements of and/or commentary on American culture, and they represent a variety of musical styles, tempos, and subjects. These songs were: *More Than Money*, *Seeds of Time*, *There Go I*, *A Rose by Any Other Name*, *Risky*, and *The King of Cyberspace*. All songs were written by the same person and performed by the same band under the same recording conditions. After the treatment songs had been studied, the subjects were asked to take the post-treatment vocabulary level and lifestyle literacy tests and complete the final survey.

Independent Variables

Three independent variables were chosen for this investigation. The values for these variables were collected from each subject for each of the four treatment songs they listened to and studied. The individual values were then added together to provide a composite score (that is, $S01 = S01_{\text{song1}} + S01_{\text{song2}} + S01_{\text{song3}} + S01_{\text{song4}}$). Table 1 shows each of the independent variables and their associated questions and response options.

Table 1. Independent Variables and their Associated Questions and Response Options

| Variable | Question | Response Options |
|-----------------|--|---|
| S01* | Approximately how many times did you listen to the song before answering the questions on this page? | Number |
| S02 | How much did you like the song? | 0 (None) : 5 (Some) : 10 (Very much) |
| S03 | How easy was it for you to understand the words of the song? | 0 (Not easy) : 5 (Medium easiness) : 10 (Very easy) |

*S indicates that these questions were asked about each of the four treatment *songs*.

Dependent Variables

Seven dependent variables were chosen for this investigation. The values for the first five variables (F01-F05) were collected from each subject on the final survey—after all treatment songs had been listened to and studied. The value for the dependent variable V01 was derived by subtracting each subject's pre-treatment vocabulary level test score from his or her post-treatment vocabulary level test score. On both the pre-treatment and post-treatment pages, the subjects were asked ten vocabulary level questions. The value for the dependent variable L01 was derived by subtracting each subject's pre-treatment lifestyle literacy test score from his or her post-treatment lifestyle literacy test score. On both the pre-treatment and post-treatment pages, the subjects were asked four lifestyle literacy questions. Table 2 shows each of the dependent variables.

Table 2. Dependent Variables and their Associated Questions and Response Options

| Variable | Question | Response Options |
|-----------------|---|--|
| F01* | How much did you enjoy studying using this online music method? | 0 (No enjoyment) : 5 (Medium enjoyment) : 10 (High level of enjoyment) |
| F02 | Relative to other forms of study (books, lectures, videos, etc.), how much did you enjoy studying using this online music method? | 0 (Much less) : 5 (About the same) : 10 (Much more) |
| F03 | For the amount of time you spent on it, how much did you learn about the ENGLISH LANGUAGE using this online music method? | 0 (None) : 5 (Some) : 10 (Very much) |
| F04 | For the amount of time you spent on it, how much did you learn about AMERICAN CULTURE using this online music method? | 0 (None) : 5 (Some) : 10 (Very much) |
| F05 | How easy was it to learn using this online music method? | 0 (Not easy) : 5 (Medium easiness) : 10 (Very easy) |
| Variable | Description | Possible Scores |
| V01** | Vocabulary level improvement from pre-test to post-test | -10 to 10 |
| L01 | Lifestyle literacy improvement from pre-test to post-test | -4 to 4 |

*F indicates that these questions were asked on the *final* survey.

**V indicates *vocabulary* level, and L indicates *lifestyle* literacy.

Results

Subjects and Sample Size

The subjects in this study consisted of 196 Taiwanese students. Of the 196 subjects that began the study, 161 completed it fully—an 82.1% completion rate. Table 3 summarizes the demographics of the study participants.

Table 3. Demographic Summary of Study Participants (N=161)

| Variable | Levels | # of Subjects | % of Subjects |
|---------------------|--|---------------|---------------|
| Age* | 18 | 12 | 7.50 |
| | 19 | 50 | 31.25 |
| | 20 | 51 | 31.88 |
| | 21 | 18 | 11.25 |
| | 22 | 3 | 1.88 |
| | 23 | 10 | 6.25 |
| | 24 | 6 | 3.75 |
| | 25 | 4 | 2.50 |
| | 26 | 3 | 1.88 |
| | 27 | 1 | 0.63 |
| | 30 | 1 | 0.63 |
| | 32 | 1 | 0.63 |
| Gender | Male | 48 | 29.81 |
| | Female | 113 | 70.19 |
| Mother tongue | Chinese | 98 | 60.87 |
| | Cantonese | 1 | 0.62 |
| | Hakka | 3 | 1.86 |
| | Mandarin | 27 | 16.77 |
| | Taiwanese | 32 | 19.88 |
| Academic standing | Vocational Junior College 2 nd Year | 2 | 1.24 |
| | University Freshman | 44 | 27.33 |
| | University Sophomore | 74 | 45.96 |
| | University Junior | 16 | 9.94 |
| | University Senior | 24 | 14.91 |
| | Masters Student | 1 | 0.62 |
| Major area of study | English | 76 | 47.20 |
| | Foreign Languages w/ English emphasis | 24 | 14.91 |
| | Other | 61 | 37.89 |
| Minor area of study | English | 54 | 33.54 |
| | Foreign Languages w/ English emphasis | 49 | 30.43 |
| | Other | 58 | 36.02 |

*One subject did not supply valid age information. Thus, N=160 for age.

Correlation Analyses

Correlation analyses were performed to determine if any statistically significant relationships existed between the study's variables of interest. Table 4 summarizes the Pearson product-moment correlation coefficients (r) computed for this investigation. The alpha level for all coefficients was set at 0.05.

Table 4. Correlation Coefficients for All Song (S), Final (F), Vocabulary (V), and Lifestyle (L) Variables

| | S02 | S03 | F01 | F02 | F03 | F04 | F05 | V01 | L01 |
|-----|-------|----------|---------|---------|---------|---------|---------|--------|---------|
| S01 | 0.093 | 0.291-** | 0.000- | 0.020 | 0.009 | 0.093- | 0.150- | 0.068- | 0.062- |
| S02 | - | 0.386** | 0.704** | 0.616** | 0.609** | 0.577** | 0.291** | 0.006 | 0.003- |
| S03 | | - | 0.364** | 0.410** | 0.462** | 0.466** | 0.564** | 0.158* | 0.049- |
| F01 | | | - | 0.705** | 0.661** | 0.586** | 0.399** | 0.105 | 0.092 |
| F02 | | | | - | 0.627** | 0.607** | 0.445** | 0.006- | 0.042 |
| F03 | | | | | - | 0.716** | 0.480** | 0.134 | 0.052 |
| F04 | | | | | | - | 0.359** | 0.076 | 0.065 |
| F05 | | | | | | | - | 0.084 | 0.003- |
| V01 | | | | | | | | - | 0.361** |

* $p < 0.05$; ** $p < 0.01$

For this investigation, the following general rules-of-thumb were used for interpreting strength of relationship (Johnston, 2000): 0.0 to 0.2 very weak correlation, 0.2 to 0.4 weak correlation, 0.4 to 0.7 moderate correlation, 0.7 to 0.9 strong correlation, and 0.9 to 1.0 very strong correlation.

For S01 (listening repetition), no significant correlations were found for F01 (enjoyment of the online learning method), F02 (enjoyment of the online learning method relative to other, more traditional methods), F03 (perceived amount of English Language learned for the amount of time spent), F04 (perceived amount of American Culture learned for the amount of time spent), F05 (perceived ease of learning using the online learning method), V01 (improvement in vocabulary level score), or L01 (improvement in lifestyle literacy score).

For S02 (song likeability), a strong correlation ($r=0.704$) was found for F01 (enjoyment of the online learning method), a moderate correlation ($r=0.616$) was found for F02 (enjoyment of the online learning method relative to other, more traditional methods), a moderate correlation ($r=0.609$) was found for F03 (perceived amount of English Language learned for the amount of time spent), a moderate correlation ($r=0.577$) was found for F04 (perceived amount of American Culture learned for the amount of time spent), and a weak correlation ($r=0.291$) was found for F05 (perceived ease of learning

using the online learning method). No significant correlations were found for V01 (improvement in vocabulary level score) or L01 (improvement in lifestyle literacy score).

For S03 (song understandability), a weak correlation ($r=0.364$) was found for F01 (enjoyment of the online learning method), a moderate correlation ($r=0.410$) was found for F02 (enjoyment of the online learning method relative to other, more traditional methods), a moderate correlation ($r=0.462$) was found for F03 (perceived amount of English Language learned for the amount of time spent), a moderate correlation ($r=0.466$) was found for F04 (perceived amount of American Culture learned for the amount of time spent), a moderate correlation ($r=0.564$) was found for F05 (perceived ease of learning using the online learning method), and a very weak correlation ($r=0.158$) was found for V01 (improvement in vocabulary level score). No significant correlation was found for L01 (improvement in lifestyle literacy score).

Regression Analyses

Regression analyses were performed to determine the proportion of total variation in the dependent variables that were predicted by the independent variables. Table 5 summarizes the R-squared values (R^2) computed for this investigation. The alpha level for all values was set at 0.05.

Table 5. R-squared values for variables S02 and S03 as predictors of variables F01-F05, V01, and L01

| | F01 | F02 | F03 | F04 | F05 | V01 | L01 |
|------------|------------|------------|------------|------------|------------|------------|------------|
| S02 | 49.6%** | 38.0%** | 37.1%** | 33.3%** | 08.5%** | 00.0% | 00.0% |
| S03 | 13.3%** | 16.9%** | 21.3%** | 21.7%** | 31.8%** | 02.5%* | 00.2% |

* $p<0.05$; ** $p<0.01$

Since there were no significant correlations between S01 (listening repetition) and F01-F05, V01, and L01, regression analyses were not performed for these variable pairs, and null hypotheses H1, H2, and H3 could not be rejected.

S02 (song likeability) accounted for 49.6% of the variability in F01 (enjoyment of the online learning method), 38.0% of the variability in F02 (enjoyment of the online learning method relative to other, more traditional methods), and 8.5% of the variability in F05 (perceived ease of learning using the online learning method)—all significant proportions. Thus, null hypothesis H4 was rejected. S02 also accounted for 37.1% of the variability in F03 (perceived amount of English Language learned for the amount of time spent) and 33.3% of the variability in F04 (perceived amount of American culture learned for the amount of time spent)—both significant proportions. Thus, null hypothesis H5 was rejected. Since S02 did not account for a significant proportion of the variability in

V01 (improvement in vocabulary level score) or L01 (improvement in lifestyle literacy score), null hypothesis H6 could not be rejected.

S03 (song understandability) accounted for 13.3% of the variability in F01 (enjoyment of the online learning method), 16.9% of the variability in F02 (enjoyment of the online learning method relative to other, more traditional methods), and 31.8% of the variability in F05 (perceived ease of learning using the online learning method)—all significant proportions. Thus, null hypothesis H7 was rejected. S03 also accounted for 21.3% of the variability in F03 (perceived amount of English Language learned for the amount of time spent) and 21.7% of the variability in F04 (perceived amount of American Culture learned for the amount of time spent)—both significant proportions. Thus, null hypothesis H8 was rejected. In addition, S03 accounted for 2.5% of the variability in V01 (improvement in vocabulary level score)—a significant proportion. Thus, null hypothesis H9 was rejected. Finally, S03 did not account for a significant proportion of the variability in L01 (improvement in lifestyle literacy score).

Discussion

It is interesting that there was no correlation between listening repetition and improvement in vocabulary level. It was expected that increases in listening repetition would be followed by increases in the uptake of a song's lexical components. One possible explanation of these findings is that the subjects did not listen to the songs over a long enough period of time (say, weeks or months) to realize actual learning gains. Instead, they were only asked to listen to the songs until they fully understood them. In reality, this was probably accomplished (if it was accomplished at all) in a single session for each song. This explanation is consistent with the findings of Milton (2002), who found a significant improvement in lexical uptake when songs were listened to repeatedly over an eight-week period. In the same way, no correlation was found between listening repetition and improvement in lifestyle literacy. Again, one would expect that increases in listening repetition would be followed by increases in the assimilation of a song's cultural aspects. The findings of this research contradict the findings of Yu-ping (2005) who found that repeatedly listening to segments of short conversations, mini-talks, and short speeches in English improved listening comprehension in Taiwanese university students.

The strong, positive correlation ($r=0.704$) between song likeability and enjoyment of the online learning method was not surprising. It makes sense that learner feelings about the songs would be positively tied to their level of enjoyment of this particular learning method, since the songs are such a major aspect of it. One can easily imagine rating the enjoyableness of such a learning activity low after being required to listen to songs he or she dislikes—and vice versa. Similarly, it was not surprising to find a moderate, positive correlation ($r=0.616$) between song likeability and enjoyment of the online learning method *relative to other, more traditional methods*. It seems reasonable that, as song likeability increases, so does the desire to listen to them for learning purposes as opposed

to engaging in the analogous, less novel methods of learning, such as reading from a text or listening to a lecture.

Another interesting finding was the moderate, positive correlation ($r=0.609$) between song likeability and perceived amount of English language learned, the moderate, positive correlation ($r=0.577$) between song likeability and perceived amount of American culture learned, and the positive (albeit weak) correlation ($r=0.291$) between song likeability and perceived ease of learning using the online learning method. A possible explanation for these findings is, as described previously, song likeability is positively correlated with enjoyment of the learning environment. This enjoyment is, furthermore, positively correlated with perceptions of learning. (See Table 4, which shows moderate, positive correlations between the variables F01 and F02 and the variables F03, F04, and F05.) The findings of this study are consistent with the findings of Mitchell, Chen, and Macredie (2005) who found a significant positive relationship between enjoyment (general web enjoyment) and perceived learning in a web-based computer science tutorial.

As for actual learning outcomes, no correlation was found between song likeability and improvement in vocabulary level or between song likeability and improvement in lifestyle literacy. Such a finding seems counterintuitive because of the relatively well-established link between enjoyment of learning, motivation, and achievement (Gottfried, 1990; Mitchell, 1992; Paas, Tuovinen, van Merriënboer, & Darabi, 2005). Since song likeability was positively correlated with enjoyment of the learning environment, and since enjoyment of learning was shown to be positively linked to motivation and achievement, one would expect increases in song likeability, and subsequently enjoyment of the learning environment, to be followed by increases in motivation and learning.

The positive (though weak) correlation ($r=0.364$) between song understandability and enjoyment of the online learning method and the moderate, positive correlation ($r=0.410$) between song understandability and enjoyment of the online learning method *relative to other, more traditional methods* is understandable. It seems reasonable that, as instructional content is delivered less and less clearly, decreases in perceived enjoyment of the learning experience would be realized. Indeed, most have experienced this phenomenon firsthand. This finding is consistent with the findings of Jackson and Yamanaka (1985) who found a positive relationship between an understanding of technical terms and enjoyment of computing tasks.

It was not surprising to find a moderate, positive correlation ($r=0.462$) between song understandability and perceived amount of English language learned, a moderate, positive correlation ($r=0.466$) between song understandability and perceived amount of American culture learned, and a moderate, positive correlation ($r=0.564$) between song understandability and perceived ease of learning using the online learning method. One possible explanation for these findings is this: As demonstrated previously, song understandability is positively correlated with enjoyment of the learning environment.

This enjoyment is, furthermore, positively correlated with perceptions of learning. (See Table 4, which shows moderate, positive correlations between the variables F01 and F02 and the variables F03, F04, and F05.) Again, the findings of this study are consistent with the findings of Mitchell, Chen, and Macredie (2005) who found a significant positive relationship between enjoyment (general web enjoyment) and perceived learning in a web-based computer science tutorial.

The weak (but positive) correlation ($r=0.158$) between song understandability and improvement in vocabulary level and the lack of a statistically significant correlation between song understandability and improvement in lifestyle literacy was very surprising. Such a finding seems counterintuitive for two reasons. First, since song understandability was shown to be positively correlated with enjoyment of the learning environment, and since enjoyment of learning has been shown to be positively linked to motivation and achievement (Gottfried, 1990; Mitchell, 1992; Paas, Tuovinen, van Merriënboer, & Darabi, 2005), one would expect increases in song understandability, and subsequently enjoyment of the learning environment, to be followed by increases in motivation and learning. Second, and even more fundamentally, one would normally expect increases in the clarity of instructional content to be associated with increases in learning outcomes. This rationale is consistent with the findings of Pascarella, Edison, Nora, Hagedorn, and Braxton (1996) who found a positive relationship between college course presentation clarity and learning outcomes, even when controlling for such variables as cognitive ability, academic motivation, age, gender, ethnicity, and work responsibilities. In addition, Berns (1984) asserts that a positive correlation exists between computer program understandability and the ability of programmers to learn the structure of a program in order to maintain it. Furthermore, in the area of mathematics education, Han and Ginsburg (2001) found that mathematical terms are more clearly expressed in the Chinese language relative to the English language, thus partly explaining the superior mathematics performance of Chinese students.

It is worth noting that no correlation was found between perceived amount of English Language learned and improvement in vocabulary level nor between perceived amount of American Culture learned and improvement in lifestyle literacy. This is consistent with the findings of Mitchell, Chen, and Macredie (2005) who found a significant positive relationship between general web enjoyment and perceived learning yet no such correlation between general web enjoyment and actual learning, suggesting that perceived and actual learning are not necessarily related. On the other hand, Le Rouzic, Ouchi, and Zhou (1999) found a positive (albeit weak) correlation between perceived and actual learning in trainees engaged in World Bank Institute training courses. However, in the end, they conclude that, until further research is done that suggests otherwise, learning perceptions should not be viewed as a valid measure of actual learning.

In addition, it was very surprising to find little to no relationship between listening repetition, song understandability, and perceived learning and actual learning outcomes. A possible explanation for this (besides the ones provided earlier) is that the instruments

designed to measure changes in vocabulary level and lifestyle literacy were insufficiently constructed, thus, not providing accurate measurements of actual learning. The instrument designed to measure increases in lifestyle literacy from pre-treatment to post-treatment may have been particularly problematic since only four questions were asked on the pre-test and four on the post-test. This may not have permitted a high enough degree of scoring variability between subjects. Another possible explanation is that the subjects were not properly motivated to perform well on the vocabulary and lifestyle tests. That is, the subjects were only given extra credit for completing their learning tasks but not for performing well on them. This could have confounded the results of the study by introducing an undesirable amount of random variation in the data due to varying degrees of effort on the part of the subjects. Indeed, Mitchell (1992) states that motivation, while complex and multifaceted, is generally regarded as one of the most important determinants, if not the most important determinant, of successful, quality learning. Additionally, Paas, Tuovinen, van Merriënboer, and Darabi (2005) argue that meaningful learning can only occur when it is coupled with the motivation to achieve. Important variables that have been identified with motivation include the perceived importance, usefulness, and value of a task. The onsite coordinators may not have expressed these ideas adequately to the subjects.

Based on the results of this study, a model was derived to illustrate the relationships between the independent and dependent variables (Figure 1). It shows that song likeability predicts 51.0% of the variability in enjoyment of the learning environment—a substantial amount. It also reveals that song understandability accounts for 17.6% of the variability in enjoyment of the learning environment. (Enjoyment of the learning environment was derived by combining variables F01 and F02 into a composite score.) The model also shows that enjoyment of the learning environment predicts 52.2% of the variability in learning perceptions—again, a significant amount. (Learning perceptions was derived by combining variables F03, F04, and F05 into a composite score.) Finally, the dotted lines in the model indicate inferred relationships based on both the literature and the reasoning presented in this article. These relationships, however, were not confirmed statistically by this investigation, thus further study is needed to complete and validate the model.

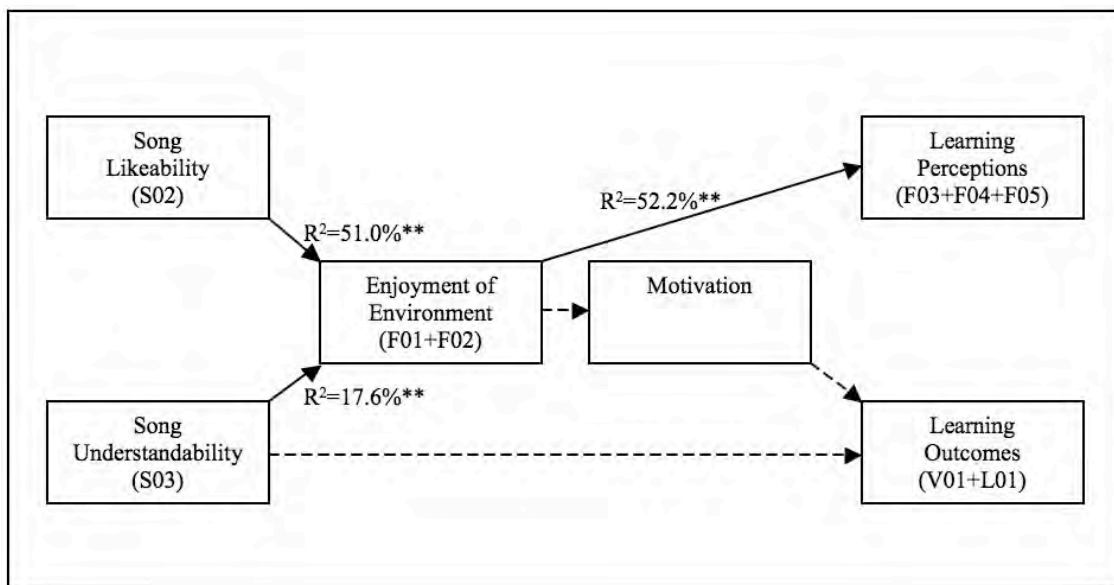


Figure 1. Model derived from this research (* $p < 0.05$; ** $p < 0.01$). (Solid lines indicate statistical relationships. Dashed lines indicate inferred relationships.)

Implications and Conclusions

One of the most important practical implications of this research is that, in order to maximize learning in such web-based learning environments, EFL educators should exercise care in the song selection process. The results of this study suggest a chain of associations between song likeability, enjoyment of the learning environment, motivation for learning, and achievement. Thus, EFL educators should select songs that students will like. The results also suggest a chain of associations between song understandability, enjoyment of the learning environment, motivation for learning, and achievement as well as a direct connection between song understandability and achievement. Thus, EFL educators should be careful to select songs that students can understand.

Several song selection criteria are summarized below. These criteria are based on the results of this research as well as on the experiences of others (Abbott, 2002; Christopher, 1998; Diamond & Minicz, 1994; Garza, 1994; Kramer, 2001; Lynch, 2006) [2].

1. Songs should be liked by the students. One way to ensure this is to have students assist in the song selection process, perhaps selecting currently popular songs.
2. Songs should contain lyrics that are understandable. That is, the lyrics should be language-level appropriate, heard clearly above the music, sung at a reasonable pace, and sung with proper diction.

3. Songs should contain lyrics that use natural speech. Utilizing songs with words and phrases considered too idiomatic or nonsensical would be counterproductive.
4. Songs should utilize repetition to highlight key words or phrases. Repetition of lyrics is typically found in the chorus section of a song. This section is considered a song's lyrical "hook" because it makes the song memorable to the listener, thus "hooking" them on the song.
5. Songs should be interesting enough to maintain student interest in the face of repeated listening.
6. Songs should have an appropriate, positive theme (unless there is a specific reason to do otherwise). Care should be exercised in this area as many American songs contain themes that can easily make non-Americans uncomfortable, such as rebellion against authority, open talk of sexual issues, and the use of violence to solve problems.
7. Songs should contain topics that are culturally relevant. That is, they should contain lyrics that students can relate to.

Notes

[1] Although some would argue that the western world (and the U.S.A. in particular) is behind this move for colonial/imperialistic reasons (Alavinia, 2005), it is unlikely that this is so, at least deliberately. It is more likely that English has become the de facto common language because of the economic implications of trade with the U.S.A. and other English-speaking countries as well as the fact that English is the predominant language of the Internet—an ever more present element in global society.

[2] The Internet is a virtually unlimited resource when it comes to acquiring songs that exhibit the qualities described above. Some of these songs can be obtained for free, and some require a download subscription or a nominal fee per song. One can begin by investigating services such as <http://www.soundclick.com>, <http://www.napster.com>, and <http://www.emusic.com>. These services permit downloads of individual songs that can be incorporated into the instructor's own website. Downloads of associated lyrics can be obtained even more easily from sites such as <http://www.lyrics007.com>, <http://www.lyricsdomain.com>, and <http://www.lyricsfreak.com>. Of course, content developers should always consult the source to determine if fair-use for academic purposes applies.

About the Authors

Robert E. Beasley is Professor of Computing and Chair of the Department of Mathematics and Computing at Franklin College. His research interests lie in the areas of online multimedia/hypermedia learning environments, computational linguistics, telecommuting, and energy and environmental engineering information systems.

Yuangshan Chuang is President of APAMALL, founding president of ROCMELIA and Professor of the Department of Applied English at I-Shou University, and had taught in the Department of English at National Kaohsiung Normal University for fourteen years. Over the years, he has conducted research in the areas of Chinese and English corpus linguistics and online English testing based on the Common European Framework created by the Council of Europe that consists of 47 member states and five observer states including the United States, Canada, Mexico, the Holy See, and Japan. He chaired the team that translated the Common European Framework into Chinese.

Acknowledgements

The authors wish to express thanks to Dr. Timothy Garner, Associate Dean and Director of Institutional Research, Franklin College, for his assistance with the design of the surveys used in this study.

References

- Abbott, M. (2002). Using music to promote L2 Learning among adult learners. *TESOL Journal*, 11(1), 10-17.
- Alavinia, P. (2005). Glocalization and llobalization: (Non)-promising horizons for language teaching and learning. *Conference Proceedings of the Second International Conference on Teaching of Language, Linguistics, and Literature* (p. 105). Kaohsiung, Taiwan: National Kaohsiung Normal University.
- Berns, G. M. (1984, January). Assessing software maintainability. *Communications of the Association for Computing Machinery*, pp. 14-23.
- Castellanos-Bell, C. (2002, August). Rhythms of the classroom. *Language Magazine*, p. 34.
- Christopher, B. (1998). *A sound idea: Music in Charis Dike's ESL classroom*. (ERIC Document Reproduction Service No. ED 434 200).
- Diamond, J., & Minicz, E. (1994). Country songs: Music, language, and life. *Journal of the Imagination in Language Learning*, 2, 112-115.
- Fromherz, R. W. (2005). The English language: A universal celebration? *Conference Proceedings of the Second International Conference on Teaching of Language, Linguistics, and Literature* (pp. 34-37). Kaohsiung, Taiwan: National Kaohsiung Normal University.
- Garza, T. J. (1994). Beyond MTV: Music videos as foreign language text. *Journal of the Imagination in Language Learning*, 2, 106-110.

- Gottfried, A. E. (1990). Academic intrinsic motivation in young elementary school children. *Journal of Education Psychology*, 82(3), 525-538.
- Han, Y., & Ginsburg, H. P. (2001). Chinese and English mathematics language: The relation between linguistic clarity and mathematics performance. *Mathematical Thinking & Learning*, 3(2&3), 201-220.
- Huy Le, M. (2000, January). *The role of music in second language learning: A Vietnamese perspective*. Paper presented at the Combined 1999 Conference of the Australian Association for Research in Education and the New Zealand Association for Research in Education, Melbourne, Australia.
- Jackson, L. M., & Yamanaka, E. (1985, February). Measuring women's attitudes, goals, and literacy toward computers and advanced technology. *Educational Technology*, pp. 12-14.
- Johnson, D. (2005). Teaching culture in adult ESL: Pedagogical and ethical considerations. *TESL-EJ*, 9(1), 1-12. Available: <http://tesl-ej.org/ej33/cf.html>.
- Johnston, I. (2000, May). *I'll give you a definite maybe: An introductory handbook on probability, statistics, and excel* [Online]. Available: <http://www.mala.bc.ca/~johnstoi/maybe/maybe4.htm>.
- Kramer, D. J. (2001). A blueprint for teaching foreign languages and cultures through music in the classroom and on the Web. *ADFL Bulletin*, 33(1), 29-35.
- Le Rouzic, V., Ouchi, F., & Zhou, C. (1999). *Measuring 'what people learned' versus 'what people say they learned': Does the difference matter?* (ERIC Document Reproduction Service No. ED 435 753).
- Lems, K. (2001). *Using music in the adult ESL classroom*. (ERIC Document Reproduction Service No. ED 459 634).
- Lynch, L. M. (2006). *Using music to improve listening comprehension skills* [Online]. Available: <http://www.language-learning-advisor.com>.
- Medina, S. L. (2000). *The effects of music upon second language vocabulary acquisition*. (ERIC Document Reproduction Service No. ED 352 834).
- Medina, S. L. (2003). Acquiring vocabulary through story-songs. *MEXTESOL Journal*, 26(1), 7-10.
- Milano, G. (1994). Teaching English through Broadway musicals. *Journal of the Imagination in Language Learning*, 2, 102-104.

Milton, J. (2002). Introspecting on vocabulary learning from an informal task. In Milton, J. (Ed.), *Proceedings of the 12th Vocabulary Acquisition Research Group Network Conference*. Swansea, Wales: Swansea University [Online]. Available: http://www.swan.ac.uk/cals/calsres/events/02_contents/02_Milton.htm.

Mitchell, J. V. Jr. (1992). Interrelationships and predictive efficacy for indices of intrinsic, extrinsic, and self-assessed motivation for learning. *Journal of Research and Development in Education*, 25(3), 149-155.

Mitchell, T. J. F., Chen, S. Y., & Macredie, R. D. (2005, March). The relationship between web enjoyment and student perceptions and learning using a web-based tutorial. *Learning, Media & Technology*, pp. 27-40.

Pascarella, E., Edison, M., Nora, A., Hagedorn, L. S., & Braxton, J. (1996). Effects of teacher organization/preparation and teacher skill/clarity on general cognitive skills in college. *Journal of College Student Development*, 37(1), 7-19.

Paas, F., Tuovinen, J. E., van Merriënboer, J. J. G., & Darabi, A. A (2005). A motivational perspective on the relation between mental effort and performance: Optimizing learner involvement in instruction. *Educational Technology Research and Development*, 53(3), 25-34.

Yu, G. K. H. (2005). The ramifications of Globalizing and Glocalizing English. *Conference Proceedings of the Second International Conference on Teaching of Language, Linguistics, and Literature* (pp. 76-82). Kaohsiung, Taiwan: National Kaohsiung Normal University.

Yu-ping, L. (2005). One more, two more, or no more? The effects of repetition on listening comprehension tests. *Conference Proceedings of the Second International Conference on Teaching of Language, Linguistics, and Literature* (p. 103). Kaohsiung, Taiwan: National Kaohsiung Normal University.

© Copyright rests with authors. Please cite TESL-EJ appropriately.