

**THE USE OF POPULAR MUSIC TO TEACH INTRODUCTORY ECONOMICS**

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## **Abstract**

This paper represents a very preliminary analysis of how the incorporation of a music project influences learning and student perceptions in a pre-principles economics course. Consumer Economics is a course taught at Clarion University that caters to students who are non-economics and non-business majors; primarily students majoring in elementary education. While the literature in economic education has discussed using music to teach undergraduate students, nothing has been done to see how the use of this nontraditional approach influences students learning economics at a lower level. By looking at average scores on final examinations, attendance records, and student evaluations for sections of Consumer Economics that both include and exclude a music project to teach economics, this paper fills that void in the literature. This paper shows that there is evidence to suggest that the incorporation of a music project that links musical lyrics to economic concepts has a positive influence on course attendance and important student evaluation results. Changing the music project to include a segment where students write their own song lyrics initially appears to have a positive influence on final examination scores. Future analysis will need to determine whether this is a persistent result and not influenced by other individual student characteristics.

## **I. Introduction**

The literature in economic education over the past decade is rich with information on various techniques and materials useful in making introductory economics courses more interesting to students. The common thesis in this area of research is that, presumably, a more interesting method of imparting course material beyond the standard lecture format will motivate students to learn more effectively. While it has not been empirically proven that any of the various approaches enhance student learning of the basic subject material in economics, the proliferation of alternative learning vehicles in the literature and in the textbooks available to instructors suggests that there is a growing belief that these methods are effective.

The general claim that a combination of lecture and another alternative information delivery device, especially one that involves the active participation of students is not new to the literature in the education discipline (Rich, 1988). Becker and

Watts (1995, 1998) are papers most often credited in the economic education literature with first incorporating the use of nontraditional techniques to teach economics. Cameron (1998) extended this line of analysis showing that students typically learn in different ways and that the use of varied learning tools can improve effective thinking in an introductory economics classroom. The development of this general educational strategy at the collegiate level in economics courses is relatively new.

Strategies used to teach basic concepts in economics range from the use of simulation games (Raehsler, Haggerty, and Caropreso, 1996) and the incorporation of experimental bargaining games (Raehsler, 1999) to a more abstract use of Shakespeare to teach monetary economics (Kish-Goodling, 1998). Tinari and Khandke (2000) provided the first noteworthy approach in utilizing music to help teach introductory economics (principles-level courses). After reading this interesting article, I decided to begin incorporating the same music assignment in my principles of macroeconomic courses with the purpose of discovering whether or not students came away with a greater understanding of economics from completing the project. Raehsler (2001) showed that student scores on the Test of Understanding of College Economics (TUCE) were not significantly influenced by the incorporation of a music project in class (in fact, the TUCE scores were slightly lower during some semesters in classes using the music projects). Since my conference paper was not well-received by my colleagues at the time, I chose to remove the music project from my principles of macroeconomics courses and focus on more remedial classes. It is encouraging to see that since then a much more inspiring and effective incorporation of music into the principles of economics curriculum has been developed. Mateer and Rice (2007) provide a much more complete

music project for educators in principles of economics to use. Joshua Hall, Robert Lawson, and Dirk Mateer have developed an excellent website ([www.divisionoflabor.com/music](http://www.divisionoflabor.com/music)) that provides musical pieces in addition to audio clips to assist any instructor wanting to incorporate music into their economics course.

Rather than stop using music in my courses entirely to teach economics, I decided to direct my efforts these past few years toward an even more introductory level economics course. In the spring semester of 2007 I began to use a similar music assignment in my Consumer Economics course. Consumer Economics is the lowest level course taught in the Department of Economics at Clarion University. The course is typically a large enrollment course that caters to undergraduate education majors. Nearly all the students come from the College of Education and are interested in becoming elementary school teachers and, consequently, have little interest in economics. Pennsylvania state educational standards require all teachers to have some course in economics and Consumer Economics is the course of choice. Not surprisingly, students do not typically have a very positive impression of economics before taking the course; less so than students required to take a principles of macroeconomics or microeconomics course. In the principles courses students often realize the important link the introductory courses have with more advanced courses in their academic majors. Since Consumer Economics is typically the last economics course education students will take, the advantage of this perceived is nonexistent. Since the education field has concentrated so greatly on nontraditional methods of instruction, it occurred to me that the music project might have its greatest impact on those least willing to learn economics from the outset. This paper, therefore, presents a very introductory analysis of how the use of a music

project appears to influence students in Consumer Economics. This paper still utilizes the approach introduced by Tinari and Khandke (2000).

## **II. Music Project and Course Sections**

The analysis in this paper is limited to using information derived from sections of my Consumer Economics course taught in four separate semesters: fall semester of 2006, spring semester of 2007, fall semester of 2007, and fall semester of 2008. As stated earlier, students enrolling in Consumer Economics are generally majors in elementary education and are either freshmen or sophomores (some upper-class education majors do take the course as a last resort). The course itself is really a watered-down version of a principles of economics course where basic ideas of demand and supply as well as general macroeconomic and microeconomic concepts are stressed. The Law of Diminishing Returns, for example, will not be proven in a Consumer Economics course of this kind. In any case, a total of 376 students are included in the sample results for the four sections (an average of 94 students for each section). The music project was not assigned in the fall 2006 and fall 2007 sections of the course (totaling 199 students) to serve as a very rough control to the sections using the music project.

The music project itself closely mimicked the assignment outlined in Tinari and Khandke (2000) where students were asked to select various songs, present the lyrics, and discuss the economic meanings within their chosen titles. The basic idea of this exercise is to show students that economics does appear in daily life and to make the study of the concepts easier to understand and remember due to the applied nature of this

project. Since the music project I gave in the spring semester of 2007 was substantially different than the one given this past semester (fall 2008), I will present each separately.

The music project utilized during the spring 2007 semester of Consumer Economics course was essentially the same as I used in my principles of macroeconomics courses before. To begin, I played a video of the band Pink Floyd performing *Money* for the students and gave them a brief history of the band as well as the date of the songs initial release. After the students finished given me a hard time about my age and liking for the band, I gave them the actual lyrics:

*Money, you get away.  
You get a job with more pay and you're OK.  
Money, it's a gas.  
Grab that cash with both hands and make a stash.  
New car, caviar, four star daydreaming  
Think I'll buy me a football team.*

*Money, you get back.  
I'm all right, Jack, keep your hands off my stack.  
Money, it's a hit.  
But don't give me that do goody bull\*\*\*\*.  
High fidelity first class traveling set  
And I think I need a Lear jet.*

*Money, it's a crime.  
Share it fairly, but don't take a slice of my pie.  
Money, so they say,  
Is the root of all evil today.  
But if you ask for a raise it's no surprise,  
That they're giving none away.....*

I then required each individual to write a short one to two page discussion of the economic relevance of the song and their overall perception of the piece. The purpose of this initial phase of the project (given midway through the semester) was to give students practice at analyzing music using economic terms in a way I could effectively compare.

Once this part was complete, students were free to choose any song of their liking and provide the lyrics, a copy of the song if possible (I provided recordable CD's), and a similar analysis of their song along with a history of the band. Papers on their individual songs were more extensive and expected to be at least five pages long. These were due at the end of the semester.

For the fall 2008 semester I made some important changes related to both the available technology and previous examination results. I continued to give the assignment utilizing *Money* by Pink Floyd and the individual song assignment. In addition, however, I directed students to the website address [www.divisionoflabor.com/music](http://www.divisionoflabor.com/music) discussed earlier providing many songs with lyrics as well as a list of keywords in economics to look for. I reproduced the list and added a few terms:

<i>Advertising</i>	<i>Mortgage</i>
<i>Budget</i>	<i>Opportunity Cost</i>
<i>Capital</i>	<i>Policy</i>
<i>Capitalism</i>	<i>Poverty</i>
<i>Competition</i>	<i>Price Discrimination</i>
<i>Consumption</i>	<i>Principles</i>
<i>Costs</i>	<i>Profit</i>
<i>Credit</i>	<i>Property Rights</i>
<i>Debt</i>	<i>Public Choice</i>
<i>Deficit</i>	<i>Rent</i>
<i>Demand</i>	<i>Resources</i>
<i>Development</i>	<i>Savings</i>
<i>Earnings</i>	<i>Scarcity</i>
<i>Expenses</i>	<i>Self Interest</i>
<i>Free Trade</i>	<i>Sunk Costs</i>
<i>Income Mobility</i>	<i>Supply</i>
<i>Inflation</i>	<i>Taxes</i>
<i>Insurance</i>	<i>Unemployment</i>
<i>Interest</i>	<i>Urban Decline</i>
<i>Loan</i>	<i>Value</i>
<i>Luxury</i>	<i>Wages</i>
<i>Market</i>	<i>Warranty</i>
<i>Money</i>	

These terms were useful for students in identifying their songs and writing about how the lyrics of their chosen songs related to economics. The website provided by Joshua Hall, Robert Lawson, and Dirk Mateer is an excellent aid in doing this project and made my overall presentation to the students much more effective.

In addition to showing students the website and providing a list of important key terms, I added a part to the assignment where students were asked to write their own lyrics. Based on the musical genre of song chosen individually by students (I required them to provide the song title and genre before they began their reports), I placed students into groups of three to four and asked each to come up with their own lyrics to a song. After all groups turned this in at the beginning of the last week of classes I provided each student a copy of all song lyrics created in class along with a sheet to rank each song. I did not provide the name of authors for each song nor the musical genre in order to diminish any selection bias. Based on class votes, I developed a ranking of the song lyrics for students to see on the last day of class. In the next section, I provide a copy of the top song lyrics selected this past semester.

For all sections of Consumer Economics utilized in this study, I give the same comprehensive final examination. While my midterm examinations are a combination of objective and essay questions, my final examination is purely multiple-choice. The 89 question final examination covers a broad cross-section of material presented in the course with a more heavy emphasis on the market model, general economic measures like unemployment and inflation, and macroeconomic policy. The final grade in the course is significantly influenced by performance on the final examination and it is worth pointing out that average results for the examination are generally very low. Despite this,

the fact that the same examination is given each semester I teach this course, this final examination provides a way to compare student results across different semesters and relate those results to the use of the previously discussed music projects. This, of course, assumes that other aspects of my teaching are consistent across semesters (not a bad assumption in my opinion) and that the academic ability of students across sections is uniform (a problematic assumption I will discuss later). The next section provides some qualitative examples of the music project for the fall 2008 semester followed by an empirical section that looks at how student performance, attendance, and teacher evaluations differ across semesters in this study.

### **III. Some Examples form Fall 2008**

At this point, I would like to provide three examples of work presented by students in my Consumer Economics course this past semester. The first two involve the individual portion of the assignment while the last is simply the best group lyrics chosen by students in the class. While these are what I consider to be the most interesting assignments turned in, none is completely correct nor fully incorporates all economic ideas or definitions. I do believe (and this is just based on my memory) that the projects turned in by students this past semester were of a higher quality than those submitted by my principles of macroeconomics a number of years ago.

I chose the song *Money* by Pink Floyd for a couple reasons at the beginning of the project. First of all, the song is relatively short; short enough so that students do not need to devote as much research as they would if I had chosen another song mentioned in Tinari and Khandke (2000). For example, *Allentown* by Billy Joel or *Song of the South* by

Alabama would have involved a much more in-depth analysis. In addition, *Money* by virtue of its title was the most popular song selected by students when I incorporated this project in my earlier principles of macroeconomics courses. One project turned in this past semester by a freshman education major I found interesting analyzed this song as follows:

“ *Money* speaks of many socioeconomic issues. The most prevalent is the basic cliché that people with money make the rules, or that a person needs a lot of money to be happy. Unfortunately, on the basis of supply and demand as well as scarcity, there is not enough money to fulfill everyone’s wants.

Investing is also mentioned, such as keeping a ‘stash’ to invest with in order to make your amount of money grow. Investing leads to further economic growth by not allowing money to sit idle, but to work towards the expansion of output producing sectors. An investor also needs to feel secure about the economy; either he has faith his money will increase in value, or he has enough ‘stashed’ to not be hurt by a bad investment.

Another theory mentioned is Classical Theory, as first written by Adam Smith in the *Wealth of Nations* in 1776. Throughout the song Pink Floyd is proving the second assumption; that individuals act in matters of self-interest.

The song also discusses the ‘American Dream’; a belief that any person who works hard will be able to succeed. Cash tends to motivate people towards bettering themselves through material goods. This forces people to try and satisfy their unlimited wants with their limited means, the fundamental concept of economics.

The performers seem to make this a laid-back, easy-going kind of song, even though they sound as though they feel strongly about the words and message. This song also implies that people should not act as chronicled in the song; that the performers were being sarcastic, and think such greed is unnecessary. Therefore, people who are involved in such greed need to prioritize and people should not make such a fuss about material things, and be happy with what they have.”

Interestingly, not one individual clearly identified what was going on in the world when the song was released (1973) nor did anyone discuss the background of the band

members (some were from middle-class families while others came from lesser means). Given that most students were born after 1980 (there were one or two returning adult students), this is not surprising.

Turning to the individual songs selected, I found that most individuals chose either Rap, Hip-Hop, or Alternative Rock and, showing my age, I understood only a few. While there were many impressive songs turned in, it was the analysis and choice of a less popular genre that attracted my attention this past semester. One individual chose the song *Rent* by the Broadway cast of the musical by the same name. This song might have been chosen based solely on the title as Broadway musicals are not in the favorite musical genre enjoyed by current students. The lyrics are as follows:

*How do you document real life  
When real life's getting more  
Like fiction each day  
Headlines, bread lines  
Blow my mind.  
And now this deadline:  
"Eviction or pay"  
Rent.*

*How do you write a song  
When the chords sound wrong  
Though they once sounded right and rare  
When the notes are sour  
Where is the power  
You once had to ignite the air*

*And we're hungry and frozen  
Some life that we've chosen*

*How we gonna pay  
How we gonna pay  
How we gonna pay  
Last year's rent*

*How do you leave the past behind  
 When it keeps finding ways to get to your heart  
 It reaches way down deep and tears you inside out  
 Til you're torn apart  
 Rent*

*What binds the fabric together  
 When the raging, shifting winds of change  
 Keep ripping away*

*Draw a line in the sand  
 And then make a stand  
 Use your camera to spar  
 Use your guitar*

*When they act tough, you call their bluff  
 We're not gonna pay  
 We're not gonna pay  
 We're not gonna pay*

*Last year's rent  
 This year's rent  
 Next year's rent  
 Rent rent rent rent rent  
 We're not gonna pay rent  
 'Cause everything is rent*

The analysis turned in went as follows:

“ *Rent* talks about unemployment. The characters are unable to find work, and unable to pay rent for their apartment as a result. Mark and Roger, the main characters, are suffering from both structural and frictional unemployment. Their structural unemployment stems from a lack of job availability (they are trained as a film producer and a musician, respectively). The frictional unemployment stems from an unwillingness to accept new jobs; they have unrealistic expectations.

The also cannot pay for their apartment because of price floors, which the government set in order to make more money off of the sale of apartments. These price floors have allowed the price to rise above the equilibrium price, and made rent too high for Mark and Roger to pay.

Meanwhile, they are depressed because of the economic situation around them. There are bread lines everywhere, and everyone seems to be worn-out, and unable to cope with life. The standard of living is dropping before their eyes as homeless people surround them. Mark and Roger also have emotional problems when

people and memories from their pasts arrive unexpectedly and remind them of things they would rather forget.

They also keep getting hit with emotional changes, especially when they are not ready for changes. Mark and Roger also express the feeling that you have to pay some type of rent for everything in the world including love and happiness, not just your apartment, food, and material items. They seem to express amazement at what the world has become. To them, it is a place full of crime and hypocrisy, a place where they do not fit in.

The song is upbeat, even though the material is angry and unhappy. The rhythm put a different light on all of their despair talked about in the song. Just listening to the song can make someone feel better through the tempo and the music, despite the despair and anger portrayed throughout the song.”

While I would not agree entirely with this assessment of the song, this analysis was better than most and illustrates how well it made this student think of basic economic terms in relation to music lyrics.

The final part of the music project given during the fall 2008 semester, as described above, allowed groups of students to create their own song lyrics. The purpose in doing this was to induce students to begin looking at their notes in a more detailed fashion compared to other semesters just prior to the final examination. The best lyrics selected among group submissions this past semester are as follows:

*There's war in Iraq  
And political unrest  
Gas prices are high  
Capitalism's put to the test*

*Unemployment is growing  
Mortgages are sub-prime  
The economy's in crisis  
There are growing bread lines*

*But I'm not giving up  
I'm not giving in  
I'm going to fight for my rights  
Cause it's my turn to win*

*There's panic among us  
Tho a new President's near  
The poor are suffering  
When will we hear*

*When greed takes a front seat  
And trade with China is to blame  
Will fortunes be gone?  
Will the world be the same?*

*But I'm not giving up  
I'm not giving in  
I'm going to fight for my rights  
Cause it's my turn to win*

*With urban decay  
And money so tight  
It's hard to remember  
What's wrong or what's right*

*But times will get better  
This recession will give way  
That day will come  
When I can confidently say*

*But I'm not giving up  
I'm not giving in  
I'm going to fight for my rights  
Cause it's my turn to win*

I must agree with the student's choice of this song in that it included many of the issues we discussed during the course of the semester. Unfortunately, I did not ask students to provide a complete analysis of their own song. In the future I will do this in addition to exploring the possibility of the lyrics being put to actual music of some kind (with the assistance of the Music Department on campus). The next section in this paper will study how including this project may have influenced student learning and perception.

#### IV. Empirical Results

The bottom line when introducing any class assignment involves considering how student learning is influenced. In my Consumer Economics course, a final measure of learning is the comprehensive final examination. Table 1 below provides average values and sample standard deviations of the final examination for each semester in the sample. The bar graph that follows provides a visual presentation of the average values. It is clear from observing this data that the average values are similar with the notable exception of

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**TABLE 1: SIMPLE STATISTICS ON FINAL EXAMINATION**

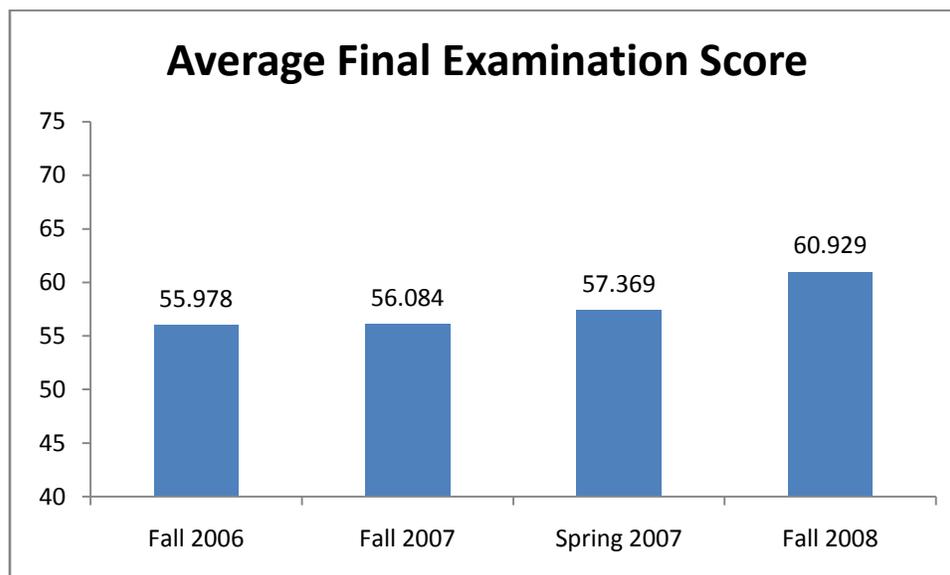
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<u>Term</u>	<u>Mean</u>	<u>Standard Deviation</u>	<u>Sample Size</u>
Fall 2006 (No Music)	55.978	9.637	92
Spring 2007 (Music 1)	57.369	10.675	65
Fall 2007 (No Music)	56.084	10.268	107
Fall 2008 (Music 2)	60.929 <sup>1</sup>	10.969	112

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<sup>1</sup> Significant difference from Fall 2007

FIGURE 1



The fall 2008 semester (even though a 60.929 average only represents 68.46 percent correct on the examination). In the spring semester of 2007 the original music assignment was given (Music 1) while in the fall semester of 2008 the updated music project was assigned (Music 2). As a consequence, it is relevant to test the difference in scores between fall 2006 and spring 2007 to see whether the first music project made a difference in average final examination scores. Likewise, the fall 2007 and fall 2008 semesters can be compared to see whether the second music project appears to create any significant difference. While this seems rather arbitrary, results are supported by what we visually see in Figure 1. The t-statistic for testing the difference between average examination scores for fall 2006 and spring 2007 is only 0.852 (not statistically significant) while the same statistic for average values between fall of 2007 and fall of 2008 is 3.371 (statistically significant). If all other conditions are equal (which is a

debatable assumption), the music project developed for the fall 2008 semester seems to positively influence the average final examination score.

While the music project may induce students to study more for the final examination, it may be that the project itself creates more interest among students in the course, a greater degree of camaraderie and friendship among students, and better attendance. If the projects do increase attendance it may well result in better examination performance. Normally, I would not think of including this statistic in the paper, however, I have noticed a difference in the classes when I use the music project (especially for this past semester). Table 2 below provides data on overall attendance rates for each semester followed by a bar graph that illustrates the same values. It is clear that a major difference in attendance does exist between the semesters when the music

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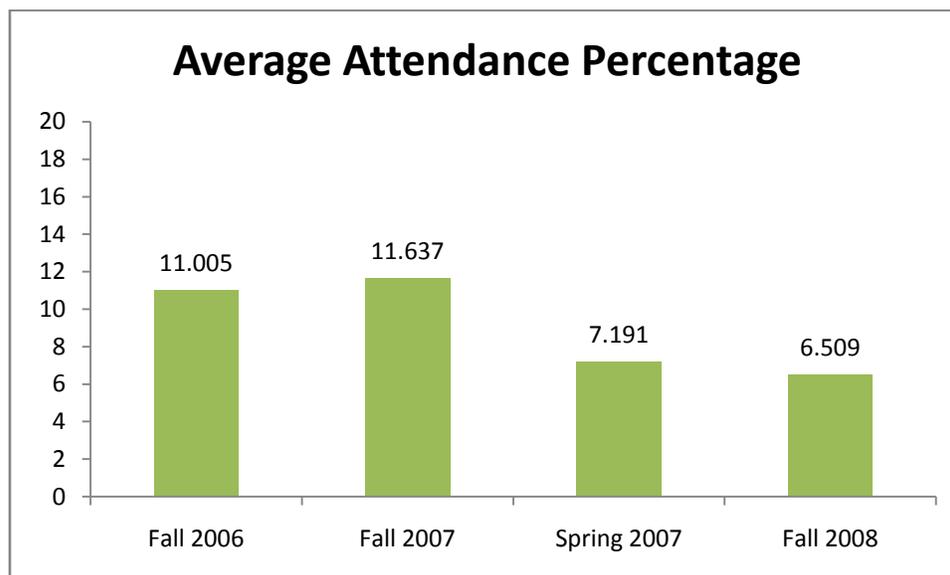
**TABLE 2: ATTENDANCE CALCULATIONS FOR EACH SEMESTER**

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<u>Term</u>	<u>Total Enrollment</u>	<u>Contact Days in Semester</u>	<u>Total Number of Absences</u>	<u>Average Percent Absence</u>
Fall 2006 (No Music)	92	32	324	11.005
Spring 2007 (Music 1)	65	46	215	7.191
Fall 2007 (No Music)	107	31	386	11.637
Fall 2008 (Music 2)	112	31	226	6.509

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FIGURE 2



project is included versus semesters it is not incorporated. In the spring semester of 2007 the average percent absent in each lecture is 7.191 percent. One might expect students who are still in school after the previous fall semester to have a greater propensity to attend class. As a consequence, the drop in absenteeism from the fall to the spring semester might not be unique to the Consumer Economics course. The drop in absenteeism between the fall semester of 2007 (11.637 %) and the fall of 2008 (6.509 %) cannot be as easily explained if we assume entering students each fall semester possess similar academic attributes. It is also interesting to note that the apparent improvement in attendance between the fall 2006 and spring 2007 courses does not translate into better examination scores while the improved attendance apparent when comparing fall 2007 and fall 2008 does. Therefore, while this improved examination performance witnessed this past semester might be a result of better student attendance, it might also be due to the improvements included in the music project.

While it is important to see whether the incorporation of a nontraditional teaching method has any impact on learning, it might be equally important to see whether student perceptions of the course and the instructor are influenced. The impact a project or approach of this kind has on student evaluations might be even more important for non-tenured faculty members. To see whether there are any differences in student evaluations across the four semesters in this sample, I have collected data from my student evaluations for eight crucial questions on Clarion University student evaluations. The important questions are as follows:

Question 5: I found the course to be

Question 6: The quality of instruction was

Question 7: The amount of effort in this course compared to others is

Question 9: The instructor enhanced my interest in the course.

Question 12: I learned a lot in this course.

Question 14: The instructor appears to be well-prepared.

Question 15: Materials used helped achieve course objectives.

Question 17: The instructor effectively used examples/applications/illustrations in this course.

For Question 5 and Question 6, students used the following scale:

5 = excellent

4 = above average

3 = average

2 = below average

1 = poor

For Question 7 the following scale was used:

- 5 = much more than other courses
- 4 = more than other courses
- 3 = same as other courses
- 2 = less than other courses
- 1 = much less than other courses

The remaining questions analyzed use the following scale for assessment:

- 5 = strongly agree
- 4 = agree
- 3 = neither agree or disagree
- 2 = disagree
- 1 = strongly disagree

For each question on the student evaluations, higher average values are better for the instructor than lower average values. In order to compare the effect of the original music project (Music 1), data on student evaluation results are compared for each question for the fall semester of 2006 and the spring semester of 2007. These results as well as t-statistics testing the difference in average values for each question are also provided with bold values indicating a statistically significant difference at the 0.05 level in favor of increased values for the spring 2007 data. Standard deviation values are given in parentheses below each mean.

**TABLE 3: STUDENT EVALUATION STATISTICS FOR MUSIC 1**

<u>Category</u>	<u>Fall 2006 Mean</u>	<u>Spring 2007 Mean</u>	<u>Difference in Mean t-statistic</u>
Question 5	3.84 (0.75)	4.32 (0.81)	<b>3.821</b>
Question 6	4.29 (0.64)	4.60 (0.60)	<b>3.067</b>
Question 7	3.71 (0.88)	3.63 (0.78)	- 0.588
Question 9	3.77 (1.08)	4.04 (1.09)	1.537
Question 12	3.83 (0.92)	4.23 (0.85)	<b>2.678</b>
Question 14	3.72 (0.97)	4.84 (0.44)	<b>8.692</b>
Question 15	3.94 (0.95)	4.31 (0.87)	<b>2.488</b>
Question 17	4.60 (0.55)	4.81 (0.57)	<b>2.321</b>

Table 4 below provides similar student evaluation results comparing fall 2007 and fall 2008 evaluations which are meant to discover the effect of the second music assignment (Music 2).

**TABLE 4: STUDENT EVALUATION STATISTICS FOR MUSIC 2**

<u>Category</u>	<u>Fall 2007 Mean</u>	<u>Fall 2008 Mean</u>	<u>Difference in Mean t-statistic</u>
Question 5	3.53 (0.94)	4.23 (0.83)	<b>5.848</b>
Question 6	4.13 (0.72)	4.72 (0.54)	<b>6.880</b>
Question 7	3.95 (0.72)	4.21 (0.68)	<b>2.748</b>
Question 9	3.66 (1.07)	4.17 (0.94)	<b>3.752</b>
Question 12	3.62 (1.01)	4.37 (0.79)	<b>6.136</b>
Question 14	4.20 (0.62)	4.81 (0.38)	<b>8.822</b>
Question 15	4.28 (0.84)	4.46 (0.49)	1.947
Question 17	4.78 (0.84)	4.86 (0.41)	0.902

Finally, bar graph results on averages for each student evaluation question above in each semester of Consumer Economics are provided for visual comparison.

FIGURE 3

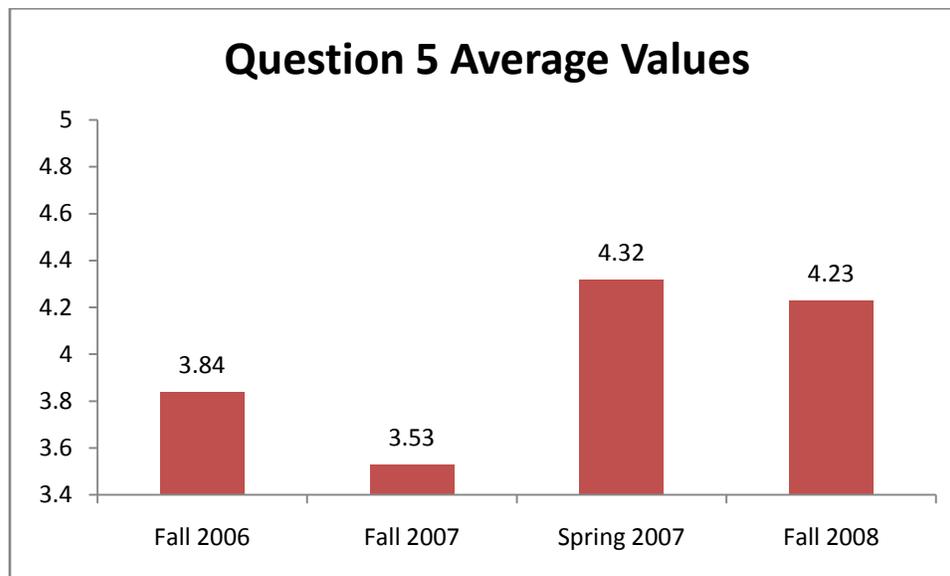


FIGURE 4

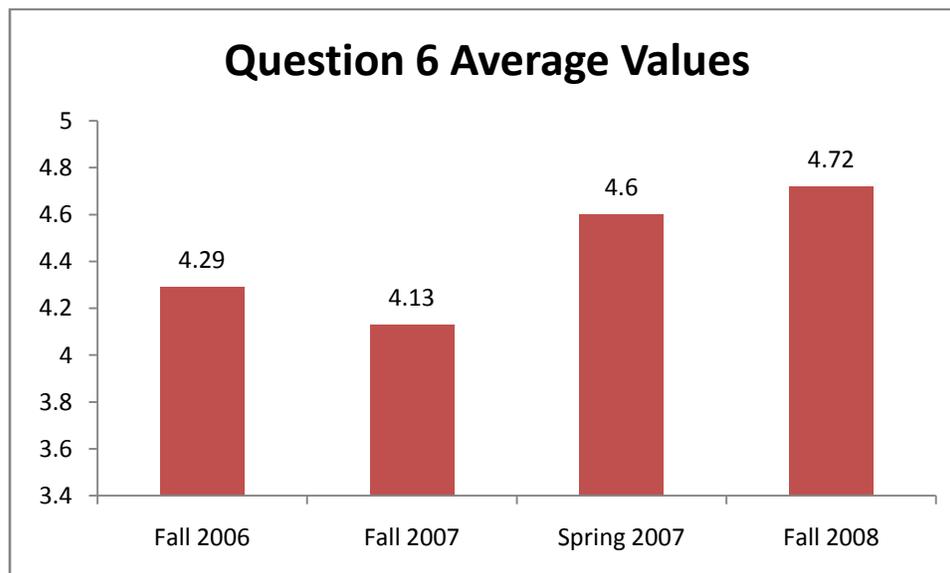


FIGURE 5

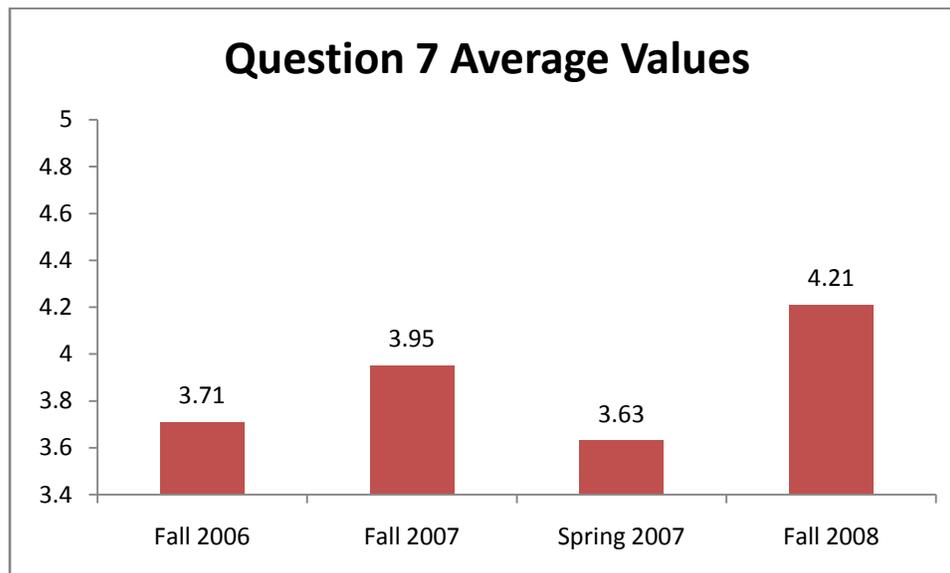


FIGURE 6

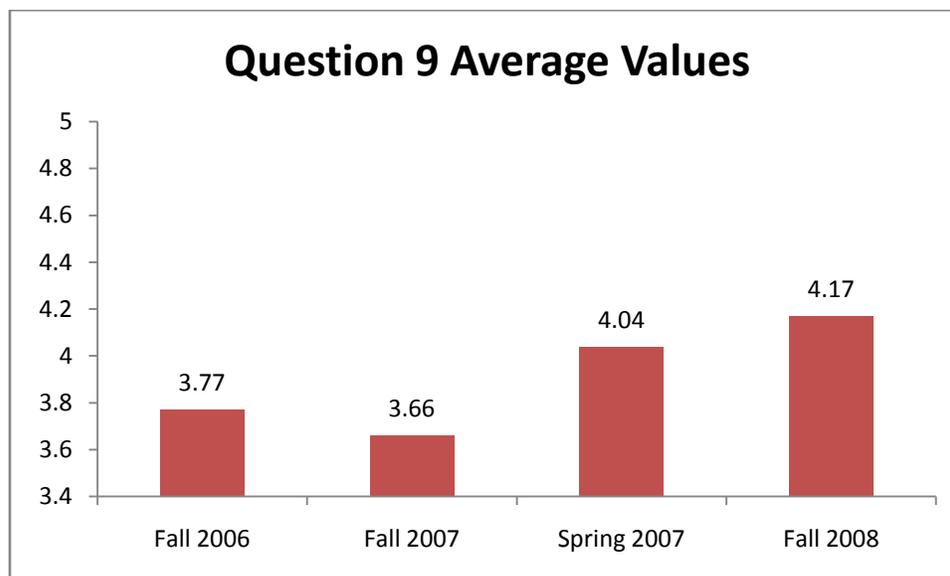


FIGURE 7

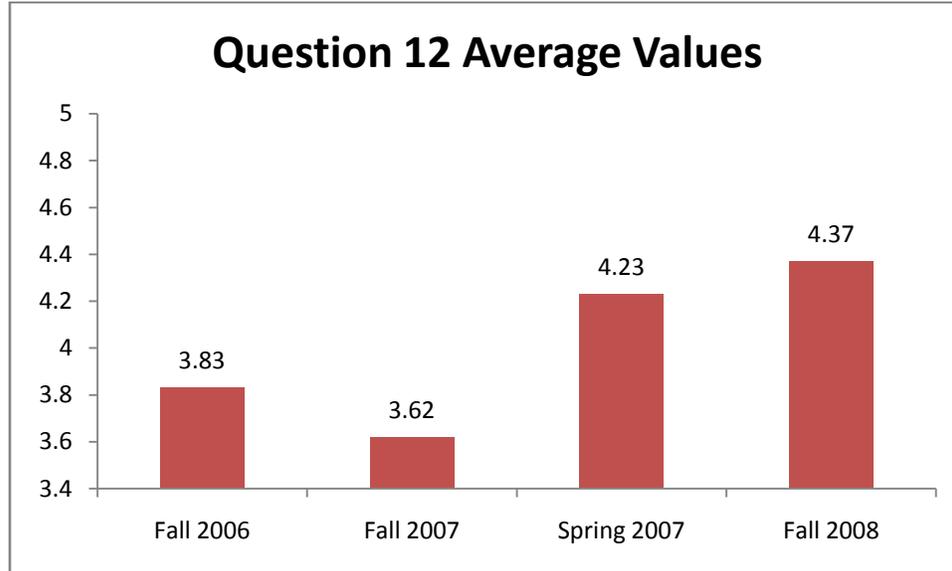


FIGURE 8

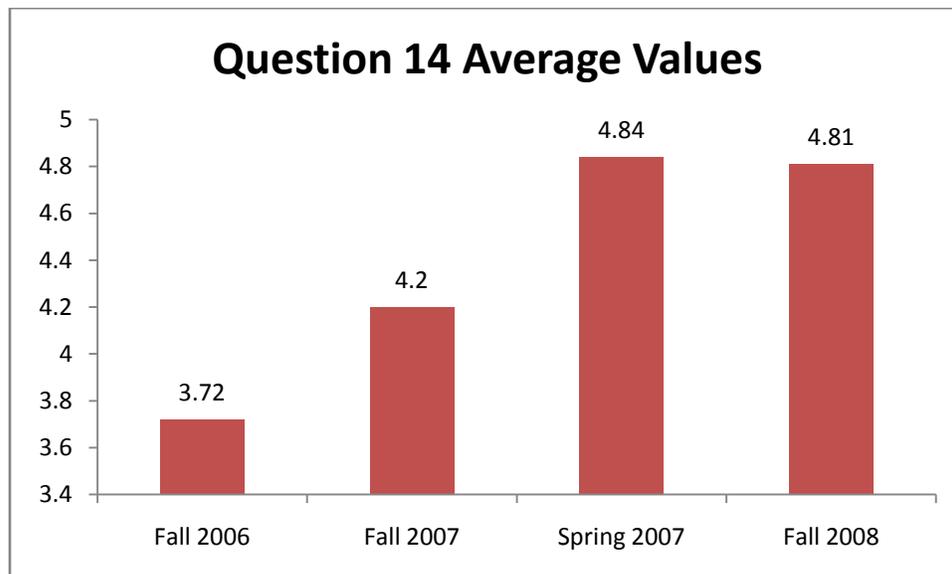


FIGURE 9

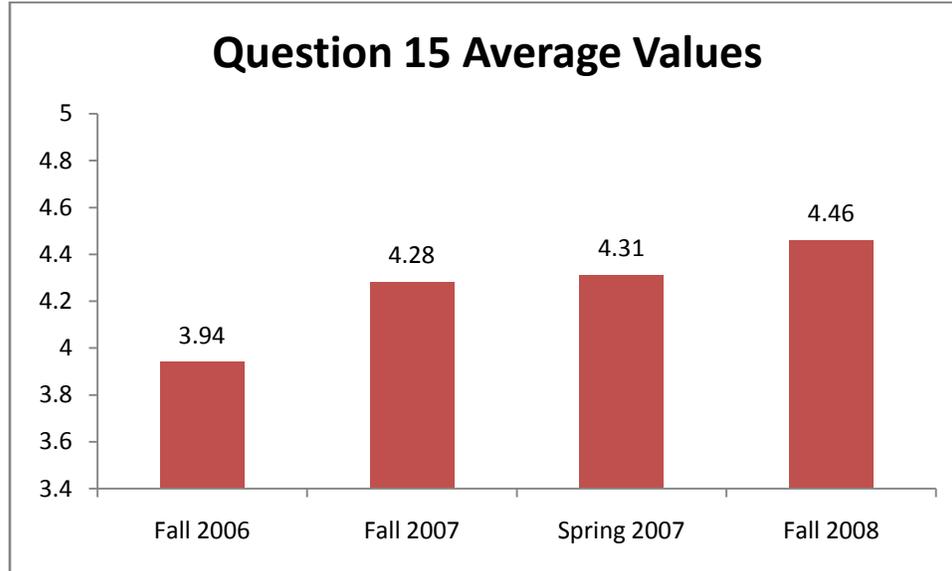
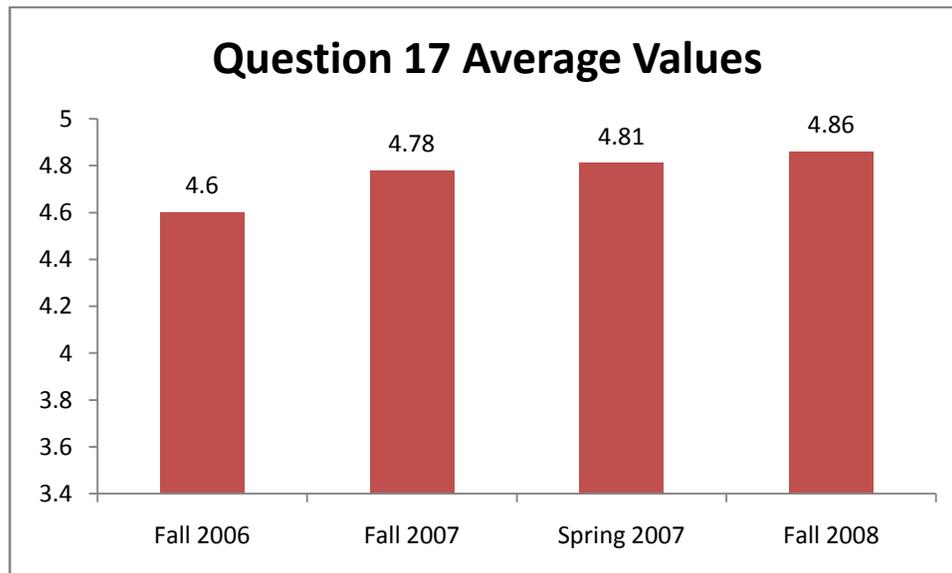


FIGURE 10



The analysis of each student evaluation question incorporates data in Table 3 and Table 4 along with visual interpretation of relevant bar graphs. Even though this seems out of order, Question 6 must be looked at first in that it is the crucial question in the student evaluation form regarding tenure, promotion, and subsequent faculty evaluation. That question is simply a student assessment on the overall quality of instruction. The data indicates that average results for Question 6 are significantly higher in the spring of 2007 (when the first music project was given) compared to the fall semester of 2006 (no music project). Likewise, average results for this question are higher in the fall semester of 2008 (the second music project including student-written song lyrics). The data and perusal of Figure 4 indicate that student evaluations for this question are improved during semesters when the project is used in Consumer Economics. Similar results are observed when looking at the data and graph for Question 5. The average values are lower for Question 5 (students often still do not enjoy economics even if they like the quality of instruction) compared to other questions in the student evaluation form, but they still improve significantly when a music project is incorporated into the course.

Results for Question 7 (the student perceived amount of effort in the course) are somewhat different. Students in the fall semester of 2006 (no project), on average, believe the course was slightly more difficult than students in the spring semester of 2007 did (includes the original music project). This difference, however, is not statistically significant. Comparison between fall of 2007 and fall of 2008 shows that students taking the course when the second music project was included think there is more effort than students taking the course when the project is not included. The music project given in

the fall semester of 2008 certainly involved a great deal more effort by students than in other semesters. Results on Question 9 (whether the instructor enhanced student interest in the course) are similar regarding statistical insignificance for the first music project and statistical significance for the second music project. While the bar graph in Figure 6 shows better results in semesters when a music project is used, the only significant rise is a comparison between fall of 2007 and fall of 2008 (the second music project).

Question 12 (student assessment of how much they learned) and Question 14 (assessment of instructor preparedness) results are both very favorable when comparing semesters with and without either of the music projects. Looking at Table 3 and Table 4 along with Figure 7 and Figure 8, it is clear that student evaluations for these two questions significantly improve when a music project is added to the Consumer Economics course.

Results on the final two student evaluation questions analyzed in this paper (Question 15 and Question 17) show average improvements when a music project is included. For Question 17, however, the improvement between fall semester of 2007 and fall semester of 2008 is not statistically significant. The average scores for those two semesters are already quite high so it appears students feel a significant number of examples and illustrations are part of the course with or without the new music project. It is clear that incorporation of a music project in Consumer Economics has a very positive overall effect on my student evaluations.

## **VI. Conclusion**

As stated in the introduction, this paper is still a very preliminary analysis. A great deal of work needs to be done in terms of improving the statistical analysis and the development of the music project. Nevertheless, it appears that there is some support for using a music project to teach economic concepts to students in a pre-principles of economics course. From a pedagogical standpoint, it is encouraging to see that during the two semesters when the music project was included attendance improved. I believe most instructors will agree that improving attendance among students most at risk for failure (such as beginning freshmen) is half the battle. There does not appear to be any evidence that suggests that simply incorporating a music project improves student performance. It does appear that the way the project is constructed might matter. The second music project that included student groups writing their own song lyrics appears to have some positive effect on final examination scores when compared to other semesters. Perhaps this is a result of inducing students to review their notes more while preparing song lyrics. It might also simply be a function of placing students in a group. Students originally get together to write song lyrics but may extend this to a study group of some kind. It is encouraging, regardless of the explanation, to witness improved examination performance during a semester when I used a more involved project.

While student academic performance, learning, and attendance are all vitally important, faculty members are also interested in discovering ways to improve student evaluations. It is clear from my student evaluations over a four semester period that including the music project in the Consumer Economics course is a good idea. For the

most part, my student evaluations were much better during semesters when I included the music project. Clearly, it seems students enjoy nontraditional instruction techniques.

It is entirely possible, however, that my teaching improves during semesters when I incorporate a music project. Consumer Economics is a very remedial course in comparison to other courses I teach and, as a consequence, adding any new twist to the course might influence my teaching style in a subconscious fashion. Comparing examination scores and student evaluations across semesters assumes that my teaching approach is uniform over a two year period. Likewise, these comparisons are only valid if student characteristics are relatively uniform across semesters. While I believe that both my teaching approach and student characteristics are relatively stationary for this course during this sample period, this conjecture is without empirical verification. For example, one would expect freshman students in the spring semester to generally outperform freshmen in the fall semester simply based on attrition between those two semesters. It is also possible that with changing standards faced by education departments, the quality of student taking Consumer Economics changes over time. If education colleges are more selective then student entrance examination scores might rise. Likewise, education programs might not require a basic economics course but, instead, a selection of a group of social studies courses for students majoring in education. If this is the case, the better students might self-select into Consumer Economics compared to previous semesters. In any case, it will be important to develop a reasonable control group in future research as well as include student characteristics in a more precise analysis. Since SAT scores and grade point averages were not available to me at this point in time, a regression analysis could not be done. In the future, I will seek to teach more than one section of Consumer

Economics in the same semester to provide a control group in addition to recording data that specifically measures different student characteristics. It will be important, for example, to see whether examination scores are higher in sections where I use the music project once SAT scores or grade point averages are factored out. Another improvement that must be made to the music project involves the treatment of the lyrics written by students. While I required students to provide a written synopsis of the previous two songs they turned in, I did not do so with this part of the project (due to time constraints). I believe it would be more beneficial for students to turn in a discussion of how their lyrics relate to economics both in terms of the learning process and for assessment purposes. As it stands, I only asked students to rate each song turned in and I simply graded the lyrics; not enough information to make a complete assessment of the work put in by each group. This is a change I will make in future sections of this course.

Despite the shortfalls of this initial study, the results are encouraging and in support of the use of this nontraditional teaching tool in a pre-principles economics course. Students in Consumer Economics are less experienced and less likely to understand how economics relates to their world. Incorporating a project that involves music they like is a way to create interest among these types of students and I suspect its impact to be stronger than in a principles of economics course where most students are already aware of why they are enrolled in the course (even if they don't like it). The group lyric writing in my assignment is unique in the economic education research and a part of my project I will continue to include. In the future, I will explore the possibility of obtaining the services of local musicians or the Music Department to put student lyrics to music and maintain those files on my website.

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