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Teaching Economics in Secondary Education through Modern Music: An Innovative Proposal

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Abstract

The current project assesses an interdisciplinary didactic method of teaching economic theory through music, in the context of Senior Greek High School. The research uses modern music tracks in teaching the subject “Principles of Economics” in the final year of Greek Secondary Education. The purpose of this research is to observe the attitudes and perceptions of students when applying this innovative teaching process and to examine the extent to which music can be implemented in the improvement of student and teaching learning.

Keywords: Innovative Teaching Method, Music and Teaching Economics, Effective Learning

Introduction

Economics is a social science that studies how individuals, governments, firms and nations make choices on allocating scarce resources to satisfy their unlimited wants. Economics can generally be broken down into: macroeconomics, which concentrates on the behavior of the aggregate economy; and microeconomics, which focuses on individual consumers (Investopedia).

When teaching Economics in Senior High School, teachers are facing various problems in trying making their students to understand basic economic terms and their application in everyday life. As a result, in order to overcome such problems, teachers need to discover and apply new teaching methods that are compatible with the needs and the abilities of their students. One teaching method that seems to appeal students’ interest is teaching through art.

According to the European Framework for lifelong learning, (European Parliament, 18/12/2006), creativity and critical thinking are key competences that are required for the development of active and fulfilled citizens in terms of personal fulfillment and development, social inclusion,

active citizenship and employment. As a result, all forms of art can be an important tool in the process of teaching and learning, offering a different approach in clarifying concepts, terms, types, situations and phenomena because creativity and art are closely correlated (Brinia & Vikas, 2014).

Music is one form of art that can be used as an interdisciplinary approach to teach economic theory. Teaching via the selection and usage of the appropriate modern songs that can be combined with the teaching material of the lesson "Principles of Economics" in the 3rd year of Senior High School sounds an innovative way to catch students' attention. The purpose of this paper is to examine the attitudes and perceptions of students during this teaching process and to investigate the extent to which music can contribute to the improvement of teaching and student learning.

Research Issues

Unfortunately, interdisciplinary disciplines are not familiar in the Greek education system. Economics is a science that influences many aspects of our everyday and social life so it is a nice base for creating interdisciplinary junctions with many art forms such as music, literature, painting and others. The current research constitutes the first attempt in secondary education in Greece for teaching economics through music.

The research utilizes modern music especially popular music djs' tracks when teaching the subject "Principles of Economics", in the last year of Senior High School, in order to clarify basic economic terms to students, present common points between music and economics and describe ways of implementing this teaching technique.

The music tracks that have been selected have great appeal to young people as are creations of very popular djs performers. In particular, the tracks are "Mammoth" by Dimitri Vegas, Moguai and Like Mike (https://www.youtube.com/watch?v=_o-XlryB2gg) and "Mirage" by Armin Van Buuren (<https://www.youtube.com/watch?v=mfJC34tOZms>). The selection of these tracks was based on their popularity, the continuous rotation of music and rhythm and the continuous fluctuations of the tension. In this way, the junction between music and economics can be illustrated in a manner of affecting the perceptions of students during the teaching process and giving them the chance to express their feelings and thoughts.

Literature Review

It is well known that Art, Education and Society are constantly interrelated so as any change in one of these three parameters can bring changes to the other two. Society exerts the largest effect, as it is shaped by socio-economic systems and as it is obvious, Society is susceptible to changes, too. Art is in direct relation with the structure and the concerns of Society, seeking to weaken of social problems. In general, Art forms the inner world of each entity. It, also, balances emotions and gives the opportunity to discover the beauty and harmony of life (Brinia & Deimezi, 2015). On the other hand, Education may be a way to connect these two parameters in such a way so as Art to be a mean of interpreting the function of everyday social life.

Music is a form of art which presents many common points with economic theory, for example: idea (social phenomena), time (both music and economy are evolving over time), form (combination of various shapes and graphs), management (human brain's ability to discover,

select, organize and combine original ideas such as music, art and economic theories, and reflecting the results in symbols and shapes: music sheets - graphics - charts), rules (it is not something random), rhythm (inspiration and bond between spirit and soul), multiplication (repeated shapes), fluctuations (creativity and switching between rising and falling for prices) and evolution (changes through time) (Brinia & Deimezi, 2015). As a result, it may be very successful to use music in teaching Economics in Senior High School and combine these two sciences. Although, it is observed that it is not something easy to be done.

The use of music in teaching economics is a modern experiential training method that enhances the effectiveness of the teaching process. At this point, it is necessary to illustrate the general teaching goals of this method. Firstly, through music, students are encouraged in terms of developing ideas and expressing feelings via artistic creation. They become more able to understand the inspiration of the artist and they benefit from artist's talent and experience, in many ways such as clarifying basic economic terms. Also, students are given the chance to accept new information and potentially elaborate it in order to enrich their knowledge and finally, participate in complicated artistic projects (Brinia & Deimezi, 2015).

A combination of unconventional active learning and the application of personal non-expert knowledge can facilitate a positive outcome of economic education (Krasnozhon, 2013). That happens because students are able to apply the concept of economics to their personal experience. Furthermore, students enjoy the process of learning procedure using both qualitative and graphical analysis, especially when it is about very popular melodies. This encourages them to understand the fundamental concepts of economics. As students' behaviors and reactions have shown, the instructional use of a song in the classroom, always gives a positive feedback. The present method facilitates the active learning. Especially, when the song has a universal appeal and relates to a common experiences and the artist is popular to the students, it is easier for them to remember the active learning example (Krasnozhon, 2013).

Tinari and Khandke (2000) provided the first experiential approach in utilizing music to help teaching introductory economics (principles-level courses). More specifically, Tinari and Khandke (2000) asked students to select various songs, display the lyrics, and in the end, discussed the economic meanings and theories within their chosen titles. The main idea of this project was to make students believe that economics did not only appear in the class, as a lesson, but, it was also presented in daily life. This encouraged them to study the economic concepts easier, to understand and remember them, due to the applied nature of this experience (Raehsler, 2009). As mentioned above, music and economics have a lot in common. Although it is easier for the music experts to detect common points, everybody can be equally able to do it. In the context of music's link with economics, students can notice the exchange of information, the fluctuations, the balance conditions, multiplication, demand of goods and consumer's behavior. Those are the most common points of music and economics (Brinia & Deimezi, 2015).

For example, as for the demand of goods, it can be correlated with the fact that the characteristics of music (rhythm, tune, frequency) are determined and interact with each other, according to the demand of the audience. Another example is about consumer's behavior, as each consumer chooses the kind of music that wants to listen depending on each behavior and mood. It is common for every consumer that, the utility of music depends on the satisfaction that

enjoys in a time period (Deimezi, 2015). It is, also, true for most normal goods, such as music and other types of art that an increase in consumers' income leads to an increase in their demand. Through this teaching method, teacher can enhance the effectiveness of the course. As an experiential method, the use of music can activate all students and attract their attention. This happens because of the constant motion, the repetition and the rhythm of the songs. Moreover, music offers the ability for nonverbal communication via the rhythm, the melody, the imitation and the development of each music track (Brinia & Deimezi, 2015). It should not be forgotten that, this is a difficult task in terms of the teacher. It requires preparation, knowledge, imagination and talent, in order to complete it with success in accordance with course syllabus. The challenge for this particular research is to conjoin through teaching in an innovative manner, modern music tracks to the teaching of the subject Principles of Economics with main aim to evaluate attitudes and perception of students during this process.

Research Methodology

The purpose of this research is the investigation of the contribution of music to the improvement of teaching and student learning of the students of the 3rd year of Senior High School with regards to the teaching of the subject "Principles of Economics".

The selected framework of research for the data collection is closely related to the research aim and objectives (Bird, 1999; Faulkner et al., 1999). The research approach that has been considered as appropriate for achieving the research aim is qualitative one, as it permits for an extensive and in-depth analysis and interpretation of attitudes and perceptions and its main goal is to present and understand processes through analytical induction (Bird et al; 1999).

The presentation of the outcome of the qualitative data will commence as follow:

1. Formulation of research questions
2. Description of the research approach and research instruments
3. Presentation of the research sample
4. Description of the research process and presentation of research results

Research Questions

The introduction of an innovative approach in teaching Economics in the Greek Senior High Schools may contribute to a new dimension of the perceptions of the economic problems and will get out of the strict framework of the school textbook. Although, it is necessary to investigate whether this attempt has the desirable results with regards to active participation of students and formation of a friendly school climate with the aim of acquiring a general view of encountering economic terms and concepts.

The main goal of this current research is to highlight the aspects of the issues mentioned above. In particular, the formulation of the research questions based on teaching the subject "Principles of Economics" through modern music songs of famous djs, so it is investigated whether this process:

- a. contributes to the improvement of teaching and student learning and
- b. enriches the attitudes and perceptions of students in interpreting the economic concepts in relation to the music approach and the societal forces.

Methodology Approach to Issue

The reason for selecting music and modern music songs for the application of the interdisciplinary approach to the subject “Principles of Economics” is that these songs entail many common points with economic concepts and will help students to clarify terms such as law of demand through understanding common music terms like fluctuations, balance conditions, multiplication and imitation for example.

Research Instruments

The research instruments that have been used for the data collection are action research, case study and triangulation.

Action Research

Action research is a small- scale intervention in the function of the world and a close observation of the effects of this intervention (Halsey, 1972). Action research is mainly based on observation and data conduct. The main advantage of using this method in the school framework is the improvement of its strategies and practices.

Case Study

A case study involves an up-close, in-depth, and detailed examination of a subject (the case), as well as its related contextual conditions. Case-study research can mean single and multiple case studies, can include quantitative evidence, relies on multiple sources of evidence, and benefits from the prior development of theoretical propositions. (Robert K. Yin., et al., 2014) Its main advantage is that enables the researcher to investigate in depth one aspect of a problem in a limited time span (Berg et al., 2004).

Triangulation

Triangulation is the use of two or more methods of collecting data for the research of one aspect of human behavior. This method is appropriate when a more holistic view on educational results is needed (Cohen & Manion, 1994). The idea is that the researcher can be more confident about a result when different methods lead to the same result.

Research Sample

The research process was undertaken in the context of Greek secondary education. The anonymity of the students and school has been maintained for ethical reasons. The research was undertaken in a Senior High School in Athens, during the second semester of the 2014-2015 school year (January - May). The research sample consists of 20 students of the 3rd year of Senior High School, aged between 17 and 18 years old. The research lasted two weeks and was executed during the school program offering 2 hours of teaching weekly.

Research Process

In order to implement the research process, Stages for Teaching via Art developed by Kokkos (2009), were applied. These are the following:

1. The first stage (identification of educational needs) consists of the determination of the need for critical examination of the stereotypical assumptions of the students that are referred to a specific issue.
2. In the second stage, teacher facilitates a process whereby students express their assumptions about the issue.
3. In the third stage, teacher examines the responses and identifies subthemes that must be approached holistically and critically in order to review the views that were expressed.
4. In the fourth stage, teacher selects several important music artworks, which will be used as a stimulus for analyzing the subthemes.
5. In the fifth stage, teacher facilitates a process, which aims to reach the several subthemes from different aspects, in order to present to the students as many dimensions as possible and give them the opportunity to review their initial assumptions. One of the basic learning tool in this process is the sensory experience. Each music work is analyzed and critically linked with the relevant subtheme. Students express their experiences, their feelings and thoughts.
6. In the final stage, the composition is taking place and students end up with conclusions.

All the above stages were followed one by one, during the present research. Particularly, at the beginning, the previous experience and the students' relationship with Economics were examined. Teacher had to examine all students' previous knowledge concerning the teaching unit "Properties of needs" of the course Principles of Economics. As far as the second stage is concerned, teacher gave the chance to all the students to express their thoughts about the subject, by using questions. Then, in the third stage, the teacher, in order to identify sub themes, such as imitation and multiplication, examined all the responses given by the students. It is important to think holistically and critically while considering the assumption of each student. The next step was coming up at class with the most appropriate music track. After that, in order to approach the theme and the sub themes from all the possible aspects, students were given the opportunity to think again about their initial thoughts about "Properties of needs" and change their minds if they wish. All students were asked to draw what they felt while listening to a particular modern song with combination of a display of different images. Initially, students had to pick one or more colors so as to express their feelings. Then students were asked to interpret in front of the class, the meaning of every color and shape that they had drawn and tried to explain why they felt that way, while hearing these particular songs. In the final stage, after the discussion, students were asked via questions to connect the current music tracks with the teaching unit "Properties of needs" of the course "Principles of Economics".

During this research, the Stages for Teaching via Art were successfully applied and a theoretical lecture follows. Of course, many examples concerning theory were mentioned and it was given a lot of attention to the questions and the needs of the students.

Research Process Results

The results of the research process entail the data that was produced by the drawings of students and the notes that the teacher kept during the discussion that followed inside the class.



“The above diagram is a composite presentation of my emotions during the course, depending on time. Obviously, the relationship of emotion and time (t) is not linear. Therefore, it is worth to notice the steps of the design of the diagram in the right order.

At first, having chosen the green color from the pallet of colors, I began to create small dots that resembled with musical notes. I was inspired for that by the part of the lecture designed to connect music with the lesson of Economics. Definitely, I got into the spirit of the activity and had been influenced by the artistic nature of the course.

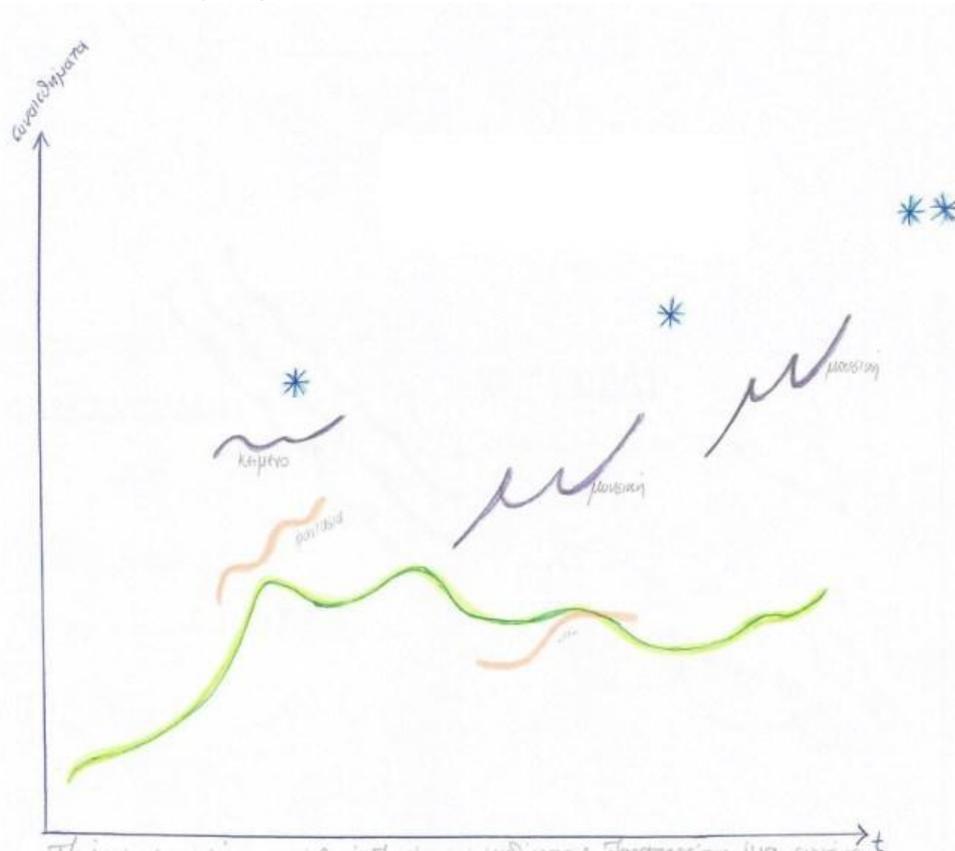
The subsequent design was the little brown bug –if we use our imagination- which started by a dot, like the previous green ones. In the process, however, I decorated it with many lines around it, which express the tension that can be created from something so small. In this way, I expressed the feeling that I felt during the course which was how a group (students and teachers) managed to do something important and magnificent.

Then, I drew the pentagram -at least that’s what I had in mind at the beginning- which is directly connected with music. I planned to design a treble clef and music notes, but then I considered that it would not be creative enough. So, I decided to change it into a cardiogram, which could be a representative expression of my feelings, during the lesson.

The dots at the beginning, as much as the cardiogram follow an ascending path, which symbolize the gradual growth of my interest.

In the end, the circular figure, slightly resembling a snail, represents the wakefulness I had during the course and in fact, the choice of the colors was not random. Starting with the lighter green then, dark green and finally, the black color that indicates the intensity. The ending of the figure, which is a continuous line with curves, shows the relaxation that I felt when the lecture came to an end. It looks like the epilogue of a composition that makes the end smoother and less clumsy.

Generally, I found the whole process very interesting and unique. Especially, when taking into consideration the way that lesson took place at school, this course was a unique experience and helped me to think more openly.”



“Green line: the whole progress of the course

It is observed that there are ups and downs continuously, depending on the content, the new incoming knowledge and the participation in the class.

Orange line

My imagination went a step forward, at the specific parts of today’s lesson.

Purple line: use teaching aids and learning materials.

The use of the text and the music helped me understand better the content of teaching (green line) and made it more interesting. That’s the reason why they are positioned above the previous. The fluctuations of the purple lines show the flow and the feelings that these materials caused me.

Blue Stars

Inspired by these points, I saw how I could use similar techniques in my studying at home Then, I felt enthusiasm.

In general, the design of the chart shows an ascending trend, because I liked the subject and the ideas and they seemed to be useful and interesting.”



“The display of emotions on shafts was for me something very new and unexpected! However, I found it very interesting, innovative and useful.

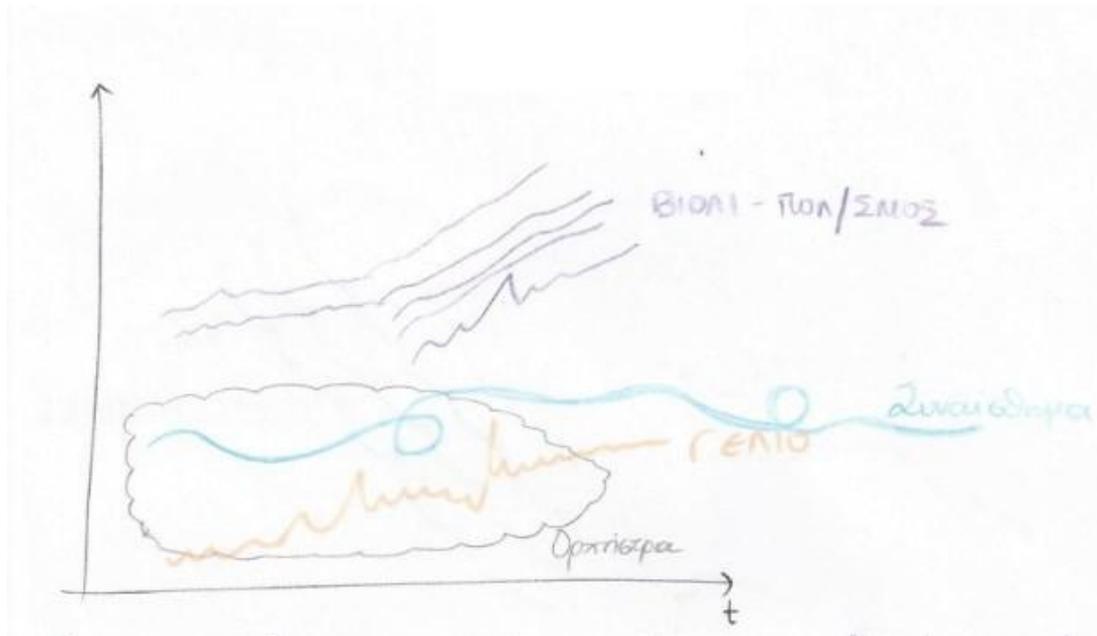
At the beginning of this lesson, emotions were strange. I felt curiosity about how the connection between Music and Economics will happen. The interest was becoming bigger and bigger! My feelings were going up and down (Line 1).

I felt very confused when I saw the music sheets! I did not know or could not understand anything by seeing them. It was something strange! (Line 3).

Line 2 came from the repetitive music that we heard during the lecture. In addition, Line 5 was designed while listening to a particular piece of music and expresses the feelings of the entire duration of this course.

Points 4 are those bright stars that appeared in my mind, stating the different ideas that could help me in my homework. Sense of creation! Creativity!

Line 6: Maybe there is an explanation for the creation, but I can not know. All I can say with confidence is that it was designed spontaneously, without thinking and it happened from the first moment.”



“The chart above describes my feelings during today’s course.

Firstly, I combined the wind instrument with multiplication, because I liked very much the sound. It also resembles the course, which was peaking at the end.

The blue line of emotion is pretty much stable at the same level, from the beginning to the end, as is my general condition. As it seems I was deeply influenced by the course the moments when I drew the circles.

Laughter (brown line) is the most obvious and expresses the moments of laughter we had in class. Those moments peaked at the end and left behind them a good mood.

Finally, the orchestra (black cycle) is a cloudy landscape which represents the times that I did not realized, during the course. It is important to observe that those moments seem to decline and in some point they vanish.”

The results saw that the interdisciplinary approach towards teaching Economic Theory has been an innovative idea for students. The modern songs that were used for the research have attracted a lot of attention and have contributed to a pleasant, interactive and creative lesson.

According to the majority of students, the lesson became more interesting and easy to comprehend, especially when the students were asked to express their feelings. In contrast to the classic way of teaching this was a more interesting method of imparting course material beyond the standard lecture format so as to motivate students to learn more effectively. Moreover, the class climate was rather friendly and the students identified with their classmates, in terms of having freedom to express themselves.

Conclusion - Further Discussion

From the above experiential research, we can come up with some useful results concerning the teaching methodology of Economics.

The involvement of the Economic theory with other sciences and particularly with music opens new horizons in the approach of economics phenomena because music offers the chance to students to study in an innovative way the social, political and economic environment. In this way, didactic methodology of Economic theory may get out of the strict structured framework of the course provided by the analytical program and economics and the economic concepts can be subjects for dynamic discussions and reflections between teachers and students.

An important condition for the introduction of music in teaching economics is the creation of the appropriate learning environment in the classroom, the ensurance of the necessary conditions for interactive teaching and the active participation of all students. The active participation of all students in class and the free exchange of opinions among students can aid the development of their personality and facilitate the creation of critical though in students (Matsagouras, 2003)

Of course, a necessary prerequisite of applying this innovative teaching method is that the Greek state should institute and promote training programs for teachers on teaching through music so as to feel more confident with their implementation. It should provide the necessary resources and establish a more flexible school program, so teachers can adjust their timetable in order to incorporate this innovative teaching process in their lectures.

Moreover, teacher should apply all the conditions for the quality teaching, which are interpersonal relationships and expectations, pedagogical classroom climate and organization of classroom. In particular, the quality teachings focuses on the engagement of students in active learning, creation of intellectually ambitious tasks, usage of variety of teaching strategies, assessment of student learning continuously and adaptation teaching to student needs, creation of effective scaffolds and support, provision of clear standards, constant feedback, and opportunities for revising work and development and effective management of a collaborative classroom in which all students are equal partners.

Finally, it is worth noting that the most important part of applying an innovative teaching method is the ability of teachers to select the appropriate art works for achieving the best connection of theory and practice by enhancing the communication, the critical through and the artistic creation of their students.

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