



Curriculum Units by Fellows of the Yale-New Haven Teachers Institute
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Teaching Academic Skills Through the Exploration of Music

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Introduction

Teaching music through an “interdisciplinary approach” affects students positively in the acquisition of academic skills. The way in which we experience music, language, and learning has changed due to the advent of interactive technology (i.e. CD-ROM’s, Virtual reality generators currently being developed by cable networks, telephone companies, internet networks) and the coming of age of interdisciplinary arts presentation. Rarely is music, dance, Literature, film or most any academic subject presented in the class room per se without the use of some form of media aid or presentation. As a result, how students perceive, experience, and respond to learning subjects such as reading, writing, math, science, and understanding art or music may have also changed over the past fifteen to twenty years.

For teachers, this “change” might not be viewed as positive. It is the goal of this teaching unit to provide teachers with an effective way of organizing resources that build reading, writing, and comprehension skills while providing students with exposure to art and music. In order to do this, I shall use the film genre, as it lends itself easily to the combination and study of three disciplines. Through film, we may have a better understanding of ourselves as people. Seeing a film about someone from a different culture, or viewing someone with special needs might give students insight into how other types of people experience the world, thus giving them a fuller view of themselves in the context of this world. Film might also spark of the imagination the students in ways that just class discussion alone might not. While teachers may have these goals they might run the risk of students not applying themselves; the analysis and critical work has been done for the students in the media presentation.

While students imaginations might be sparked, and their world view expanded, other skills such as the ability to read with comprehension, to think, analyze, and process information critically and express ones personal view and discoveries in writing might go undeveloped. These skills can develop only through consistent work. The quagmire for teachers might be that just working on English grammar and writing skills in a vacuum can be equally troublesome. Without motivation, students will not have the heart or desire to put in the hard work necessary to develop and treasure strong traditional academic skills. Keep those media rescues handy. Imagination or motivation boosters might not be so bad after all.

I have attempted to address the needs of different grade levels as most music teachers work with a variety of levels within a particular school setting. For example, a music teacher assigned to an elementary school might

work with kindergarten through fifth grade. There might also be a class or two of students with special needs. The “interdisciplinary approach” of this unit lends itself to adaptation for all grades and needs. I have also outlined ways that material can be adapted to each grade level in the following pages.

I am currently teaching in the New Haven School system as a permanent substitute and I love it. As a permanent Sub, I have been given extra responsibilities such as bus duty, the extended day program, and the Metropolitan Opera, “Create Your Own Opera Program” at Strong School. I have also been a substitute music teacher at both Nathan Hale Elementary School and at Katharine Brennan. I am also teaching part-time at the New Haven Cooperative High School of the Performing Arts, teaching strings: violin, guitar, and electric bass. I have been asked to become involved with the Urban, Suburban Fellowship Orchestra, which features the teaching of improvisation to string players and encourages them to present whatever special skill(s) that they to their peers as well as assisting them to develop basic musicianship skills, such as sightreading, music theory, etc. The Neighborhood Music School has also expressed interest in having me work part time as a person who works with people with special needs.

‘Jurassic Park’ is one example of the films to be used in the units to be taught in my second grade elementary class. Film clips will be used to illustrate how film, literature and music treat characterization and theme development. The use of two art forms alone provides a rich environment to enable students to develop academic skills by showing one focal art work such as ‘Jurassic Park’ through the lens of two different disciplines. By adding the third dimension of music, elementary students gain an auditory sense by studying how the music score by John Williams relates to the central themes shown on film.

When presenting “Jurassic Park” the concept of theme *development* would reach students who learn in different ways. The film can be used to show how director Steven Spielberg used writing and visual skills to take the theme from the novel by Michael Crichton and show it on film. Concepts like characterization and theme development can be enhanced with film clips to support listening and viewing skills. ¹This process should develop increased attention span and comprehension ² by assisting students in focusing their attention on a single idea with visual and auditory stimulation.

The central musical theme of the film is derived from the theme used by John Williams for the first park scene in the film. ³After students learn how to identify written, visual and musical themes from film clips of “Jurassic Park” , they would then write *music themes* created to accompany each film segment. A list of vocabulary words related to basic music and literary concepts would be explored. Each student might match words correlated in feeling or mood to accompany each character seen on each film clip. In this type of presentation, reading, writing, and comprehension skills are addressed through viewing, listening and discussion of the film.

Teaching music in combination with Film and Literature can be used to stimulate the creative process and address the acquisition of academic skills of elementary school students. The film ‘Jurassic Park’ by Steven Spielberg, based on the novel by Michael Crichton with the score by John Williams would give students a view of theme and character development from the perspective of three art forms.

General Strategies:

To accomplish teaching the above three art forms, I would start off by having each student experience the development of the language of film and music. Writing skills will also be addressed in other activities during school time. As a transition to support reading and writing skills the teacher might want to develop the lesson plan with other teachers. A Music and English teacher might be able to explore together key concepts that are central to both disciplines. This might also be a point of departure for students with special needs.

Through class assignments and activities the teacher might want to have in mind key skills that each student will identify as being developed at the end of each session.

What Students Gain Through This Type of Study

Students gain both music and academic skills through this type of curriculum unit. Music skills can be acquired for basic musical symbols, notation and musical concepts. Music symbols such as the staff, treble and bass clefs and bar lines are fun to learn if put into the context of a film, literature or game. Students will also learn the notes of the staff when the treble clef is in use, what a time signature is (like 4/4, 3/4, and 6/8), and very basic dynamic markings: forte, mezzoforte, piano. Students will also learn the basic elements of a simple musical phrase or melody such as (Three Blind Mice). With an interdisciplinary approach more abstract concepts such as foreshadowing can be clearly presented by first showing that concept used in a film clip, then demonstrating the same concept in terms of musical themes (foreshadowing) with music either by means of the same film clip or a series of short musical sections shown on film. Foreshadowing can then be presented in a literary text. The process of the adaptation of a key concept or abstract idea will be explained in more detail later in this unit. The advantage of this manner of teaching is that concepts that are hard to convey when presented by themselves become easier for students to identify, see and understand when seen in action in different disciplines.

Academic skills learned through this type of curriculum unit will depend on the background, the defined need area(s) of the students, the grade, level and the types of teaching styles and experience of the teacher using this procedure. The student needs of an elementary school art teacher are different from the student needs of a person teaching an advanced high school English acting and creative writing course. The desired outcome from the students taught by each teacher who uses this unit is also as diverse as the approach presented. Some of the defined academic skill areas are as follows:

1. Vocabulary lists: help to map, draw out, define, identify, or clarify the context of an abstract idea or concept presented in more than one discipline. For example, the concept of theme used in "Star Wars" can be presented by using the introduction of the film.

Theme: The central subject of a work of art, film, musical piece, or book.

Leitmotif: A short musical phrase that is designed by a composer to characterize an object, image, symbol or person in a dramatic work, like a musical theme.

Plot: The main story of a literary or dramatic work.

Film Plot: The main plot of a film.

Character: Features and traits that form the individual nature of a person or a thing.

Students see, hear, and read the concept of theme while viewing the introduction of the film clip of "Star Wars". Leitmotif is used for each character including the opening of the film plot with the specific musical phrase, song or melody to match. The plot of the film is read as a text just as a person would do if reading a novel. The concept of theme becomes understood readily by the students viewing the film. The character of the music can also be related to what is being viewed on film. A music teacher working on the orchestra can have students pick out different instruments, and also talk about how each instrument might represent a type of character, or create a type of mood.

2. Exposure to science: the use of a journal is a way to encourage students to participate in the development of their powers of observation. With the use of film clips, a teacher can demonstrate the benefits of observation not only in science, which, of course, is the first step to scientific thinking, but can show how that same skill applies to art and music as well. Scientific relationships such as in the film 'Jurassic Park' can take the rather unknown point of view of a paleontologist and bring it into the realm of filmgoer. Film can dramatically present the wonder of the great scientific minds and why their contributions are so great. The study of sound waves in this film is a point of departure for music as well. Sound waves are used to observe and find dinosaurs in this film. The graphing of sound waves or the use of sonar demonstrates the mathematical form of observation, or using math to view or study the what is normally not visible to our world. Musical notation is also a form of graphing, observation of, or recording of sound waves. The choice of how their powers of observation are used, whether for science, music, literature, or art is theirs. ⁴

3. Historical Perspective: whenever you use more than one discipline to convey or present a concept historical context or perspective is only a film clip away. While social studies, music or American history is not the central subject of this unit, there is another advantage of using this type of approach. Many filmscore composers use music actually from the time period in which a film is set or create music based on musical forms, structure and styles from a time period shown on film.

4. Developmental Skills: this area of learning is one that can not be addressed directly, yet is of utmost importance in terms of the acquisition of academic skills. If a central concept is presented through the lens of differing disciplines, cognitive, listening, memory, analytic, even gross and fine motor skills are stimulated. Since virtual reality machines are at present new, awkward, and very expensive for most classrooms to employ practically in the classroom, film clips are the next best thing. The more senses that are involved, the more learning has the chance to take place in the classroom as a whole. Given that each person learns in different ways, the multiplicity of a interdisciplinary approach supports a wide range of levels, styles, and types of learning in the class room.

How to Adapt This Curriculum Unit for Different Grade Levels

Since the objectives and strategies are different for each grade level and type of student taught, objectives and strategies shall be covered as follows:

1. K-2
2. 2-4
3. 5-8
4. 9-12
5. Special Students

If you are a Music, Special Education, or Art teacher teaching in the elementary school level, you can adapt your activities for each grade and class that you teach. If you are a third grade elementary school or a high school teacher you need only refer to the grade that you are teaching.

K-2

The use of film and Music at the kindergarden to second grade level should be fun, simple and brief as attention spans are short. The goals, strategies and objectives are as follows:

Strategies, Goals and Objectives

1. Each class should have a central or key concept presented during each class.
2. Ground rules should be given and clearly stated at the beginning of each class as to how to use musical instruments, how to view films, and what good listening skills are.
3. Most of your unit will consist of pre-screening and musical exercises before the introduction of film clips.
4. Break up activities into short concise segments of two to ten minutes that lead to your central idea presented each day.
5. Use musical singing games, and mini science experiments that relate to your key concept and include the use of developmental skills. Pick one or two skills from the list above to focus on each week.
6. Transitions from one activity to another are key with this age of student.

2-4

The Second to fourth grade levels appear to love dinosaurs. They love to sing and learn songs, work on class projects such as drawing pictures, and like to see movies. The goals, strategies and objectives for these grades are as follows:

Strategies, Goals and Objectives

1. Have class divide up into sub groups to work on film and music projects. For example, have one group be responsible for creating a musical theme or phrase, and have another group draw a picture of the Velociraptor that group one is creating a theme of, and have group three write musical notation of the short song that group one under the picture drawn by group two.
2. Group discussion is very important, allow some time at the end of each class to talk about the key concept(s) presented for that day.
3. Rescreening and musical activities will help students organize what they will learn in the following lessons.
4. Before viewing the film and listening to the music from the film, have students keep a journal with simple vocabulary words, music symbols and a list of their favorite movies and recordings.
5. Have a trip planned that relates to the film that you have studied i.e. if you use "Jurassic Park ", have the class visit your local Museum.
6. Plan to have a real paleontologist visit the class or have the class read about one such as Robert Baker or John Ostrom.

5-8

The Fifth to Eighth graders may have some musical training before you teach them, might have some preconceived ideas of what goals you are trying to accomplish and love to challenge the teacher's knowledge. If you capture their hearts and imagination, you will be amazed at what they learn and recall while studying film, literature and music. Their goals, strategies and objectives are as follows:

Strategies, Goals and Objectives

1. Pre-screening and musical activities are not as central to planning as the format and your presentation of the structure of your film, literature and music goals.
2. In the first class assess their musical, literary, and film exposure and experience by showing a

film clip and have them write their observations on paper. (Note that you might show your students the same film clip at the end of your unit and have them write their findings and pass back their first papers and have them compare the two).

3. Have students keep a journal. Each student should have a section for music, art, film literature and personal observations.

4. Have a central or key concept to concentrate on during each lesson; have the students write in each section. Each section should start with a list of vocabulary words to be learned each week of the unit.

5. Before showing the film and listening to music, make a list of other resources for the students to use. For example, bring in articles that relate to the film that you are showing ⁵ and which help put viewing film into an educational perspective. There is also a computer version of “Jurassic Park” which is interactive and has built-in science projects ready to go. Make a list of museums in your local area the students to visit after school. ⁶

9-12

At the high school level, students can accomplish a lot that will prepare them for later life. The high school music teacher might be teaching a very specific course in music in which he or she might ask students to orchestrate a film score for other instrumentalists in the same class. The assignment might include a central type of characterization like *fear*. If students have the music and writing skills, they could write in the style of another film or other composer. Goals, strategies and objectives for these grade levels are as follows:

Strategies, Goals and Objectives

1. Pre-screening and musical activities should only take one class at the most. Explain the structure of your class and give them a list of films and books to choose from, reminding them that music will also be studied during the course of your unit.

2. Pass out a journal for them to use for the course. Each student should have a section for music, art, film, literature and personal observations. Give students a syllabus with a list of choices, so that they can make selections for the next class of two.

3. Towards the mid-point of your unit, you might want to have each student bring to class his or her favorite film clip. They should be prepared to give an analysis of the main idea, theme, musical characteristics, and film devices used in the film clip.

4. If electronic musical instruments are available, students might write their own mood music to a short video created by another class.

5. Find a studio musician, scientist and actor to visit the class or provide materials that enhance student awareness of central concepts being presented. ⁷

6. Make a list of other resources for the students to use.

Special Students

Special students that use this curriculum unit benefit greatly due to the use of more than one discipline or the interdisciplinary approach. The student that is either physically or emotionally challenged has more occasions to comprehend, process, and retain the information presented. For the exceptionally gifted or talented student, this approach can be adapted to support the most inquiring of minds in search of a creative and educational feast. Teachers that teach special students can adapt the goals, objectives, and strategies from the range of the above listed approaches that best relate to the needs of their students.

This might be as follows:

1. Observation Skills

- a. Each student might keep a journal of just what they might see in films being viewed, scientific facts observed, historical facts learned, the technology either being used or developed, etc.

- b. For early grades (K-5), the teacher might want to simplify or bring into closer focus need areas to observe for each student.

- c. Each student should be able to trace the increase in his or her awareness of your stated objectives for the class.

2. Listening skills

- a. Students should make a list of songs that they like and dislike at the beginning of your teaching unit and then make another list of songs at the end of your teaching unit. Have them comment on how their listening may have changed over the course of study.

- b. Each student might log into different lists music skills, hearing skills, and combined skills covered after each session, either as home work or as a review at the beginning of the next lesson.

- c. For grades (K-5), keep whatever the music skill learned fun and simple for each lesson.

3. Documentation Skills

- a. The teacher might set up each lesson plan in a way that both observation and listening skills grow with good documentation skills at the end of each lesson.

- b. Each student might be given a booklet that has a section for each area covered:

I OBSERVATIONS, OR {THINGS THAT I SAW IN TODAY'S LESSON}

II LISTENING SKILLS, OR {THINGS THAT I HEARD IN TODAY'S LESSON}

III HISTORICAL FACTS, OR {WHAT I LEARNED ABOUT THE HISTORY OF——}

IV MUSICAL FACTS, OR {WHAT I LEARNED ABOUT MUSIC IN TODAY'S LESSON}

V VOCABULARY WORDS, {NEW WORDS THAT I LEARNED IN TODAY'S LESSON}

VI FILM FACTS, {WHAT I LEARNED ABOUT FILM TODAY}

VII SCIENTIFIC FACTS, {WHAT I HAVE LEARNED ABOUT MATH, NUMBERS, SCIENTIFIC METHOD, WEATHER, ENVIRONMENT}

At the beginning of the unit the teacher might tell the students which section to write in. Toward the middle of teaching the unit your students should begin to select the section to write in independently.

c. Each lesson should have a central theme or concept to be entered and documented in different areas at the end of the lesson. (The teacher might want to start off with each discipline as a single subject and gradually integrate the disciplines as they approach the end of their unit, as the needs of the students might dictate).

Approaching Music with Film

The two main examples of combining film, literature and music will be taken from the films “Jurassic Park” and “Star Wars”. Each film will be divided up into three sections: the plot, a brief analysis, and a lesson plan section which will include a short outline of all of the grades and levels of students covered above in the goals, strategies and objectives section.

Jurassic Park

MCA Universal Pictures (US), 1993, Color, 2 Hrs. 7 Mins.

Director, Steven Spielberg, Music, John Williams.

This film starts with a night view of what could be any scene of a zoo or game reserve until the camera frames the cage of a unknown animal. The score of Mr. Williams gives cues the size of Texas that what ever is hidden in that cage is not the run-of-the-mill type of beast. After three seconds of blinding fast movement and terror, a dinosaur with the hunting skills of man outsmarts her hosts and eats alive one of the workers of the first-time-ever theme park of living dinosaurs, Jurassic Park.

For lesson plans see Strategies, Goals and Objectives grades 2-4 and 5-8

Star Wars

Twentieth-Century Fox (US), 1977, Color, 119 Min.

Director and Screenplay, George Lucas, Music, John Williams.

The film starts with one of the most exciting fan-fares in film music making history and a prologue that sets the stage for the film. "A long time ago in a galaxy far, far, away". In the visual text of the film one is reminded of silent films, yet with a space-age twist as the text floats up and way towards the top of the screen and disappears. The text tells of the Rebel Alliance and their nemesis the evil Imperial forces. This film takes the form of a space-age western with a Marvel comic book style and brings it to life on screen. John Williams creates a Leitmotif for each character including the entrance of the film plot with the specific musical phase, song or melody to match. Luke Skywalker, Han Solo, Princess Leia, Ben Obi-Wan Kenobi, (androids C-3PO and R2-D2), and the most famous of this film's musical themes "Darth Vader" all take their place in history with the subtle shading of musical characterization that spans three films.

LESSON PLANS:

K-2

1. See K-2 section in goals, strategies and objectives. "Star Wars" is the best suited for use with of this level of students. 8 The first day should be spent with just introductory games. Often It is easy to take a simple song and have each students substitute their first name for a phase or line of the song. Turn-taking sldlls might follow by having the whole class singing each other's name going around the room or circle. Next activity might be to have the class sing musical numbers. This game is best done in a call and response fashtion. (Sing: 1,2,3,4,5, using a major tetra chord; have the class repeat what you sing.) Musical Nerf Herders Game, is where you have the class divide into small groups and tell them that each group is a herd of Nerfs. Each Nerf makes a beeping sound. Most students know that it is there cue to make BEEP, BEEP sounds. The goal is to have each group BEEP the same way (which, if the teacher is lucky, will also be at the same pitch). If mastery does not happen the first time round, don't fret. Soon you will have a regular Nerf Choir by the end of the week.

2. Have the class work on simple patterns. The next class you might have the class make movies with stickfigures. Have small 2' X 2" cut up and have color markers for all students. Have students draw ten pieces of paper with one placing the arm in a different place on each piece of paper. Have students hold ten papers together in one hand, like playing cards and bingo: movies!

If you have time left have each student make up a little tune to go with the movie that they made.

LESSON PLANS:

2-4

1. See 2-4 in “goals, strategies and objectives” section.
2. During the first class have introduction exercises like k-2. See (1.) in k-1 section. Hand out journals and have students write their first entry. It is always helpful to have an example of the journal entry on the board.
3. Most students at this level have seen “Star Wars”; have the class divide in to two groups. Get a copy of the CD of all the themes to “Star Wars” with the music by John Williams. Tell the class that you are going to have a musical contest and that the team with the most points wins. The rules of the game are that each team gets a turn at listening to the CD, and each student gets a chance to name the movie character on the CD. If the person does not correctly identify the theme of the movie character, the turn goes to the next team. Each student that gets the character right, gets a point for their team.
4. At the end of the class, have each student write in their journal the vocabulary words for the week.
5. Have the class discuss what they have learned about films, words, and music themes.
6. Homework: Find out what musical instrument has 88 keys and starts with the letter “P” ? Make up a short tune that best describes or fits someone in your family. This includes pets as family. The tune must be at least eight counts long but no longer than fifteen counts.

LESSON PLANS:

5-8

1. See 5-8, “strategies, goals and objectives” section.
2. If you are using “Star Wars” for your first class, make sure that the film clip starts at the beginning of a musical theme or phrase. Also make sure that there is one central image, such as Luke, Darth Vader, (which might be too easy for eight graders), starts with the music. At first, try to avoid action scenes at first which might be confusing to students. Before you start the film, explain to the class that you want them to look as well as listen to the film.
After viewing the film, pass out papers with the following questions:
 1. What did you see on screen while you watched the film clip?
 2. What did you hear while you watched the film clip?
 3. Do you know what movie the film clip is from, if the answer is “yes”, write down the answer on this space.
 4. Is there anything that is the same about the movie and the music to the movie; in other words, is there anything that both have in common?
 5. What would you like to say about the film clip that you just saw?

Pass out a vocabulary list containing the following words:

- * Theme
- * Plot
- * Melody
- * Character
- * Film: Director and Producer
- * Novel
- * Conductor
- * Composer
- * Studio Musician
- * Orchestration
- * Underscore

6. Hand out journals, and have students divide their journals into five sections for music, art, film, literature, and personal observations.
7. Give words as a home work assignment. Have students bring back the definitions of each word and tell what section in the journal each word should be placed in.

LESSON PLANS:

9-12

1. See (9-12), "strategies, goals and objectives."
2. If you use "Star Wars", you might want to talk briefly about Wagner and the concept of music drama.
3. For the first day of class use 1-6 of the Strategies, Goals and Objectives section.
4. The next class or lesson two might have writing as a central subject:

Characteristics of good musical scores for film

Most images on screen have a musical theme. In the case of most very good film scores, the viewer is not conscious or aware of the music while watching the film.

Film score themes or melodies that are effective are:

1. easy to sing
2. easy to remember
3. hard to forget

What is the importance of this newspaper write up ?

From: Boston Globe, December 20, 1993

HEADLINE: John Williams has been a fan of Spielberg for 24 years; BYLINE: By Richard Dyer, Globe Staff

"In 1969, John Williams wrote the music for a film called "The Reivers." It was based on a story by William Faulkner, and Steve McQueen was in it. A young man named Steven Spielberg picked up the soundtrack album, on LP vinyl back then. It was a purchase that would have unexpected consequences.

Spielberg wanted to break into the movies, and he thought the way he would do it was by writing a script. In 1973, he was putting together a story about stunt pilots called "Ace, Eli and Rodger of the skies," and as he wrote, he played the soundtrack of "The Reivers" over and over until he wore the record out.

He promised himself that if he ever got to make a movie of his own, he would ask this guy John Williams to

write the music.”

Let’s take a look at Mr. John Williams’s writing skills:

“I knew he would be successful because even then” (1974) “ he was a problem solver, an uncomplicated spirit, an attractive personality . . . I knew this kid knew how to drive the action forward. . . . ”. . . I was taken by Steven. . . . He sang me every theme from ‘The Reivers’ and I had forgotten some of them my self. . . .’

Mr. Williams has the ability to capture the character of Spielberg in writing just as he is able to capture the musical character or personality of what is on the screen in music.

LESSON PLANS:

Special Students

For the student that is either physically or emotionally challenged, see the Special Students section of ‘strategies, goals and objectives.’

1. Lesson one:

This section taken from “Seeing Voices” by Oliver Sacks talks about how both “normal and impaired” human beings perceive the art of reading and hearing. Both skills are used in the development of academic skills. Pass out the following readings:

Filming Literature, by Neil Sinyard Page , 100

“The best way to “Know” a thing, is in the context of another discipline “—The Unanswered Question by Leonard Bernstein, Page 3.

“Seeing Voices” By Oliver Sacks “The congenitally deaf, it should be added, may have the richest appreciation of (say) written English, of Shakespeare, ever though it does not “speak” to them in a auditory way. It speaks to them, one must suppose—in an entirely visual way-they do not hear, they see, the “voice” of the words.”

This is the stereotypical view, and it is not altogether true. The congenitally deaf do not experience or complain of ‘Silence’ (any more than the blind experience or complain of ‘darkness’). These are our projections, or metaphors, for their state. Moreover, those with the profoundest deafness may hear noise of various sorts and may be highly sensitive to vibration of all kinds.

This sensitivity to vibration can become a sort of accessory sense: thus Lucy K., although profoundly deaf, can immediately judge a chord as a “fifth” by placing a hand on the piano and can interpret voices on highly amplified telephones; in both cases what she seems to perceive are vibrations, not sounds. The development of vibration-perception as an accessory sense has some analogies to the development of ‘facial vision’ (which uses the face to receive a sort of sonar information) in the blind.

Hearing people tend to perceive vibrations or sound.-thus a very low C (below the bottom of the piano scale) might be heard as a low C or a toneless fluttering of sixteen vibrations per second. An octave below this, we would hear only fluttering; an octave above this (thirty-two vibrations a second) we would hear a low tone with

no fluttering.

The first class might have students identify or listen to “low’ vibration to understand how a deaf person might feel sound without hearing them. Then the next session would have students listening to very low pitch as outlined above.

For the gifted or talented student, use the outline for high school students in the lesson plan section. The teacher might want to have a questionnaire outlined as follows:

The Future

In response to the question of what might improve learning conditions in the classroom and how we as students can make an assessment of the possible future needs and interests of students in the 21 st century I have outlined the following:

1. What might change in the world of students which might affect the way in which they learn? (interactive technology, computers).
2. What traditional skills might be enhanced though the creative use of technology?
3. What skills and important areas are we not addressing with students, ie creativity, or special needs created due to unforeseen social circumstances, and how to increase independent thought or how does one encourage students to take ownership of academic skills.

Making Academic Skills Your Own Through the Exploration of Music.

READING LIST:

“VISUAL THINKING” by Rudolf Amheim

“UNDERSTANDING MUSIC WITH AI / PERSPECTRVES ON MUSIC COGNITION” by Mira Balaban, Kemal Ebcioğlu and Otto Laske

“LEARNING SCIENCE THROUGH SCIENCE FICTION FILMS” by Leroy W. Dubeck, Suzanne E. Moshier and Judith E. Boss

“UNDERSTANDING MUSIC” by Janet Moore

‘FILMING LITERATURE” by Neil Sinyard

“TEACHNG THE MEDIA” by Len Masterman

“CREATIVE DRAMA IN THE CLASS ROOM” by Nellie McCaslin

NOTES

1 "Jurassic Park", p. 79. Direct quote from the text or book "Gennaro thought: "We are going to make a fortune on this place. A fortune."

2 Here is a selection from the book *The Architecture of Cognition* (P. 292): "Understanding the nature of language. The child's appreciation of the function of linguistic communication is probably also developing as he acquires language. In the preceding simulation, and indeed in the forthcoming one, it is assumed that that the learner is always operating with the motivation to learn the full communicative structure of language. However, a child may well start out with more limited goals, and restrictions on his utterances may reflect only his aspiration level."

3 From *Jurassic Park* by Michael Crichton, P. 79. "Her first thought was that the dinosaur was extraordinarily beautiful. Books portrayed them as oversize, dumpy creatures, but this long-necked animal had a gracefulness, almost a dignity, about its movements." The theme that John Williams uses in the movie relates directly to the text of the book, as the words could easily describe the music.

4 There are three articles that might be of value that can be used in addition to the film clips. Popular Science. November, 1993, talks about the making of "Jurassic Park". It also talks about the art of bringing extinct creatures to life as well as some of the theories presented in the film. *New Scientist*, December 25, 1993, is another article. *The Arizona Republic*, May 28, 1994, shows the impact of film on real life." This is very new DNA work," Lapan said. "It's right out of Jurassic Park."

5 *The New York Times*, June 1993: "Mr. Spielberg, whose company stands to make millions of dollars from the films marketing, declined to comment. But he told *USA Today* last week that his four children under 8 were "ticked off" because they were not allowed to see the film. "It's too intense for them," he said.

6 You might have students use the internet to find out more about eminent paleontologists, like Robert Bakker, John Horner, John Ostrom, and Gregory Paul. Have a group of students who are interested in music find a group of musicians on a list server that discusses film scores such as John Williams. Ask students if they can find out if real scientist have studied the paleo-DNA, and, if so, have them send a letter requesting them to compare the fiction of the film to the reality of what they have researched in real life projects.

7 Here are a few examples of materials that can be used in the class room.

Learning Science through Science Fiction Films by Leroy W. Dubeck, Suzanne E. Moshier, Judith E. Boss pp. 200,218,226,229,230

"The Andromeda Strain p. 230."

Literary Commentary:

"Crichton provides a three-page bibliography of scientific articles and government documents. At the end of the book citations of these articles and documents occur throughout the novel to create the impression of a complete and thorough account. A major change between novel and film occurs in the major characters, presumably to add human interest lacking in the novel and to make the characters more appealing. Stone, instead of being thin, balding, and impatient, becomes handsome and authoritarian, enforcing protocol."

Arthur Daniel's Music, "Chapter Two", "Listening for Form", (1. How to listen to a fugue, 2. How to listen to Variation Forms, 3. Music and the Visual Arts, 4. How to listen to Sectional Forms, 5.

Development: Sonata Form p. 94,100, and 101);

Visual Thinking , by Rudolf Arnheim, Concepts Take Shape p. 119, Pictures, symbols and signs, p. 135 What Abstraction is not p. 153, What Abstraction is, p. 173, Thinking With Pure Shapes p. 218, and Vision in Education p. 310;

Understanding Music with AI (ARTIFICIAL INTELLIGENCE): Perspectives on Music Cognition ., by Balaban,Ebcioglu, and Laske P.409; A New Approach to Music through Vision; “ As a proper computer network system for music, SMX will stimulate new applications of music information processing. The results of the above experiments suggest some new applications. For example, since only a few copies of most music scores are sold, a store selling musical scores must stock a few copies each to a large variety of musical scores. For music information center, one way to alleviate this problem is to keep numerous kinds of scores in a data base that users can receive via public communication lines, and print at will at their own location, This technique will obviously be very useful for braille music, where the demand is smaller and more storage space is required for a copy of the score in embossed braille form.

8 When working with this age and grade level it is very important to start with the development of the imagination. For more information see *Creative Drama in the Class Room* . by Nellie McCaglin, p. 24, Chapter Two, Imagination is the Beginning, p. 29-31 Beginning Exercises for Imagination, p. 33 Concentration, Organization, Self Expression and Communication and p. 37-41 Problems in Creative Playing.

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