



# Teacher Tip of the Week

## New Teacher Support Program 2009-2010

Terry Edwards, Program Coordinator

March 2010

Vol. 5 Issue 26

Teacher Tip of the Week  
New Teacher Support  
Program  
Wilson County Schools  
615-453-7282

### Teaching the Mathematics of Music: Cross-Curricular Teaching Ideas

Music teachers are well aware of the very close link between math and music. Without mathematics, music simply would not exist.

The rhythms of a piece of music are based on a standard unit of time (known as a measure) that can be subdivided in many different ways. Drawing parallels between pop music and math concepts is a great way to reinforce those cross-curricular concepts while using a strong mental hook to keep students' attention. Try these simple ideas to incorporate music or mathematics into your next lesson.

#### TEACHING THE RELATIONSHIP BETWEEN MATH AND MUSIC

The beats in a piece of music are the pulses you tap your feet to while listening to it. Begin by proposing the notion that those beats are *durations* rather than instants in time. Draw a long horizontal rectangle on the board. That represents a full measure of music.

- Cut a measure in half and each of the two "chunks" becomes a "half note" that lasts for two beats.
- Cut each half note into two parts and you get quarter notes. Quarter notes are the part of the music that is most often felt as the beat we tap our foot to. Each quarter note is equal to one beat of the music.
- Each of these four beats can be cut in half again, leaving eight parts to the measure (known as eighth notes in music). Each eighth note lasts for one half of a beat.
- Divide the eighth notes in half and you have sixteenth notes! Each sixteenth note lasts for one fourth of a beat.
- *Remember that the names of the rhythms relate to a full measure rather than to the beats themselves. An eighth*

*note is one eighth of a measure, not one eighth of a beat.*

#### USING MUSIC TO TEACH MATHEMATICAL CONCEPTS

Once students understand the concept of beats and measures, the discussion can be taken to the next level and common musical symbols can be used as a way to do fractional math.

- Draw a diagram with four quarter notes in place of the four subdivided boxes mentioned previously. Put "plus" signs between each quarter note and an "equals" sign at the end. How many beats are in this math problem? Four!

- Make things more challenging and get into fractions by adding eighth notes and sixteenth notes. Two eighth notes plus a sixteenth note equals one and one half beats ( $.5 + .5 + .25 = 1.25$  beats)

- Use the rectangle diagram to reinforce the math concepts at work here.

• Music can be a lot more complicated than this, but the examples above relate to the most common time signature used in music (4/4 time) and the most commonly-heard time signature in popular music. Finding a piece of music to help demonstrate those concepts is as easy as listening to the radio or borrowing a student's iPod. Further, many great free music worksheets related to these and other musical concepts are available for use in the classroom. Try to incorporate these tricks into either a math or music class to show just how closely related these two subjects truly are.



#### MUSIC & MATH RESOURCES

[http://www.musicedmagic.com/  
component/option,com\\_bookmarks/  
itemid,244/mode,0/catid,45/navstart,0/  
search,\\*](http://www.musicedmagic.com/component/option,com_bookmarks/itemid,244/mode,0/catid,45/navstart,0/search,*)

#### HOW TO DO IT— CHECKLIST



#### Student Self- Assessment for Students with Conduct Issues

Have students with behavior issues assess their own conduct. A student self-assessment of conduct can help a struggling student take responsibility for his or her own actions. By looking at his or her own behavior and being held responsible for it, a student might begin to change. Be sure to offer plenty of support and reinforcement, especially praise, to a student who is willing to do daily self-assessments. Be willing to sit down and listen to the student. Perhaps what he or she really wants is some supportive, non-judgmental attention.

## Pick Your Battles: Learn What to Overlook in the Classroom

There is a lot to be said for “picking and choosing your battles,” especially in the classroom. Given the fact that students are children and children seem to require lots of attention, teachers have to determine what kind of attention to give and when to give that attention. The moment a student learns that he can get your attention, negatively or positively, any time he wants it, he will soon be vying for your constant attention and playing you like a fiddle! Therefore, you, not the student, need to be in control. And in order to be in control of when students get your attention and what kind of attention you actually give them, you will need to learn one of the great secrets of the most effective teacher—learning what to overlook, or at least pretending to overlook! You seem the most effective teachers sometimes use ignoring as a way of dealing with a situation. They realize that, in some instances, the best way to act is not to react!

Too often, teachers stop the flow of activity—actually halting the entire lesson—to deal with one student. Sometimes, of

course, this appropriate. However, we continue to find that more than half of all situations for which teachers stop teaching in order to address behavior problems could be better dealt with if ignored.



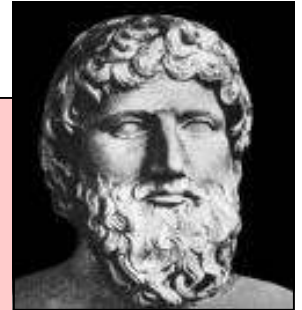
The following are just a few examples of what the best teachers overlook:

- Student noises that are made to attract the teacher’s attention
- Slouching in desks
- Daydreaming
- Underbreath comments designed to aggravate the teacher
- Slamming books on the desk when stu-

dents are aggravated about something

- Less-than-pleasant looks on students’ faces
- Occasional whispering between two students
- Occasional laughter between two students

If you look hard enough to find something wrong, you will find it every time! And if you stop every time all behavior is not perfect, then you may very likely never teach! So overlook what you can and deal with the rest. The skill of picking your battles will save you from war, and you’ll promote the behavior you are looking for.



**“The direction in which education starts a man will determine his future life.”**

—Plato



**Reward positive behavior by “catching them being good.” If they aren’t being good, set them up for success and then “catch” them!**



## A New Series: Testing Tips for Students #12

*Now that standardized tests are drawing near, a new series to help students and teachers prepare for the months ahead:*

**Place a time limit on classroom activities and tasks as well as on classroom tests and assessments. Students can practice setting up a schedule to complete the task or test and periodically check their progress against the clock.**

'09-'10

## NEW TEACHER SUPPORT PROGRAM PARTICIPANTS



Grant Farmer

Wilson Central High School

Choir

### WHY DID YOU BECOME A TEACHER?

"As a child I was surrounded by music, and I was involved in both scholastic and extracurricular ensembles. When I got to high school, I found a love for creating music, making a group effort, and being a part of a musical experience that can bring people together. I am here to bring this type of experience to students."—Grant Farmer



Brooke Stemmer

W. A. Wright Elementary

Pre-school CDC

### WHY DID YOU BECOME A TEACHER?

"I became a teacher because I want to make a difference in the lives of children. I want to give children a fun, safe, and happy place for them to learn. I want to have a classroom where children always feel welcome and look forward to going to every day."—Brooke Stemmer

## TEACHER WEBSITE of THE WEEK:

<http://webquest.org/index.php>



A Web Quest is a project, often interdisciplinary, which incorporates the web as a major student tool. Thousands of WebQuests on almost every conceivable subject have been posted on the web. This site will lead you to the best of them in addition to teaching you how to create your own, including a collection of free templates, and offering a low-cost way to post your project online. Start by reading the background materials to learn about what a Web Quest is and how the concept came into being. You may also want to bookmark the WebQuest Community page to find out how other educators are using WebQuests on the sites discussion boards and mailing lists. This is an excellent place to start if you are looking for ideas on how to use the web in your classroom.

## Off the shelf:

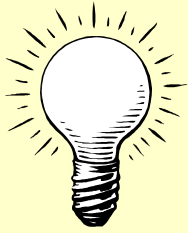


**Fulfilling the Promise of the Differentiated Classroom: Strategies and Tools for Responsive Teaching**  
by Carol Ann Tomlinson

Extend the benefits of differentiated teaching to virtually any kind of school situation and student population using the guidelines and strategies from this book. Carol Ann Tomlinson takes you to the next level of differentiated curriculum and instruction with new insights, including:

- 5 student needs that are at the heart of responsive teaching
- 5 teacher responses that engage more students in learning and promote achievement
- 6 classroom elements that lay the groundwork for a differentiated classroom
- 5 characteristics of curriculum and instruction that genuinely help all students learn

Detailed scenarios and activities make it easier to develop new classroom routines and teaching practices that reinforce differentiation. Plus, a toolbox of surveys, checklists, and examples helps you implement differentiated approaches in your classroom right away.



# Strategies for Teachers . . .

## Six Thinking Hats

### What is it?

Six Thinking Hats is a strategy devised by Edward de Bono which requires students (and teachers), to extend their way of thinking about a topic by wearing a range of different 'thinking' hats:

**White** hat thinking focuses on the information available and needed.

**Black** hat thinking examines the difficulties and problems associated with a topic.

**Yellow** hat thinking focuses on benefits and values.

**Red** hat thinking looks at a topic from the point of view of emotions, feelings and hunches.

**Green** hat thinking requires imaginative, creative and lateral thinking about a topic.

**Blue** hat thinking focuses on reflection, metacognition (thinking about the thinking that is required), and the need to manage the thinking process.

The colors help students to visualize six separate modes of thinking and to convey something of the meaning of that thinking, for example, red as pertaining to matters of the heart, white as neutral and objective.

### What is its purpose?

Students learn to reflect on their thinking and to recognize that different thinking is required in different learning situations.

### How do I do it?

Consider an issue or topic which you would like your students to explore, for example, in Band C, the influence of JJJ on its listening audience, or, in Band A, the influence of a particular cartoon show on a young audience. Explain what thinking is required for each of the hats. Have students working in small groups to ask themselves a range of questions:

White hat - what are the facts about the radio station JJJ?

Black hat - what are some of the negatives about JJJ?

Yellow hat - what do people gain from listening to JJJ?

Red hat - how does listening to JJJ make us feel?

Green hat - what could be changed to make the station more accessible or more appealing?

Blue hat - how do the mass media in general affect our youth culture?

Groups report back to the whole class about the types of ideas generated using the six hats. The teacher points to the breadth of views and thoughts, and explains that this is as a result of making ourselves apply a range of different types of 'thinking'.

### How can I adapt it?

Six Hat Thinking can be applied to many situations in which brainstorming, problem solving, creative and lateral thinking are required. This strategy can be a very useful tool in reviewing a range of texts or even creating a character profile.

### How can it be used to evaluate students' language learning?

There is a range of possible assessment outcomes in using Six Hat Thinking including:

- Understands and interprets the task
- Uses strategies to assist or facilitate discussion
- Contributes to discussion

Comprehends and applies the six ways of thinking



## MARK YOUR CALENDAR

APRIL:

CAR CARE MONTH

CONFEDERATE HISTORY MONTH

JAZZ APPRECIATION MONTH

LAUGH AT WORK WEEK  
April 1-7

GOLDEN RULE WEEK  
April 1-7

NATIONAL FUN DAY  
April 1

EASTER April 4

WORLD HEALTH DAY  
April 7

