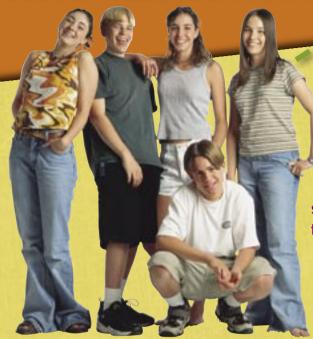# Integrating Literature and the Arts into Technology-Based Instruction: A New Unit Model for Educators

Today's classroom operates under enormous pressure unique to the 21st century. The ongoing introduction of new technologies continues to reframe the dialogue on appropriate, effective instruction. Also, the trend for state and national standardized testing across all grade levels seems to impose new conditions on how teachers teach. For many well-meaning educators, this has meant a return to "drill and skill" practices to promote the mastery of basic facts and understandings for which these standardized tests typically test.

"If I have to get them ready for these tests," one teacher reasoned, "I don't have time to be teaching the way I like to. They have to learn using pencil and paper because that's how they will be tested." Think about this assumption for a moment: Is it true that if new learning takes place through a specific learning modality you can only demonstrate that learning through the same venue? If you learn to fish by sitting on a riverbank fishing, can you only share your knowledge of the experience by returning to the river to show your expertise? The very definition of learning mastery is to be able to apply a learned fact, skill, or concept in a new and unfamiliar context.

What seems to be lost in the dialogue is the importance of reaching students using all the paths to learning, regardless

By Walter McKenzie

of the curriculum standards that are in place. While technology is certainly a tool to help students master content, it also offers higher-level experiences that allow students to apply their learning in meaningful ways. The same can be said for literature, the arts, and music. Each of these disciplines has the potential to serve as an important conduit for student understanding. Yet, as the pressure for student achievement has increased, these are the very disciplines that are unfunded and forgotten. If teachers are going to rise above the immediate demands for test score results, we need to revisit the important role technology, literature, the arts, and music can play in helping all children to succeed—both in school and life.

With this goal in mind, I offer a new unit model for optimizing instruction in the Information Age. I call it the Building Bridges model, because it helps educators make connections from the core disciplines that are targeted in standardized testing to all areas of the curriculum. Credit for the

Building Bridges unit format goes to Heidi Hayes-Jacobs, who originally presented her conceptual unit format 10 years ago. Credit likewise goes to Dr. Howard Gardner and his work in multiple intelligences theory, which helped me to modify and maximize this unit format's potential for reaching all the different learners in the classroom. I also give credit to Dr. Grant Wiggins and Dr. Jay McTighe for their work on backward design, as its implications have helped me modify this unit model to emphasize what is being taught and assessed. Finally, credit goes to Roger Taylor for his inspiring work on interdisciplinary thematic curriculum units throughout the years, allowing us to begin to see the possibilities for our classrooms. This Building Bridges model has been presented in workshops and at conferences, and further modifications have been made based on feedback from educators around the country. The model is the result of all these influences. Let's take a closer look at the unit design.

Of special interest to grades… K-5 6-8 9-12

Standards

Assessment

Standards

Like all solid instruction, Building Bridges units begin with the identification of standards from each subject area that will be addressed during the course of the unit. Oftentimes this is the part of unit construction that seems the most like busywork because you are identifying objectives from lists of standards and stating them explicitly in your unit framework. While this may not be the most creative part of the unit-writing process, the selection of these objectives sets the guideposts to which everything else must be aligned.

Theme

With the standards identified, the next step is the selection of the theme for your unit. This should be an all-encompassing idea that indicates the breadth and depth of your unit. It should apply to all subject areas and create a context for long-lasting understanding. For example, if your unit is going to focus on how independent components can work together to accomplish important tasks, you may wish to choose the theme of *Systems* for a more scientific emphasis. Or you might choose the theme of *Cooperation* for a more humanistic tone. In selecting the theme, you set the tone for the entire unit.

Big Idea

With your theme selected, the next step is to state a big idea that will become the focal point of your unit. A big idea is a core concept that is not confined to what students are currently studying. It can be transferred to all kinds of learning experiences and applied to new learning to create new understanding. In short, it is a statement that can be examined using the tools of each subject area. As it is examined from the perspective of each discipline, students gain a deeper understanding of its meaning. As students move on in their educational careers, it is the big idea that will stay with them as life-long learners.
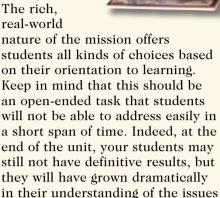
Need-to-Know Questions

With your standards, theme, and big idea in place, the next step in unit building is to generate three to five questions which create a need to know—or a need to find out—in your classroom. Need-to-know questions are open-ended, "big picture" questions that help students gain a deeper understanding of your big idea. Revisiting need-to-know questions often is an excellent way to keep the focus of the unit in students' minds as they continue their studies. Well-crafted need-to-know questions often generate even more questions, and they point students toward answers!

Mission

In the Building Bridges model, the mission is a facilitating event that creates a need for learners to find out more by catching their attention and maintaining their interest. An effective mission immediately engages learners and draws them in to participate in a real-world simulation that includes a problem-solving challenge. This facilitating event not only kicks off unit activities, it also creates a purpose for learning, a climate for learning, and a context for learning. The mission needs to be accomplished within the parameters of the unit by solving a problem or creating a work product that addresses a specific need. A well-crafted mission stimulates the imagination and curiosity of students by empowering them to find ways to respond. The rich, real-world nature of the mission offers students all kinds of choices based on their orientation to learning. Keep in mind that this should be an open-ended task that students will not be able to address easily in a short span of time. Indeed, at the end of the unit, your students may still not have definitive results, but they will have grown dramatically in their understanding of the issues and the processes involved in searching for the answers.

Learning Tasks

In generating learning tasks in the Building Bridges unit format, teachers identify opportunities for learning based on Gardner's nine intelligences. This is not a simple process of conveniently mixing and matching the usual assigned learning tasks to intelligence categories. In addressing each intelligence, you will need to generate ideas that map back to your standards and align nicely with your task, need-to-know questions, big idea, and theme.

Mapping means exactly what the term implies: being able to trace a direct path from the beginning to the end of your unit components. Like a road map, if your route does not faithfully take your students to each important stopping point, they will not reach the goals you intend. The standards are the starting point of your map that lead you directly to your theme. Your theme should link directly to your big idea. Your big idea should present an obvious context for your need-to-know questions. Likewise, your questions should point to the task at hand. In short, mapping out a unit using the Building Bridges model helps you create a tight, well-marked road map for your students' learning destination.

Why map learning tasks by intelligence? Don't all the intelligences act in consort? If they don't act in isolation, why plan to teach in isolation? The sole purpose for planning by intelligence is so that you know you have provided activities that cover all the paths to learning. You will not teach the unit in isolated intelligence tasks; you will teach, picking and choosing tasks from each intelligence category, by effectively addressing your standards.

Culminating Event

From these nine learning intelligence task categories, you can select activities that help students complete the task presented at the outset of the unit. To bring closure to their learning, design an event that allows learners to showcase their responses to that unit mission. The culminating event should be a celebration of learning—a time when different student responses to the mission are lofted high for everyone to see. More than just a showcase display, the culminating event is an interactive social event in which other classes, families, and even the community at large are welcomed to participate. A truly successful culminating event will actually transform your classroom into another world as it takes on the characteristics of your unit of study. A classroom, library, or media center may become an aquarium, an art gallery, or a living museum where each of your students takes on a role and plays his or her part.

Assessment

Beyond being a celebration of learning, the culminating event is your optimal opportunity for authentic assessment. Rather than passively reviewing the attributes of a child's work, consider the benefits of assessing a child's learning as he or she interacts with others, explaining how things work, the principles behind their

operation, and the history of their development. Assessing students during a culminating event is a unique opportunity to assess their learning in action. It is the most authentic of assessments.

"But how will I be able to assess each student's work during the culminating event? Won't I be busy organizing and supervising?" Amazingly, no! While your class' first experience conducting a culminating event will be a learning experience in itself, each student will have a role to play and a location to occupy for the event. And once your guests begin arriving to participate and interact with your students, the entire event takes on a life of its own. Students stay in character because they are engaged and excited about their work. Time moves quickly because of the quality of interaction between your students and invited guests. And behavior problems are non-existent because every child is a valued, featured component of the event. In my own experience, I have been satisfied that everything is moving smoothly after the first 10 minutes of the event. Then I am free to stand back, observe, and assess.

Of course, you have the choice of either informally observing student mastery or using formal assessment tools such as a rubric to quantify what you observe. For me, time was always such a valued commodity as a teacher; I loved being able to complete rubric assessments during the culminating event. It saved me hours of assessment time later on.

Sample Unit Model

This unit model is featured in the upcoming book, *Standards-Based Lessons for Tech-Savvy Students: A Multiple Intelligences Approach* (Linworth, 2004). Consider the Choices unit as an example of a fully developed Building Bridges unit. The Choices unit empowers students to take part in the electoral process right in your classroom. It's ideal for use in a national election year, but can be utilized in any school year to help capture the excitement of the democratic process. The result is a classroom election and the use of the

legislative process to facilitate student ownership in the classroom. It is developed for the middle school level, but can be adapted to any grade level.

Standards

National English Language Arts Standards—NCTE/IRA
National Council of Teachers of English (2001)

1. Adjust use of spoken, written, and visual language (e.g., conventions, style, vocabulary) to communicate effectively with a variety of audiences and for different purposes.

2. Develop an understanding of and respect for diversity in language use, patterns, and dialects across cultures, ethnic groups, geographic regions, and social roles.

3. Use spoken, written, and visual language to accomplish their own purposes (e.g., for learning, enjoyment, persuasion, and the exchange of information).

[Standards for the English Language Arts, by the International Reading Association and the National Council of Teachers of English, Copyright 1996 by the International Reading Association and the National Council of Teachers of English. Reprinted with permission.]

National Mathematics Standards—NCTM
National Council of Teachers of Mathematics (2000)

1. Compute fluently and make reasonable estimates.

2. Use mathematical models to represent and understand quantitative relationships.

3. Formulate questions that can be addressed with data and collect, organize, and display relevant data to answer them.

4. Develop and evaluate inferences and predictions that are based on data.

5. Make and investigate mathematical conjectures.

6. Organize and consolidate mathematical thinking through communication.

7. Recognize and apply mathematics in contexts outside of mathematics.

[Standards are listed with the permission of the National Council of Teachers of Mathematics (NCTM). NCTM does not endorse the content or validity of these alignments.]

National Science Standards—NAS
National Academy of Science (1995)

1. Scientific explanations incorporate existing scientific knowledge and new evidence from observations, experiments, or models into internally consistent, logical statements.

National Social Studies Standards—NCSS
National Council for the Social Studies (1997)

1. Institutions such as schools, churches, families, government agencies, and the courts all play an integral role in our lives.

2. An understanding of civic ideals and practices of citizenship is critical to full participation in society and is a central purpose of the social studies.

Theme
Choices

Big Idea
Your choices determine your options.

Need-to-Know Questions
1. Do you have to choose?

2. How do you know all your choices?

3. What makes a bad choice?

4. What makes one choice better than others?

Mission
Give your class the following instructions and allow them to discuss which choice they would like to make as a group:

"*Good news! I have decided that we need some leadership to help move things along in our classroom. We can either allow myself (the teacher) to appoint someone to be that leader for the group, or we can allow the class to determine whom they would like to lead. Now, there are implications for whatever choice you make. If you allow me to choose a leader,* then *you must trust my judgment and you must understand that there will be no discussion about my choice. Furthermore, you will be expected to follow the class leader I appoint in whatever direction they wish to lead you. You cannot question the style of the leader I appoint. You simply accept whomever I select.*"

"*Your other choice is to have the class select a leader. This is a great responsibility and should not be taken lightly. It will take time to determine whom will be considered. It will also require effort on your part to give each person nominated a fair consideration based on his or her ideas and abilities. Once time has been provided for each candidate to be considered, the class will then have to vote for the person they would most like to lead.*"

"*This is an important choice: one that will affect the rest of your school year. So let's discuss which choice you will make as a group. Be ready to explain the reasons for your ideas and question your classmates' ideas as well.*"

Allow time for the class to discuss which option they would like to choose. Help them explore the electoral process: the procedures for fairly nominating candidates, campaigning, and voting. Make sure they understand you are talking about a period of days and weeks, not minutes and hours. Help them make a choice in which they can find consensus.

Learning Tasks
Learning Through Language

- Research the electoral process on the state and federal level. Emphasize important points about the structure of American elections.

- Interview a member of local government leaders about the electoral process. Follow up with a summary of what the class has learned from the exchange.

- Conduct a weekly round table forum where students speak about their ideas. Select a timely topic each week that will be the focus of the discussion.

- Allow time for your class to iron out the procedures and issues related to your classroom electoral process. Agree to set practices that everyone will abide by throughout the unit.

- Have each candidate give a campaign speech. Follow the speech by a question and answer session in which classmates may probe deeper for insight into each candidate's ideas.

- Conduct a campaign rally for each candidate in which all class members participate. Provide campaign buttons, signs, and banners for each candidate.

- Write a platform of ideas and goals for each candidate. Assign specific issues that the class has agreed upon. Have the class vote on each platform, and then split the students into two political parties.

- Conduct a press conference in which students may question each candidate. Have students each write an article summing up their perception of the press conference.

- Write campaign slogans and campaign literature for each candidate. Have students publish their literature and print it out for distribution.

- Write letters in support of candidates. Publish them in a classroom newspaper editorial page.

Learning Through Problem Solving

- Create a visual map of the process for making a good choice. Agree on one map that will be posted in the classroom.

- Identify a bad choice made in a piece of children's literature. Select a better choice for the character and web how that decision would change the circumstances for that character.

- Identify issues that need to be addressed by a class leader. Accept all ideas and then narrow the list to the top five issues a classroom leader can realistically address.

- Chart the step-by-step process for nominating, campaigning, and voting for candidates. Look for gaps in the chart, and revise it until everyone agrees that it is thorough and complete.

- Research how a bill becomes a law at the state and federal level. Have students create their own semantic maps that delineate this process.

- Study the electoral college system and determine how many votes your state has in the electoral college. Research how many times your state has voted for the winning candidate in the Electoral College over the history of U.S. presidential elections.

- Create measurement guidelines for political campaign posters, buttons, and leaflets. Require students to work within these guidelines as they create campaign literature for their candidate.

- Agree upon voting booth design and dimensions. Make sure students take into consideration ergonomic factors for all students in your classroom.

- Devise a process for counting ballots for your classroom election. Include a way to verify vote counts and break a tie vote.

- Predict the outcome of your class vote on specific issues based on evidence gathered from class discussions.

Learning Through Seeing and Imagining

- Study the symbols of the major American political parties. Create a catalog of political symbols.

- Create political symbols to represent each political party in your classroom, based on student research of political symbols.

- Design campaign posters for each candidate that incorporate elements of the American political symbolism.

- Construct campaign buttons for each candidate using symbolism consistent with classroom party emblems and campaign posters.

- Use a desktop publishing program to publish fliers or leaflets that promote each candidate.

- Organize the classroom so that each candidate has his or her own campaign headquarters. Hang party banners to mark the area for each campaign.

- Have each candidate agree on a specific color or colors for supporters of him or her on campaign and voting days.

- Study political cartoon archives online that cover the history of American politics. Emphasize cartoons that focus on issues rather than candidates.

- Draw original political cartoons that target a specific classroom issue that should be addressed.

- Present a student-designed PowerPoint presentation on each candidate prior to class voting. Include digital photographs, political symbols, and campaign slogans in the presentations.

Learning Through Patterns

- Listen to songs about choices. Discuss the choice being made in each song and the issues that come into play in making good choices.

- Identify recurring choices students have in the classroom. Come up with a pattern students can recognize for making good choices.

- Examine choices Americans make on a regular basis. Compare these choices and their patterns with the choices students make in the classroom.

- Listen to political campaign jingles from past elections. Discuss how different jingles reflect the issues and attitudes of their times.

- Create original campaign jingles for your classroom candidates to sing at campaign rallies and speeches.

- Agree on graphic design patterns that can be used by a candidate in all posters, buttons, and literature.

- Create original chants and cheers that supporters of each candidate can use for speeches and rallies.

- Study voting patterns from a past local, state, or national election.

- Study voting patterns by gender, and identify the major issues that men and women value in making election choices.

- Project voting patterns for future state elections based on your findings.

Learning Through Interaction with the Environment

- Act out skits that demonstrate good and bad choices. They may be based on children's literature or generated from original student ideas.

- Play games and simulations that allow students to see how choices affect the outcome of a situation.

- Construct campaign buttons using available classroom materials.

- Build voting booths based on student specifications.

- At campaign rallies, spell out each candidate's name using your body to form each letter.

- Devise campaign handshakes for each candidate.

- Make and wear campaign hats in support of candidates.

- Sponsor a parade in support of each candidate.

- Count ballots manually and verify vote counts.

- Have an inauguration ceremony for the elected candidate.

Learning Through Interaction with Others

- Reflect on how our choices affect others. Discuss how we feel when we are affected by a good or bad choice.

- Research important choices made in our history and how the town, state, or nation came to agree on the best choice.

- Study what happens when we cannot agree on a choice. Discuss the concept of compromise.

- Practice the skill of building consensus on class issues. Model how to negotiate with stakeholders to bring everyone to agreement.

- Invite supporters of each candidate to form a campaign committee.

- Work in groups to plan campaign rallies.
- Present persuasive speeches on behalf of an issue or candidate.
- Participate in class debates.
- Invite those candidates not elected to join the cabinet of the elected leader to help work on classroom issues together.
- Create classroom legislation and vote to pass or defeat it.

Learning Through Feelings, Values, and Attitudes

- Agree on criteria for determining what makes a choice good or bad.
- Differentiate between an individual's goals and the goals of the greater good.
- Explore how a person's value system helps him or her make choices.
- Discuss issues in a way that allows each student to have his or her own point of view.
- View choices in light of a larger goal that students want to achieve.
- Consider how your choices can help or hinder your goals.
- Practice making choices using creative problem-solving techniques: identify a problem, agree on criteria for solving the problem, brainstorm solutions, and rank the solutions by rating them against the agreed-upon criteria.
- Study the values of the major political parties.
- Study the values of each classroom party. Do they parallel national parties?
- Use a Web site and database to have students electronically vote for a candidate to be class leader.

Learning Through Categories, Hierarchies, and Webbing

- Sort American presidents by agreed-upon class criteria.
- Categorize classroom issues by agreed-upon criteria.
- Classify the candidates by their stands on classroom issues.

- Survey voters and categorize the issues that are important to them (from most important to least important).
- Enter data from the surveys on a spreadsheet and create graphs that visually represent the data.
- Build a database of survey data that allows students to examine issues from different demographics (age, gender, supporter of which candidate).
- Study the categories of state or national liberal, moderate, and conservative voters.
- Analyze state or national voting results based on demographic data.
- Study the branches of your state and federal government based on the checks and balances of power.
- Create a hierarchical model of your classroom government.

Learning Through Connections to Larger Understandings

- Explore why government is necessary.
- Compare a classroom with a student government with a classroom without student representation.
- Understand the philosophy of democratic government. Compare it with other forms of government currently in existence.
- Discuss ethical behavior in campaigning.
- Create a Web site for each classroom candidate that espouses his or her platform and welcomes voter support.
- Examine classroom issues from the perspective of each candidate.
- Critique election paraphernalia from past campaigns based on their visual attractiveness.
- Summarize the election results in terms of which issues carried the election.
- Create a classroom government.
- Build a classroom community based on that government.

Culminating Event

Conduct a classroom election and build a student government based upon the results. Have an inauguration ceremony and invite all members of the class to participate actively in their government.

Resources

BOOKS

Primary

Anansi Finds a Fool
by Verna Aardema

And So They Build
by Burt Kitchen

Charlie Needs a Cloak
by Tomie dePaola

The Doorbell Rang
by Pat Hutchins

Frederick
by Leo Lionni

If You Give a Mouse a Cookie
by Laura J. Numeroff

Jake Johnson: The Story of a Mule
by Tres Seymour

Sylvester and the Magic Pebble
by William Steig

The Tale of Peter Rabbit
by Beatrix Potter

Treeful of Pigs
by Arnold Lobel

Who Sank the Boat?
by Pamela Allen

Elementary

Annie and the Old One
by Miska Miles

Arnold Ballot Box Battle
by Emily McCully

Baseball Saved Us
by Ken Mochizuki

Class President
by Johanna Hurwitz

Frindle
by Andrew Clements

The Great Turkey Walk
by Kathleen Karr

Midnight Fox
by Betsy Byars

Sarah, Plain and Tall
by Patricia MacLachlan

Traitor: The Case of Benedict Arnold
by Jean Fritz

Weasel
by Cynthia DeFelice

You Want Women to Vote, Lizzie Stanton?
by Jean Fritz

Middle School

Building Blocks
by Cynthia Voigt

A Connecticut Yankee in King Arthur's Court
by Mark Twain

December Stillness
by Mary Downing Hahn

The Devil's Arithmetic
by Jane Yolen

From the Mixed-Up Files of Mrs. Basil E. Frankweiler
by E. L. Konigsburg

Landslide!: A Kid's Guide to the U.S. Elections
by Dan Gutman

Over Sea, Under Stone
by Susan Cooper

Parrot in the Oven: Mi Vida
by Victor Martinez

Voices After Midnight
by Richard Peck

Whipping Boy
by Sid Fleischman

A Wrinkle in Time
by Madeleine L'Engle

High School

Around the World in Eighty Days
by Jules Verne

Brave New World
by Aldous Huxley

Gulliver's Travels
by Jonathan Swift

How To Win a High School Election: Advice and Ideas from Over 1,000 High School Seniors
by Jeff Marx

Les Miserables
by Victor Hugo

Looking Backward: 2000–1887
by Edward Bellamy

Nineteen Eighty-Four
by George Orwell

Slaughterhouse-Five
by Kurt Vonnegut

Time and Again
by Jack Finney

The Time Machine
by H.G. Wells

Wuthering Heights
by Emily Bronte

Music

American Tune—Paul Simon
Album: There Goes Rhymin' Simon

Doctor My Eyes—Jackson Browne
Album: Jackson Browne

Don't Dream It's Over—Crowded House
Album: Crowded House

Don't Stop—Fleetwood Mac
Album: Rumours

Everybody Wants to Rule the World—Tears for Fears
Album: Songs from the Big Chair

Future's So Bright I Gotta Wear Shades—Timbuk3
Album: Greetings from Timbuk3

Learning to Fly—Tom Petty
Album: Into the Great Wide Open

Right Now—Van Halen
Album: For Unlawful Carnal Knowledge

Things Can Only Get Better—Howard Jones
Album: Dream into Action

We've Only Just Begun—The Carpenters
Album: The Singles (1969–1973)

Web Resources

Alexa Web Search
<http://download.alexa.com/alexa65/startpage.html?p=Dest_W_t_40_B1>

Avalon Project
<http://www.yale.edu/lawweb/avalon/avalon.htm>

Ben's Guide to Government for Kids
<http://bensguide.gpo.gov/>

Can Do!
<http://www.ucando.org/>

Cast Your Vote!
<http://www.learner.org/exhibits/statistics/>

Don't Buy It
<http://pbskids.org/dontbuyit/>

Dumb Laws
<http://www.dumblaws.com/>

Electoral College Calculator
<http://www.julienne.com/weblog.html>

End Game
<http://www.pbs.org/endgame/home.php>

Escape from Knab
<http://www.escapefromknab.com/>

Every Four Years
<http://www.newseum.org/everyfouryears/>

Inside Art
<http://www.eduweb.com/insideart/>

Iz and Auggie Go to the Polls
<http://www.headbone.com/derby/polls/>

Jo Fool or Jo Cool
<http://www.media-awareness.ca/english/special_initiatives/ games/joecool_joefool/jo_cool_kids.cfm>

Kids Democracy Project
<http://www.pbs.org/democracy/kids/>

Kids Voting USA
<http://www.kidsvotingusa.org/>

Learning Adventures in Citizenship
<http://www.pbs.org/wnet/newyork/laic/index.html>

Making Good Choices for Life
<http://library.thinkquest.org/J001709/>

Peace Corps Kids World
<http://www.peacecorps.gov/kids/>

Polling Report
<http://www.pollingreport.com/>

The 30 Second Candidate
<http://www.pbs.org/30secondcandidate/>

Unica Island
<http://library.thinkquest.org/10005/>

Voices of Youth
<http://www.unicef.org/voy/>

The White House Project
http://www.thewhitehouseproject.org/

Featured Software Title

Print Shop® Deluxe
<http://www.broderbund.com/Product.asp?OID=4152050>

Print Shop Deluxe brings all kinds of graphic images and desktop publishing power to your computers. Students can use this productivity suite to create banners, posters, brochures, certificates, and buttons as part of your comprehensive classroom technology integration plan.

Note the amount of flexibility that is built in to the unit model, the wealth of resources to support teaching to standards, and the utilization of technology to enrich the learning experience and provide for real-world applications of skills and concepts. I invite all educators to adapt this unit model to their own curriculum, abilities, and interests. It can be a powerful framework in meeting the demands of today's classrooms.

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Gardner, H. (1983). *Frames of Mind: The Theory of Multiple Intelligences.* New York: Basic Books.

Jacobs, H.H. (1989). *Interdisciplinary Curriculum: Design and Implementation.* Alexandria, VA: Association for Supervision and Curriculum Development.

Jacobs, H.H. (1997). *Mapping the Big Picture: Integrating Curriculum & Assessment K-12.* Alexandria, VA: Association for Supervision and Curriculum Development.

McKenzie, W. (2002). *Multiple Intelligences and Instructional Technology: A Manual for Every Mind.* Eugene, OR: International Society for Technology in Education.

National English Language Arts Standards.

Assessment

Participation	Needs Improvement 1	Satisfactory 2	Exemplary 3
Participates in class activities	Occasionally when interested in the task	Regularly whenever prompted to join	Consistently with interest and enthusiasm
Cooperates with peers	Depends on whom he or she is working with	Shares and works cooperatively	Serves as a role model for sharing and cooperating
Is a collaborative partner	Does not share ideas or does not listen to others	Collaborates to successfully complete tasks	Is a class leader in forming collaborative partnerships
Demonstrates an understanding of the implications of choice	Does not demonstrate an understanding that choices have implications	Demonstrates a working understanding of how choices have implications	Demonstrates a working understanding of how choices have implications, which the learner then applies to new and different choices
Demonstrated mastery of skills specified in state standards	Did not meet the minimum requirements for state standards targeted in this unit	Met the minimum requirements for state standards targeted in this unit	Exceeded the minimum requirements for state standards targeted in this unit

Project	Needs Improvement 1	Satisfactory 2	Exemplary 3
Is done neatly with attention to detail	Project is incomplete or lacks sufficient depth	Project is neat and shows attention to detail	Project is neat, shows attention to detail and exhibits craftsmanship that goes beyond grade level expectations
Is based in an identified content area of the unit	Is not related to any content area being studied under the theme of change	Is based in one identified content area	Is based in two or more identified content areas
Applies skills and concepts in a new or different way	Project imitates objects or examples studied in class	Project demonstrates mastery of skills and concepts in a unique way	Project demonstrates mastery of skills and concepts in a unique way at the highest levels of thinking
Adds to the class study of choices	Does not add to the class experience or understanding of choices	Adds to the class understanding choices	Adds to the class understanding of choices by elevating the level of discussion or activity
Demonstrates high personal standards for work	Does not demonstrate high personal standards in the completion of the project	Demonstrates high standards for work as outlined by the teacher and/or class	Demonstrates high personal standards for work that exceeds teacher expectations

(2001). Retrieved September 7, 2003 from the National Council of Teachers of English Web site. <http://www.ncte.org/standards/standards.shtml>

National Science Education Standards. (1995). Retrieved September 7, 2003 from the National Academy of Science Web site. <http://www.nap.edu/readingroom/books/nses/>

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