Only a person who has questions can have understanding.

Inquiry in Curriculum Design

(October 5, 1999 revision)

Inquiry is an activity we engage in every day. We ask questions of ourselves and others in our quest for understanding. In our own inquiries we seek understanding by engaging in daily activities, working on projects, or performing tasks. These are some of the ways we are constantly learning.

In curriculum design, teachers can make use of the many forms of inquiry to promote understanding for our students. What questions really engage students? What questions will help frame a course of study? What questions do students want to explore? What content is worth learning?

We use the word inquiry when discussing curriculum design to make a slight distinction from other forms of instructional planning. We wish to simply emphasize the importance of questions in the design of learning. When questions are used strategically, they help frame ideas, lead to new ideas, and promote learning.

Unit Design Work Sheets & Support Materials

Unit Design Worksheets

Overview

Stage 1

Stage 2

Stage 3

Support Materials

An Overview of the Planning Process

Planning Backwards

"Begin with the end in mind."
-Steven Covey

There are three big chunks to the design a unit of study. We call them the three stages of planning.

We begin by thinking about the end learning goal for students. What learning will take place as a result of this unit of study?

Then we design our assessments to align with the learning goals.

Finally, we plan instruction and classroom experiences for student learning.

Stage 1 - Identify Desired Results

What should students know, understand, and be able to do? What is worth understanding? What "enduring" understandings are desired?

In this stage we consider our goals and identify the understandings for a unit of study.

Stage 2 - Determine Acceptable Evidence

How will we know if students have achieved the desired results and met the standards? What will we accept as evidence of student understanding and proficiency?

Planning backwards suggests that we think about a unit or course in terms of the collected assessment evidence needed to document and validate that the desired learning has been achieved. It is not simply content to be covered or a series of learning activities. This approach helps us develop learning activities for students that are more likely to demonstrate their understanding of the material.

Stage 3 - Design Learning Experiences and Instruction

What prerequisite knowledge and skills will students need in order to perform effectively and achieve desired results? Given the performance goals, what needs to be taught and coached? How will that be done? What materials and resources are best suited to accomplish these goals? Is the overall design coherent and effective?

With clearly identified results and appropriate evidence of understanding in mind, it is now time to plan instructional activities. The specifics of instructional planning - choices about teaching methods, sequence of lessons, resource materials, etc. -occur after the goals and assessments are identified.Teaching is a means to an end.

(Grant Wiggins & Jay McTighe, *Understanding by Design*)

Unit Design Cover Sheet

nuts & bolts

Unit Title

Subject(s)

Grade Level(s)

Designed by

School

Standard(s)

Narrative Summary

(Write a brief summary for teachers that explains how to incorporate this assignment into their class and why its important. What are the goals of this unit? How are they linked to the essential learnings by design?)

Time Allocation

(How long will it take to complete the unit?)

Technology Use

(What skills do teachers or students need to use this? How much previous knowledge or familiarity with the use of the Internet and tools are necessary?)

Unit Design Blueprint

Relevant Standard(s)

Questions to focus instruction

Essential Question

•

Unit Question(s)

•

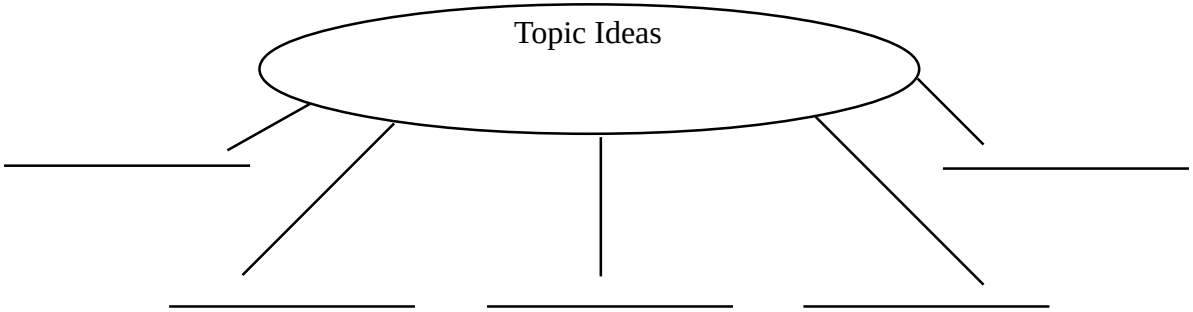
•

Explicit Unit Goals

Essential understanding

Unit understanding

Skills



Evidence of Understanding

Performance Task(s)

Other assessments

Description of learning experiences & activities

(Lessons that hook, engage, are iterative, build skills and organize the content around the unit question(s).)

Lesson

Lesson

Lesson

Topic Stickie Planning!

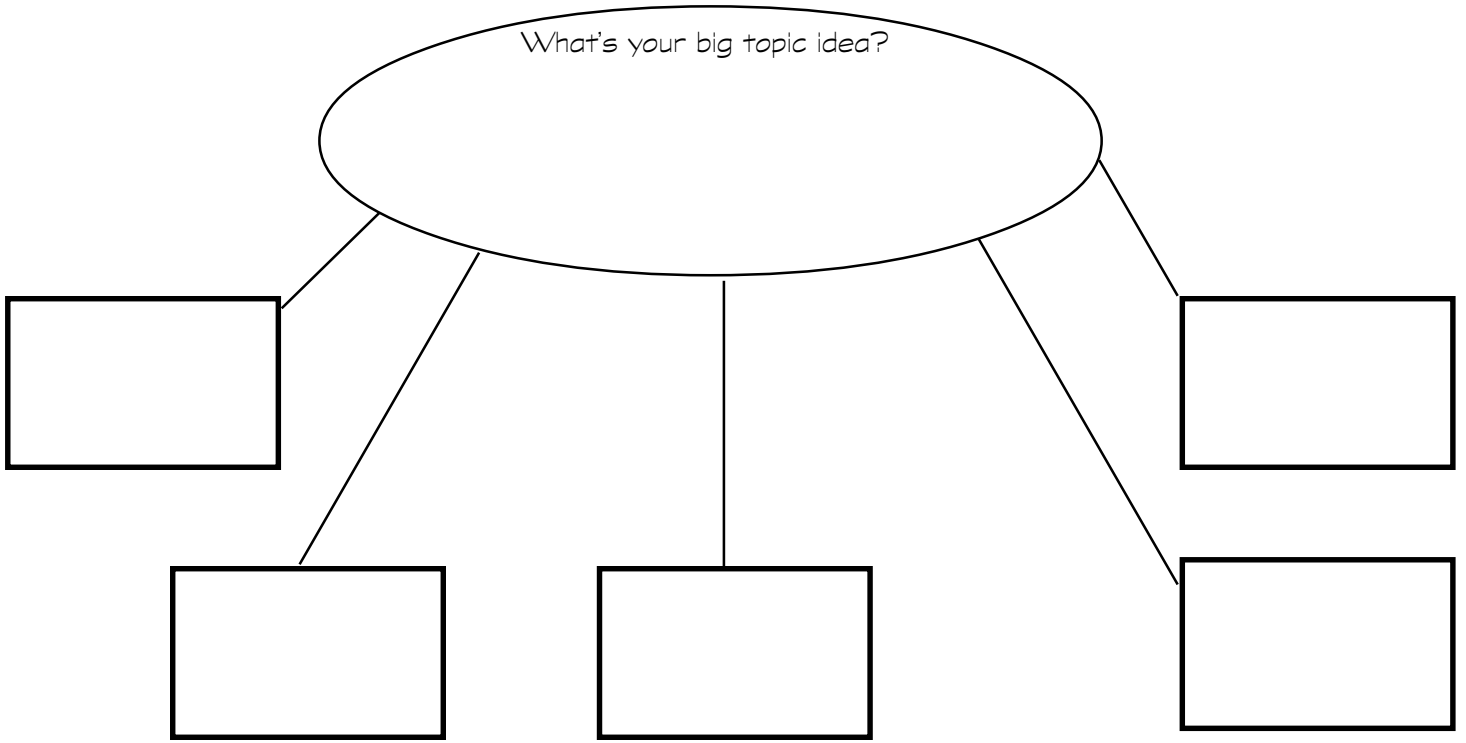
What will students understand about this topic?

What ideas or concepts of this topic will you focus on in this unit? How does this link to the standard?

- what ideas underlie this topic?
- what issues or dilemmas are involved?
- what key concepts are part of this topic?

Relevant Standard(s)

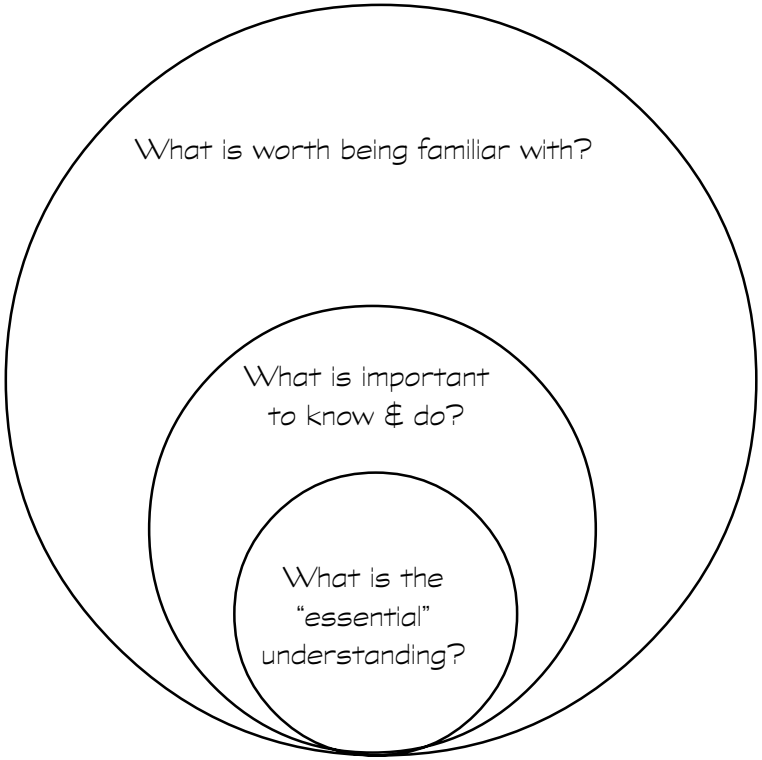
Stage 1 - Identify Desired Results



What is really important to know?

Use stickies to sort, brainstorm, and prioritize what students need to learn.

Stage 1 - Identify Desired Results



It's worth being familiar with if it...

- is really interesting and adds value to the unit
- can be a hook to a big idea
- is thematic to what is being studied
- helps you make links to other ideas or disciplines

It is important to know and do if it...

- is a key to understanding the subject
- links to essential understandings
- is something an adult might need to know & do
- is part of an adult work role
- needs to be assessed

It is an essential understanding if it...

- goes beyond facts & skills
- moves to the heart of the "discipline"
- has value beyond classroom learning
- is that nugget of learning you might take away forever and ever.....

(Grant Wiggins & Jay McTighe, *Understanding by Design*)

Essential Question & Understanding

Essential understandings represent our personal knowledge at the deepest level.
They are complex and central to our lives. It is an understanding that is at the heart of learning.
It has value beyond the classroom. It is related to the topic yet transcends discipline-specific learning.

Stage 1 - Identify Desired Results

Write an essential question that this unit might address. Consider questions that point to big ideas and promote deep and essential understanding.

Write a declarative statement for the essential understanding that will result from teaching the unit.

Will students remember this for the rest of their lives?

Is it an idea that reoccurs across disciplines?

Does it require ongoing reflection?

Unit Question(s) and Understanding

Frame the unit with a question or series of questions
State the specific understanding that students will have from the topic in this unit.

Stage 1 - Identify Desired Results

Write question(s) that will frame & guide this unit.

Will it lead students to learn important things?

Will it help students develop socially, emotionally and or raise ethical questions?

Is it relevant to life outside of school?

Can it sustain an engaging inquiry?

Does it have many plausible answers?

Will it hook the students?

Write a statement about what students will understand. State it as a generalization about the content that they will explore in this unit.

What's most important about this topic?

What do experts know?

What meaning should students take away?

Assessment: Determine Acceptable Evidence

Stage 2

When teachers use and design classroom-based assessments well, we can assess both content and process. Generally, this form of assessment is more engaging for students. Teachers can use this form of assessment to collect feedback on instruction as well.

What are classroom-based assessment tasks? Sometimes we name them performance tasks/projects or they can be academic prompts. These can be long or short student assignments that can "open a window into a student's developmental thinking" from the beginning to the end of a unit of study.

Two different approaches to designing learning

Thinking Like an Assessor

Evidence of understanding
What would be sufficient and revealing evidence of understanding?

Performance tasks
What performance tasks must anchor the unit and focus the instructional work?

Know who really understands or doesn't
How will I be able to distinguish between those who really understand and those who don't (though they may seem to)?

Criteria to distinguish understandings
Against what criteria will I distinguish?

Likely misunderstandings and checks
What misunderstandings are likely? How will I check for them?

Thinking Like an Activity Designer

Interesting activities
What would be interesting and engaging activities on this topic?

Resources & materials
What resources and materials are available on this topic?

Assignments in and out of class
What will students be doing in and out of class? What assignments will be given?

Grades on the activity
How will I give students a grade (and justify it to their parents)?

Know if the activities worked or not
Did the activities work? Why or why not?

Adapted from *Understanding by Design,* Wiggins & McTighe

Collecting Evidence of Understanding

"Thinking like an assessor."
What would count as evidence of successful teaching of this unit?

More stickie planning!

Use the stickie planning process to brainstorm types of assessment that would qualify as sufficient evidence of understanding.

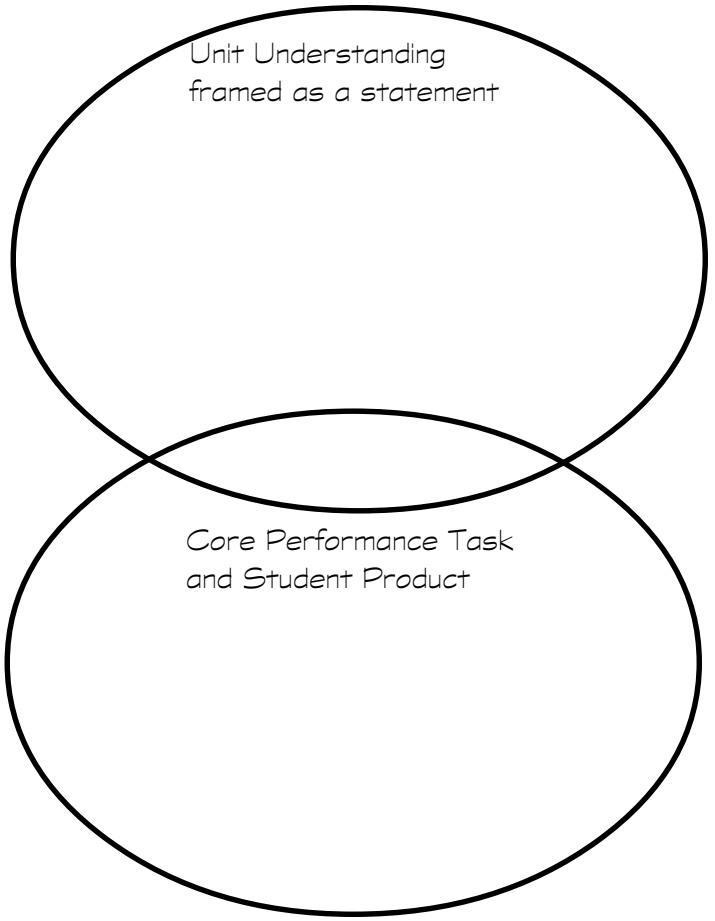
Other forms of assessment

- formal interviews/observations of students
- public performances
- written/oral/visual products in response to prompts
- student exhibits/models
- short-answer quizzes & tests
- student self-assessments, logs, and peer reviews

Prioritize your learning goals

Consider the multiple learning goals you've identified and discuss which you want to assess:

- intellectual understanding
- ethical
- social
- skills
- content



Use this sheet to write what students should understand and be able to do. Then brainstorm what other types of assessment evidence will be useful.

Construction of a Performance Task

"Thinking like an assessor."
What is the task students will engage in?

Stage 2 - Determine Acceptable Evidence

Performance Tasks/Projects

These are often challenges that, at least in part, mirror the challenges faced by adults or connect to the real world, then, they are "authentic".

Performance tasks and projects can be both short-term and long-term. Like prompts, they are complex, require productions or performance, and have more than one right answer or solution path. They differ from prompts in the following ways:

They require the student to address a specific purpose for an identified audience.
The setting is real or simulated and involves the kind of constraints, background "noise," incentives, and opportunities to personalize the task an adult might encounter.

Introduction

What is this lesson about?

The Task

What are the activities students will be engaged in?

The Process

Specifically describe each step in the project

Advise

What advice do you believe students need to complete the unit?

Evaluation

How will you measure learning?

Closure

What can students expect to have gained from this project? What "BIG" questions can you leave students to ponder?

Construction of an Academic Prompt

"Thinking like an assessor."
What is the question students will center their investigation on?

Academic Prompts

These are complex content-focused questions that require the student to think critically, not just recall knowledge, and to prepare a product or performance, typically under exam or homework conditions and constraints.
Good prompts tend to be more open - there is generally more than one right answer and/or solution approach. This assessment category includes questions and problems that:

- Require the student to make connections among concepts and subjects
- Have more than one best strategy for answering
- Call for an explanation or defense of the ideas
- Require the development of a strategy ("ill-structured")

Introduction

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Scoring Rubrics

Rubrics provide teachers with specific criteria for assessing student understanding. It is a tool for consistency of evaluation among teachers.

Scoring Rubrics

A rubric is a tool for evaluating a product or performance. The rubric communicates the important qualities and levels of achievement.

Chararcteristics of a rubric might include:
- the evaluative criteria
- a fixed scale
- descriptive terms

Rubrics can be task-specific or generic.

Scoring rubrics can be holistic, analytic, or primary trait.

(Grant Wiggins & Jay McTighe, *Understanding by Design Workshop*, March 1999)

More stickie planning!

Use the stickie planning process to brainstorm types of assessment that would qualify as sufficient evidence of understanding.

Prioritize your learning goals

Consider the multiple learning goals you've identified and discuss which you want to assess:

- intellectual understanding
- ethical
- social
- skills
- content

Learning Experiences & Activities "WHERE"

Considerations for Lessons and Activities

Stage 3 - Plan Learning Experiences

W How will you help students know **WHERE** they are headed and **WHY**, e.g., major assignments, performance tasks & standards to be addressed and criteria by which the work will be judged?

H How will you **HOOK** students through engaging and thought provoking experiences (issues, oddities, problems, challenges) that point toward big ideas, essential questions, & performance tasks?

E What learning experiences will *engage* students in **EXPLORING** the big ideas and essential questions? What instruction is needed to **EQUIP** students for the final performance(s)?

R How will you cause students to **REFLECT & RETHINK** to dig deeper into the core ideas? How will you guide students in **REVISING & REFINING** their work based on feedback and self-assessment?

E How will students **EXHIBIT** their understanding through final performances and products? How will you guide them in self-evaluation to identify the strengths/weaknesses in their work and set future goals?

(Grant Wiggins & Jay McTighe, *Understanding by Design*)

Learning Experiences & Stickie Planning!

Given the performance goals, what needs to be taught and coached?
How will that be done?
What materials and resources are best suited to accomplish these goals?
Is the overall design coherent and effective?

Stage 3 - Plan Learning Experiences

Print Resources

Armstrong, Thomas. ***Multiple Intelligences in the Classroom.*** Alexandria, VA: ASCD, 1994.

Beane, James A. ***Curriculum Integration...Designing the Core of Democratic Education***. New York and London: Teachers College Press, 1997.

Brady, Marion. ***What's Worth Teaching? Selecting, Organizing, and Integrating Knowledge***. New York: Books for Educators, Inc., 1997.

Brooks, Jacqueline Grennon and Martin G. Brooks. ***In Search of Understanding...The Case for Constructivist Classrooms.*** Alexandria, VA: ASCD, 1993.

Buzan, Tony with Barry Buzan. ***The Mind Map Book***. New York: Plume, the Penguin Group, 1993.

Caine, Renate Nummella and Geoffrey Caine. ***Teaching and the Human Brain***. Alexandria, VA: ASCD, 1991.

Gardner, Howard. ***The Disciplined Mind...What All Students Should Understand.*** New York: Simon & Schuster, 1999.

Harris, Judi. ***Design Tools for the Internet-Supported Classroom.*** Alexandria, VA: ASCD, 1998.

Hyerle, David. ***Visual Tools for Constructing Knowledge***. Alexandria, VA: ASCD, 1996.

Margulies, Nancy. ***Mapping Inner Space...Learning and Teaching Mind Mapping***. Tucson, AZ: Zephyr Press, 1991.

Marzano, Robert J., John S. Kendall and Barbara B. Gaddy. ***Essential Knowledge...The Debate Over What American Students Should Know.*** Aurora, CO: McREL, 1999.

Marzano, Robert J., Debra Pickering and Jan McTighe. ***Assessing Student Outcomes***. Alexandria, VA: ASCD, 1993.

Sylwester, Robert. ***A Celebration of Neurons An Educator's Guide to the Human Brain.*** Alexandria, VA: ASCD, 1995.

Wiggins, Grant. ***Educative Assessment...Designing Assessments to Inform Improve Student Performance***. San Francisco: Jossey-Bass Publishers, 1998.

Wiggins, Grand and Jay McTighe. ***Understanding by Design***. Alexandria, VA: ASCD, 1998.

Williams, Robin.***The Non-Designer's Design Book***.Berkeley, Peachpit Press, 1994.

Online Resources

Ask Dr. Rubric
http://www.classnj.org/cgi-bin/idea_exchange/Ultimate.cgi

Dr. Wiggins will answer questions about rubrics in this online forum. Previously asked questions are archived and available for perusal.

CLASS: Center on Learning, Assessment, and School Structure
http://www.classnj.org/

Grant Wiggins' extensive treatment of lesson design, assessment and use of rubrics.

Developing a Rubric
http://cotf.edu/ete/teacher/rubricdev.html

Donna Szpyrka and Ellyn B. Smith of Florida's State wide Systemic Initiative provide simplified, practical advice for creating rubrics.

From Now On
http://fno.org/nov97/toolkit.html

The Educational Technology Journal, Dec., 1998. Jamie McKenzie's suggestions for a "Questioning Toolkit" which contains several dozen kinds of questions and questioning tools.

From Now On
http://fno.org/dec98/strategic.html

The Educational Technology Journal, Dec., 1998. Jamie McKenzie demonstrates that "Good teaching is more important than good hardware".

Empowering Students through Negotiable Contracting to Draft Rubrics for Authentic Assessment
http://www.interactiveclassroom.com/neg-cont.html

Department of Education, an article on working with students to create meaningful rubrics.