



**2206/2306 - Connecting 21st  
Century Assessment with the  
Understanding by Design®  
Framework**

*Donna Herold*

**July 2, 2011**



**Boston, Massachusetts**

## Evaluations

- ASCD will e-mail all participants a survey one week after the conference ends. Please use the survey to evaluate your **overall** experience. We will use the survey results to make improvements to future conferences.
- **New this year!** Individual pre-conference and conference sessions can be evaluated electronically directly after the session is finished! Your downloadable handouts will contain a link that will take you to a very brief evaluation of that session's content. You can also access the survey at <http://www.ascd.org/evaluations> if you are not able to go online immediately after the session. The survey will be **open until July 10, 2011**. We greatly appreciate your feedback!

## Room Overcrowding

For your safety, and because of fire regulations, meeting rooms that fill to capacity will be restricted thereafter. ASCD staff and hotel personnel must follow local fire regulations and will ask participants in overcrowded sessions to leave the room. **Standing room is not an option**; only persons occupying a seat will be allowed to remain in meeting rooms.

Whenever possible, we have attempted to honor the room-size requests made by the presenters. Although we have tried to schedule popular topics in rooms large enough to accommodate potential crowding, we cannot always accurately anticipate attendance, nor do all presenters wish to work with large crowds. Please register for your ticketed sessions in advance and have alternate nonticketed / ticketed session choices should your session be full.

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## Let's use the backchannel . . .

- <http://todaysmeet.com/21UbD>

- Forum uses:
  - Ask questions
  - Answer each others' questions
  - Add information



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## Goals:

- **Examine** and discuss P21 Core themes and skills and their application in your classroom
- Quickly **Review** the three stages of *Understanding by Design* and how the stages intersect with 21<sup>st</sup> century skills.
- **Explore** a tool to align Stage one Essential Question(s) with 21<sup>st</sup> Century-friendly assessment(s)

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## Respond?

"The main problem is not the absence of innovation in schools, but rather the presence of too many *disconnected, episodic, fragmented, superficially adorned projects.*"

Fullan, M., (2001). The New Meaning of Educational Change, New York: Teachers' College Press



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### Goals:

- **Examine** and discuss P21 Core themes and skills and their application in your classroom



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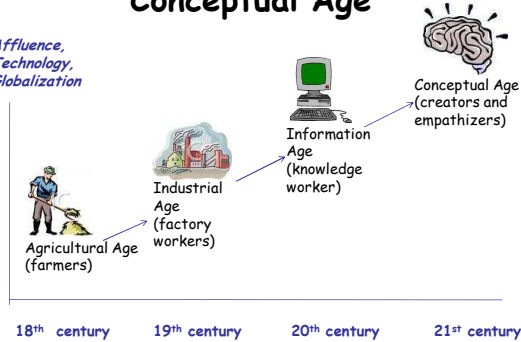
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### From the Agriculture Age to the Conceptual Age

*Affluence,  
Technology,  
Globalization*



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### Are we developing. . .

- communicators . . .
- leaders . . .
- creators . . .
- critical thinkers . . .
- self-directed workers?



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## Really Ready to Work?



• Of the High School Students that you recently hired, what were their deficiencies?

Written Communication	81%
Leadership	73%
Work Ethic	70%
Critical Thinking & Problem Solving	70%
Self-Direction	58%

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## Are our students . . .

effective communicators . . .

critical thinkers . . .

globally competent . . .

and technologically literate?



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## Partnership for 21<sup>st</sup> Century Core Themes and skills

• **THEMES:**

- Global Awareness
- Financial, economic, business, and entrepreneurial literacy
- Civic literacy,
- Health and environmental literacy

• **SKILLS:**

- Creativity and Innovation
- Information, Media, and Technology Skills
- Life and Career Skills

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**UNDERSTANDING BY DESIGN**

**Begin with the end in mind:**

*1. Identify desired results.*



*2. Determine acceptable evidence.*



*3. Plan learning experiences and instruction.*

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*1. Identify desired results.*



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**'Enduring Understanding'**



Learners must **Acquire** and **Make Meaning** out of information in the service of understanding and **Transferring** it.

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- How many buses does the army need to transport 1,128 soldiers if each bus holds 36 soldiers?



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## Too many students

Do not transfer their learning

Do not know what to do when stuck or confronted with complex challenges

Think successful learning equals accurate recall

Are needlessly bored



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## Too many instructional designs



Don't demand higher-order thinking frequently enough

Overlook long-term goals and end up as 'coverage'

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### Understanding by Design template Stage One

Stage 1 Desired Results		
<b>Established Goals</b> What content standards and program...or mission-related goal(s) will this unit address?  What habits of mind and cross-disciplinary goal(s) -- for example, 21 <sup>st</sup> -century skills, core competencies -- will this unit address? <type here>	<b>Transfer</b> Students will be able to independently use their learning to... What kinds of long-term independent accomplishments are desired? <type here>	
	<b>Meaning</b> <table border="1"> <tr> <td> <b>UNDERSTANDINGS</b>                              Students will understand that...                               What specifically do you want students to understand?                              What inferences should they make? &lt;type here&gt;                         </td> <td> <b>ESSENTIAL QUESTIONS</b>                              Students will keep considering...                               What thought-provoking questions will foster inquiry, meaning-making, and transfer? &lt;type here&gt;                         </td> </tr> </table>	<b>UNDERSTANDINGS</b> Students will understand that...  What specifically do you want students to understand? What inferences should they make? <type here>
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	<b>Acquisition</b> Students will know... What facts and basic concepts should students know and be able to recall? <type here>	
	Students will be skilled at... What discrete skills and processes should students be able to use? <type here>	

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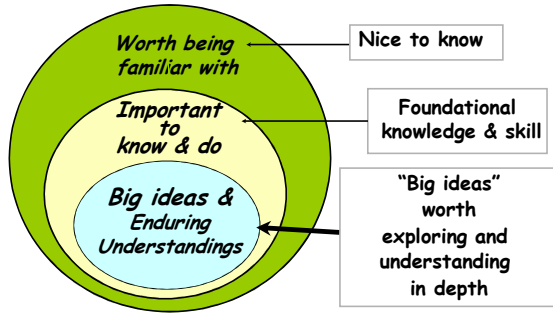
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### Establishing Priorities: focus on "Big Ideas"




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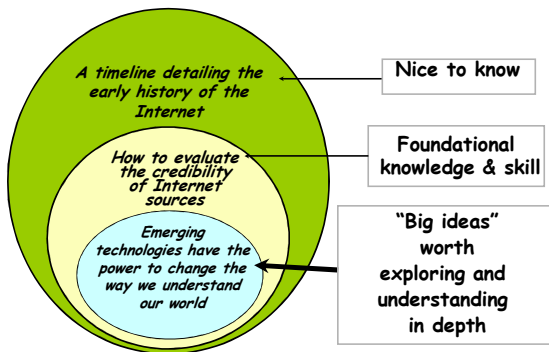
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### "Big Ideas" of Technology




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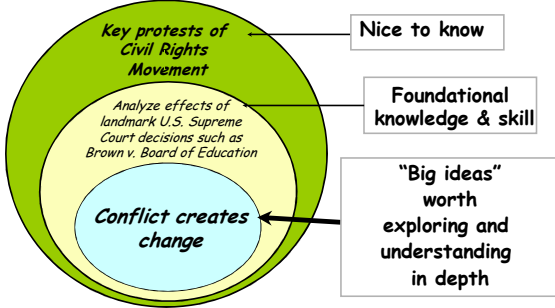
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### "Big Ideas" of the Civil Rights Movement



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*Enduring Understanding:*  
**Conflict creates change**

*Essential Question:*  
**To what extent did the conflicts of the Civil Rights movement create a platform for political change?**

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### knowledge and skills



...assist students in **gaining** understanding  
AND  
in **illustrating** their understanding

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## Content—Knowledge--Skills



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On the provided template:

**Brainstorm** one or two enduring understandings and/or essential questions that you wish your students/staff to understand.

**Identify** 21<sup>st</sup> Century skills to be targeted throughout the unit.



... And if you have time, **List** any other knowledge and skills you would want acquired within this unit of study.

### STAGE ONE

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*1. Identify desired results.*



**2. Determine acceptable evidence.**



*3. Plan learning experiences and instruction.*

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Some pictures are better than others



. . so we should take **MANY** pictures of our students' understanding!

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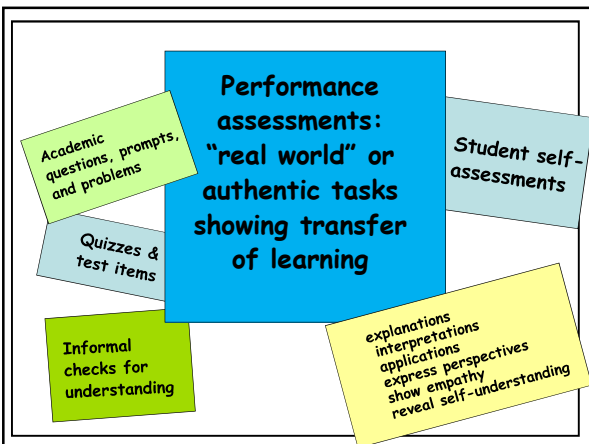
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Understanding by Design template Stage Two

Stage 2 - Evidence		
Code	Evidence Criteria	Assessment Evidence
Are all desired results being adequately addressed? -type here-	What criteria will be used to post-assessment to evaluate attainment of the desired result? -type here- Regardless of the format of the assessment, what questions are most important? -type here-	<b>PERFORMANCE TARGET:</b> Student will show that they really understand by evidence of... How will students demonstrate their understanding (making, making, and transfer) through complex performance? -type here-  <b>OTHER EVIDENCE:</b> Student will show they have achieved Stage 1 goal by... What other evidence will you collect to determine whether Stage 1 goal were achieved? -type here-

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Goals:



- **Explore** tools to align Stage one Essential Question(s) with 21<sup>st</sup> Century-friendly assessment(s)

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QUICK QUIZ



What web-based tools do you use when integrating technology into classroom assessments?

<http://www.surveymonkey.com/s/VDHTVP5>

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### Resources to collaborate / communicate

- <http://todaysmeet.com>
- <http://Urtak.com>
- <http://www.surveymonkey.com>
- <http://www.21classes.com/>
- <http://pbworks.com/>
- <http://linoit.com>
- <http://www.wallwisher.com/>
- <http://www.techsmith.com/jing/free/>

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### Resources to access information

- <http://www.classroom20.com/>
- <http://livebinders.com/>
- <http://www.cooliris.com/>
- <http://www.slideshare.net/>
- <http://www.shmoop.com/>
- <http://www.dropbox.com/>

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### Resources to create media products

- *Narrative/storytelling:*
  - <http://blabberize.com/>
  - <http://goanimate.com/>
  - <http://www.toondoo.com/>
- *Presentation of information:*
  - <http://voicethread.com>
  - <http://prezi.com/>
  - <http://www.glogster.com/>
  - <http://www.wordle.net/> or <http://www.tagxedo.com/>
- *Video:*
  - <http://animoto.com/>
- *Publishing:*
  - <http://issuu.com/home>
  - <http://penzu.com/account/login>
  - <http://www.lulu.com/>
- *Using QR Codes - informational blog post:*
  - <http://calgaryscienceschool.blogspot.com/2011/04/enhancing-student-work-with-qr-codes.html>

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## Whole group sharing

- Please consider coming up to the front to share a web-based assessment method that you've tried in your classroom:

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On the provided template:

**Brainstorm** how your students/staff might illustrate their understanding in a final performance task. Remember to consider the facilitation of 21<sup>st</sup> century skills acquisition.

**List** any other formative or summative assessments you might wish to include.



## STAGE TWO

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- "If we teach **today** like we taught **yesterday**, we rob our children of **tomorrow**."

- John Dewey, Educator and Philosopher

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**For more information:**

- Partnership for 21<sup>st</sup> Century skills:
  - <http://www.21stcenturyskills.org/route21/>
- International Society for Technology in Education (ISTE)
  - <http://www.iste.org/AM/Template.cfm?Section=NETS>
- Donna Herold
- Ferris High School
- (509) 979-2521
- <http://www.21stcenturyschoolteacher.com>

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**To what extent do you integrate the following themes/  
skills into your classroom or professional development?**

**Frequently integrate**

**Rarely or never integrate**

**Might consider integrating soon!**

**Partnership for 21<sup>st</sup> Century --Skills**

**INFORMATION, MEDIA, TECHNOLOGY SKILLS**

**Access and Evaluate Information**

- Access information efficiently (time) and effectively (sources)
- Evaluate information critically and competently

**Use and Manage Information**

- Use information accurately and creatively for the issue / problem
- Manage the flow of information from a wide variety of sources
- Understand / apply ethical/legal issues re: information access/use

**Analyze Media**

- Understand how / why media messages are constructed, and for what purposes
- Examine how individuals interpret messages differently, how values and points of view are included or excluded, and how media can influence beliefs and behaviors
- Understand / apply ethical/legal issues surrounding the access and use of media

**Create Media Products**

- Understand / utilize appropriate media creation tools, characteristics, conventions
- Understand / utilize appropriate interpretations in diverse, multi-cultural environments

**Apply Technology Effectively**

- Use technology as a tool to research, organize, evaluate and communicate information
- Use digital technologies to access, manage, integrate, evaluate and create information
- Understand / apply ethical/legal issues re: access / use of information technologies

**LIFE AND CAREER SKILLS**

**Adapt to Change**

- Adapt to varied roles, jobs responsibilities, schedules, contexts
- Work effectively in a climate of ambiguity / changing priorities

**Be Flexible**

- Incorporate feedback effectively
- Deal positively with praise, setbacks and criticism
- Understand, negotiate, balance diverse views / beliefs to reach workable solutions

**Manage Goals and Time**

- Set goals with tangible and intangible success criteria
- Balance tactical (short-term) and strategic (long-term) goals
- Utilize time and manage workload efficiently

**Work Independently**

- Monitor, define, prioritize and complete tasks without direct oversight

**Be Self-directed Learners**

- Go beyond basic skill mastery / curriculum to explore / expand own learning / expertise
- Demonstrate initiative to advance skill levels towards a professional level
- Demonstrate commitment to learning as a lifelong process
- Reflect critically on past experiences to inform future progress

**Interact Effectively with Others**

- Know when it is appropriate to listen and when to speak
- Conduct selves in a respectable, professional manner

**P21 Themes**

**Global Awareness**

- Understand / address global issues
- Work collaboratively with diverse cultures / religions / lifestyles
- Understand other nations and cultures

**Financial, Economic, Business, Entrepreneurial Literacy**

- Know how to make appropriate personal economic choices
- Understand the role of the economy in society
- Use entrepreneurial skills

**Civic Literacy**

- Participate in civic life
- Exercise the rights and obligations of citizenship
- Understand the local and global implications of civic decisions

**Health Literacy**

- Obtain, interpret and understand basic health information
- Understand preventive physical and mental health measures
- Use available information for appropriate health-related decisions
- Establish and monitor personal and family health goals
- Understand national / international public health / safety issues

**Environmental Literacy**

- Understand environment / conditions affecting it
- Demonstrate understanding of society's impact on natural world
- Investigate / analyze environmental issues / investigate solutions
- Take individual / collective action re: environmental challenges

**CREATIVITY AND INNOVATION SKILLS**

**Think Creatively**

- Use a wide range of idea creation techniques
- Create new and worthwhile ideas
- Elaborate, refine, analyze and evaluate own ideas

**Work Creatively with Others**

- Develop, implement, & communicate new ideas effectively
- Be responsive to new perspectives; incorporate group input / feedback, demonstrate originality and inventiveness in work

**Implement Innovations**

- Make a tangible / useful contribution to the field in which the innovation will occur

**CRITICAL THINKING AND PROBLEM SOLVING**

**Reason Effectively**

- Use various types of reasoning (inductive, deductive, etc.)

**Use Systems Thinking**

- Analyze how parts of a whole interact to produce outcomes

**Make Judgments and Decisions**

- Analyze and evaluate evidence, arguments, claims and beliefs
- Analyze and evaluate major alternative points of view
- Synthesize / make connections between information / arguments
- Interpret information / draw conclusions based on analysis
- Reflect critically on learning experiences and processes

**Solve Problems**

- Solve non-familiar problems in conventional / innovative ways
- Identify/ask questions that clarify points of view / better solutions

**COMMUNICATION AND COLLABORATION**

**Communicate Clearly**

- Articulate thoughts and ideas effectively using oral, written and nonverbal skills
- Listen effectively to decipher meaning, including knowledge, values, attitudes, intentions
- Use communication for a range of purposes (e.g. inform, instruct, motivate, persuade)
- Utilize multiple media and technologies/ judge their effectiveness / assess their impact
- Communicate effectively in diverse environments

**Collaborate with Others**

- Demonstrate ability to work effectively and respectfully with diverse teams
- Exercise flexibility / willingness to be helpful / make compromises to accomplish goal
- Assume shared responsibility for collaborative work / value individual contributions

*Modified from Partnership for 21<sup>st</sup> Century Learning., Donna Herold, SPS, 2009*

**Find complete slide-set at**

<http://www.21stcenturyschoolteacher.com/-ascd-presentations.html>

If you'd like to comment on the 'backchannel,' please go to:  
<http://todaysmeet.com/21UbD>

**OUR GOALS:**

- ✘ **Examine** and discuss P21 Core themes and skills and their application in your classroom
- ✘ Quickly **Review** the three stages of *Understanding by Design* and how the stages intersect with 21st century skills.
- ✘ **Explore** a tool to align Stage one Essential Question(s) with 21st Century-friendly assessment(s)

**Consider Fullan's comment and respond:**

Think of a successful performance assessment that you experienced and/or designed this (or any other) year. Identify three characteristics that made it successful:

- 1.
- 2.
- 3.

What are the implications of Pink's commentary about the M.I.T. study for **your** classroom?

**Acquiring facts-Memorize the numbers!**

Once you see the black screen, write the numbers you recall here:

**Let's create a metaphor/simile:**

CONTENT KNOWLEDGE AND SKILLS are (like)

ENDURING UNDERSTANDINGS are (like)

**Some Resources to consider for Stage 2:**

Resources to collaborate / communicate

- <http://todaysmeet.com>
- <http://Urtak.com>
- <http://www.surveymonkey.com>
- <http://www.21classes.com/>
- <http://pbworks.com/>
- <http://linoit.com>
- <http://www.wallwisher.com/>
- <http://www.techsmith.com/jing/free/>

Resources to access information

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- <http://livebinders.com/>
- <http://www.cooliris.com/>
- <http://www.slideshare.net/>
- <http://www.shmoop.com/>
- <http://www.dropbox.com/>

Resources to create media products

*Narrative/storytelling:*

- <http://blabberize.com/>
- <http://goanimate.com/>
- <http://www.toondoo.com/>

*Presentation of information:*

- <http://voicethread.com>
- <http://prezi.com/>
- <http://www.glogster.com/>
- <http://www.wordle.net/> or <http://www.tagxedo.com/>

*Video:*

- <http://animoto.com/>

*Publishing:*

- <http://issuu.com/home>
- <http://penzu.com/account/login>
- <http://www.lulu.com/>

Using QR Codes - informational blog post:

- <http://calgaryscienceschool.blogspot.com/2011/04/enhancing-student-work-with-qr-codes.html>

**Suggested sites from session attendees:**

What are your goals for 2011-12 school year? \_\_\_\_\_

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## Stage 1 Desired Results

<p><b>Established Goals</b></p> <p>What content standards and program- or mission-related goal(s) will this unit address?</p> <p>What habits of mind and cross-disciplinary goal(s) – for example, 21<sup>st</sup> century skills, core competencies – will this unit address? &lt;type here&gt;</p>	<b>Transfer</b>	
	<p><i>Students will be able to independently use their learning to...</i></p> <p>What kinds of long-term independent accomplishments are desired? &lt;type here&gt;</p>	
	<b>Meaning</b>	
	<p><b>UNDERSTANDINGS</b> <i>Students will understand that...</i></p> <p>What specifically do you want students to understand? What inferences should they make? &lt;type here&gt;</p>	<p><b>ESSENTIAL QUESTIONS</b> <i>Students will keep considering...</i></p> <p>What thought-provoking questions will foster inquiry, meaning-making, and transfer? &lt;type here&gt;</p>
<b>Acquisition</b>		
<p><i>Students will know...</i></p> <p>What facts and basic concepts should students know and be able to recall? &lt;type here&gt;</p>	<p><i>Students will be skilled at...</i></p> <p>What discrete skills and processes should students be able to use? &lt;type here&gt;</p>	

## Stage 2 - Evidence

Code	Evaluative Criteria	Assessment Evidence
<p>Are all desired results being appropriately addressed? &lt;type here&gt;</p>	<p>What criteria will be used in each assessment to evaluate attainment of the desired results?</p> <p>Regardless of the format of the assessment, what qualities are most important? &lt;type here&gt;</p>	<p>PERFORMANCE TASK(S):</p> <p><i>Students will show that they really understand by evidence of...</i></p> <p>How will students demonstrate their understanding (meaning-making and transfer) through complex performance? &lt;type here&gt;</p>
		<p>OTHER EVIDENCE:</p> <p><i>Students will show they have achieved Stage 1 goals by...</i></p> <p>What other evidence will you collect to determine whether Stage 1 goals were achieved? &lt;type here&gt;</p>

### Stage 3 – Learning Plan

Stage 3 – Learning Plan		
Code	<i>What pre-assessments will you use to check student's prior knowledge, skill levels, and potential misconceptions?</i> <type here>	<i>Pre-assessment</i>
<p>What's the goal for (or type of) each event? &lt;type here&gt;</p>	<p>LEARNING EVENTS</p> <p><i>Student success at transfer, meaning, and acquisition depends on...</i></p> <ul style="list-style-type: none"> <li>• Are all three types of goals (Acquisition, meaning, and transfer) addressed in the learning plan?</li> <li>• Does the learning plan reflect principles of learning and best practices?</li> <li>• Is there tight alignment with stages 1 and 2?</li> <li>• Is the plan likely to be engaging and effective for all students?</li> </ul> <p>&lt;type here&gt;</p>	<p><i>Progress Monitoring</i></p> <ul style="list-style-type: none"> <li>• How will you monitor students' progress toward acquisition, meaning-making, and transfer, during lesson events?</li> <li>• What are potential rough spots and student misunderstandings?</li> <li>• How will students get the feedback they need? &lt;type here&gt;</li> </ul>