



**2506 - The Understanding by
Design® Framework:
Acquisition, Meaning
Making, and Transfer**

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.

Copyright

©2011 by Donna Herold. All rights reserved. This handout is intended for your personal use only. Further reproduction and dissemination, in whole or part, requires the permission of the various owners as credited herein.

ASCD publications present a variety of viewpoints. The views expressed or implied in this publication are not necessarily official positions of ASCD.




The Understanding by Design
Framework: Acquisition, Meaning
Making, and Transfer

*Donna Herold, Spokane Public Schools
ASCD Understanding by Design Cadre / Faculty Member*


ASCD Summer Conference 2011, Boston

Describe an outstanding learning
experience that you've had—as a
student, teacher, in life. What made
it effective or engaging for you?



Desired Understandings:

- There are **three** distinct kinds of learning – **acquisition (A)**, **meaning making (M)**, and **transfer (T)**—and an Understanding by Design learning plan must address each
- The roles of teachers and students vary according to the A-M-T goals
- Acquisition of knowledge and skills is not the long-term learning goal but the **means** for students to illustrate **understanding and transfer**



Learning to Transfer

* "The research is very clear on this point: students who really develop and 'own' an idea are more likely to successfully interpret new situations and tackle new problems that students who possess only drilled knowledge and skill."

– Wiggins and McTighe

Stages of lesson design:

- Take a moment and think about a time when your students moved successfully through the stages of acquisition, meaning making, and arrived at transfer.
- **Consider the design characteristics of that lesson/unit. How did you plan for and create transfer?**

Defining A M T



– Acquire Information

– Making **M**eaning

– Transfer

See page one of AMT Teaching Resources handouts

Acquisition

A fact is a fact; a skill is a skill. We **acquire** each in turn.

Acquisition does not yield understanding; it is necessary but not sufficient.

If I have skills and facts, it does not mean that I **understand**.

I cannot, however, understand **without** those skills and facts.

Acquisition

- Use a mnemonic system for remembering liquid/solid measurement equivalents.
- Name the various sectors of the Hospitality industry.
- Identify technology used in a business office.
- List the 3 largest branches of the US Military.
- Identify the job duties of a state legislator.
- Identify and describe external variables.
- Define various leadership styles.
- Identify correct answer when prompted (fact recall, information retrieval)

Acquisition Web Apps



[Flashcard Exchange](#)

[Khan Academy](#)

[Jeopardy Labs](#)

[Visuwords](#)

More suggestions from the group:

Making Meaning



What do these facts imply?

When would I use this skill (or not)?

What is their sense, import, value?

Make Meaning

Data Analysis:

Students manipulate and interpret a data set using tables, graphs, charts, and other visual displays to draw conclusions, identify patterns, and make predictions

Demonstration:

Students teach a process, concept or problem through the use of models, explanations, illustrations, and/or inquiry so the audience understands it

Concrete or Applied Response

- Students provide a reasonable answer/explanation and evidence to support their thinking. Requires application of previous knowledge.

Making Meaning Web Apps

[Gliffy](#)

[Linoit](#)

[Jing](#)

[Livebinder](#)

More suggestions from the group:



Transfer

How should I apply my prior facts, skills, and ideas effectively in this particular situation?

The situation must be new and uncharted.

The goal is **independent** transfer.



Transfer

Problem/Solution: Identify and define a problem and generate a possible solution(s) (or solution paths), evaluate the viability of each solution, and offer a recommendation.

Inquiry/Investigation: Develop questions and pursue an explanation/pattern based on, but not limited to, known information.

Source/Comparative Analysis: Analyze data, information, artifacts, and/or textual evidence to develop an explanation, interpretation, and/or determine impact.

Critique/Self-Analysis: Evaluate a given text, performance, or problem based on established criteria.

Debate, Panel, Role Play: Present and participate in a debate, panel, or role play to provide information, gain insight and/or promote a particular point of view.

Performance / Product: Generate a performance/product using visual, multimedia, sound, writing, and /or speech to demonstrate understanding and/or communicate creative intent.

Modeling/Simulation: Given a model or set of criteria/data/experiences, create representations to illustrate/predict outcomes or to deepen understanding.

Correspondence/Interviews: Appropriately communicates to an audience and/or responds to an idea, point of view, concern, request or proposal to achieve a desired result.

Persuasive statement: Develop an argument/artifact using supporting information and persuasive techniques to promote a particular point of view and/or to cause action.

Portfolio/Reflection: Collect work over time to demonstrate mastery in one or more modes of expression/College, Career & Citizen-Ready Skills, reflect on growth, and/or set goals.

Transfer Web Apps



[Prezi](#)

[Weebly](#)

[Animoto](#)

[Teacher Challenge website](#)

More suggestions from the group:

Some Examples of AMT

- Students practice tying their shoes
- Students draw/speak the steps of lace tying
- Students discuss the pros and cons of laces vs. Velcro, and different methods of tying
- Students teach others to tie rope or ribbons

See page two of AMT Teaching Resources handouts

Examples of AMT in Reading

- Students read a story with new words important to the story
- Students receive, learn, and memorize words from a vocabulary list
- Students group the words and consider: who needs to know this word?
- Students play Scrabble and do Crossword Puzzles

See page two of AMT Teaching Resources handouts—page three for an additional exercise

Meaning Making



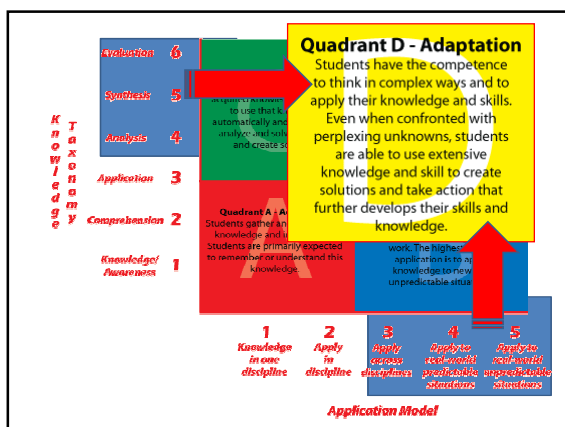
Acquisition



Transfer



Other AMT-like constructs:
Gradual Release of Responsibility
Rigor/Relevance Framework



**Acquisition, Meaning Making, Transfer
Quad D Lessons & Assessments**


- Math
- Social Studies
- Science
- English

• From the 2010 NMSA Conference

What instructional strategies do you frequently use in lesson design?

List 10 instructional strategies you regularly use:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.
- 10.



Teacher Role and Instructional Strategies:
Acquisition via Direct Instruction

To inform the learners through explicit instruction in targeted knowledge and skills; differentiating as needed

- † Lecture
- † Graphic organizers
- † Demonstration or modeling
- † Process guides
- † Guided practice
- † Feedback, corrections



Teacher Role and Instructional Strategies:
Make Meaning via Facilitative Teaching

To engage the learners in actively processing the information and guide their inquiry into problems, texts, or simulations, differentiating as needed

- † Graphic organizers
- † Concept attainment
- † Problem based learning
- † Formative assessments
- † Rethinking and reflection prompts
- † Using analogies



Teacher Role and Instructional Strategies:
Transfer via Coaching


To coach the learners to independently perform in increasingly complex situations, provide models, and give ongoing feedback (as personalized as possible).

- † Ongoing assessment, providing specific feedback in the context of authentic application
- † Conferencing
- † Provide just-in-time teaching (both individuals, small groups and whole class) when needed



Action Verbs for A-M-T

GOAL TYPE	ACTION VERBS
Acquisition	apprehend • calculate • define • discern • identify • memorize • notice • paraphrase • plug in • recall • select • state
Making Meaning	analyze • compare • contrast • critique • defend • evaluate • explain • generalize • interpret • justify/support • prove • summarize • synthesize • test • translate • verify
Transfer	adapt (based on feedback) • adjust (based on results) • apply • create • design • innovate • perform effectively • self-assess • solve • troubleshoot



10 Strategies Exercise:

- Now go back to your list of the **ten** most commonly used strategies in your classroom.
- Label each learning experience as A, M, or T.
- Discuss:
 - Do your most commonly used strategies reflect a balance of A, M, and T?
 - If not, where do you tend to focus?
 - Where might you plan to adjust, if anywhere?

33

Designing and Teaching for Transfer

- 1. Establish and keep highlighting **clear transfer goals**.
- 2. Have learners practice judgment in **using a few different skills**, not just plugging in one skill on command.
- 3. Provide students with **feedback** on their self-cueing, knowledge retrieval, self-assessment, and self-adjustment.
- 4. **Change the set-up** so that students realize that use of prior learning comes in many guises.
- 5. Have students regularly **generalize** from specific instances and cases.
- 6. Require students to constantly **reword, rephrase, and represent** what they learn.

Task:

Using the criteria on page four of the AMT teaching resources handouts:

- Draft a learning plan for a unit of study.
- Indicate lesson order, code with A-M-T

See page four of AMT Teaching Resources handouts

Design Standards for Learning Plan

- Are all three types of learning goals (A M T) addressed in my plan?
- Have I sketched out learning events that are appropriate for each type of goal—rather than what is most familiar or comfortable?
- Are there sufficient opportunities for students to draw inferences and make meaning on their own about the big ideas of the unit?
- Have I sketched out a flow of the unit that gradually releases students to be more responsible for figuring out what to do and when to do it?

See pages five and six of AMT Teaching Resources handouts

For more information:

- Donna Herold
- Ferris High School
- (509) 979-2521
- <http://www.21stcenturyschoolteacher.com>

Resources for understanding the 3 Different Types of Instructional Activity

Acquisition

- Goal: fluent recall of information or skills
- Essential question: How do I remember this?
- Teacher's role: lecture, presentation, direct instruction, advanced/graphic organizers, convergent questioning, and demonstration/modeling.
- Student's role: The learner's role involves attentiveness, lots of practice, and rehearsal.

Meaning-Making

- Goal: idea is a conclusion that students are helped to draw in the face of a need to make sense of content, an experience-induced theory
- Essential question: What do these facts mean? When would I be most and least likely to use this skill?
Teacher's role: Design and facilitate work, questions and intellectual tasks that resist an easy answer and demand thought.
- Student's role: Develop mental strategies for building, testing, explaining and supporting the meanings they make; develop the habits of mind needed for persisting in the face of challenge and ambiguity.

Transfer

- Goal: effectively *apply and adapt* this learning to new and particular situations
 - Essential question: How do I use this to make sense of this? (e.g. situation, challenge, text, problem)
 - Teacher's role: function like a coach who trains, watches, and offers feedback on performance in athletics and the arts
 - primarily observes student performance attempts, and provides *timely and ongoing feedback and advice* –
 - prompt performer to reflect on what worked and what didn't and why. Of course, the ultimate goal of transfer is to make the coach barely needed. Therefore, over time, teacher support and scaffolding is gradually removed so that students learn to transfer learning (and process the feedback) on their own.
- Student's role: Work independently and use the teacher as a coach for feedback and guidance based on a transparent expectation of what quality work looks like
- needs many *models and opportunities to try to perform*; i.e., to apply their learning in new and varied situations

The 3 Different Types of Instructional Activity

Description of activity	Type
Student is taught how to tie their shoes	A
Students practice tying their shoes	A
Students draw/speak the steps of lace tying	M
Students discuss the pros and cons of laces vs. Velcro, and different methods of tying	M
Students teach others how to tie their shoes	T
Students are provided with 4 demonstrations of physical events (pendulum, shooter of pellets, car slowing down, sling) and asked to explain them in terms of Newtonian principles and the question "Why does that move the way it does?"	M
Students are asked to generalize from laboratory data	M
Students read the textbook on the 3 laws of Newton and take a quiz on their reading	A
Students must build a working roller coaster based on their learning about forces, vectors, and Newtonian laws	T
Students engage in Socratic Seminar on Hamlet	M
Teacher lectures on the life of Shakespeare and the Globe Theater	A
"What's the diagnosis?" Students role-play psychiatrist analyzing cases of Hamlet and Holden Caulfield (Catcher in the Rye)	M, T
Students identify a real-life person who is most like Hamlet and explain why	M
Students read a story with new words important to the story	M
Students receive, learn, and memorize words from a vocabulary list	A
Students group the words and consider: who needs to know this word?	M
Students play Scrabble and do Crossword Puzzles	T

The 3 Different Types of Instructional Activity
Language Arts Grade 4 Tall Tales

STAGE 3: LEARNING ACTIVITIES

Teacher reads a tall tale aloud to the class. As she reads, she models identifying story elements, including characters, setting, plot, etc. She clarifies the answers to these questions: What parts of the stories make them a tall tale? What exaggerations are made?	
Teacher reads another tall tale. Students identify elements in the story and answer the same questions.	
Students pick two tall tale characters and analyze how they were alike and different. Discuss the following: Do you think the characters were American heroes? Why or why not?	
Students read an informational text that overlaps with one or more aspects of a tall tale (e.g. a text about John Henry, a text concerning the real-life counterpart of a tall-tale setting). They complete a graphic organizer, comparing and contrasting the tall tale with the informational text, paying specific attention to which elements are exaggerated. Why those?	
Students reconsider one or more of the tall tales they have already read, then answer these questions in small groups: Do you think authors of the tall tales did research? Why? Do you think either character originated from a true story and then was exaggerated?	
Transforming tall tales: students create a non-text version of a tall tale: an illustration or series of illustrations, a poster, a pantomime.	
Picture books: Students choose from a collection of picture books of tall tales, reading two or three and working to answer these questions: What is a tall tale? Who is the hero in a tall tale? What kinds of things are exaggerated? What kinds of things are not?	
Students think of a time in their lives when someone (possibly themselves) did a significant thing. They write about the event as a simple personal narrative, then transform it into a tall tale. What did they exaggerate? Why those things and not others?	
Students respond to the narrative text and the tall tale written by another person. Were appropriate things exaggerated? Does the tall tale meet the criteria listed by the class for a tall tale?	
Students self-assess their own tall tale, with reference to the same criteria.	

The 3 Different Types of Instructional Activity

Your Own Example

Acquisition - fluent recall of information or skills

Meaning-Making - idea is a conclusion that students are helped to draw in the face of a need to make sense of content, an experience-induced theory

Transfer -effectively *apply and adapt* this learning to new and particular situations

The 3 Different Types of Instructional Activity

Self-Assessment criteria –

- Are all three learning goal types (Acquisition, Meaning, Transfer) addressed in my draft learning plan?
- Have I sketched out learning events that are appropriate for each type of goal – rather than what is merely most familiar or comfortable?
- Are there sufficient opportunities for students to draw inferences and make meaning on their own about the big ideas of the unit?
- Have I sketched out a flow of the unit that gradually releases students to be more responsible for figuring out what to do and when to do it?

SELF-FEEDBACK (explain your reasoning if you did not check the box)

SELF-ADJUSTMENT (offer any suggestions, questions, and/or resources you have to address the concern)

The 3 Different Types of Instructional Activity

Peer Review criteria -

- Are all three learning goal types (Acquisition, Meaning, Transfer) addressed in this draft learning plan?
- Has this teacher sketched out learning events that are appropriate for each type of goal – rather than what is merely most familiar or comfortable?
- Are there sufficient opportunities for students to draw inferences and make meaning on their own about the big ideas of the unit?
- Has the teacher sketched out a flow of the unit that gradually releases students to be more responsible for figuring out what to do and when to do it?

FEEDBACK (explain your reasoning if you did not check the box)

GUIDANCE (offer any suggestions, questions, and/or resources you have to address the concern)

Stage 1 Desired Results

<p>Established Goals</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, 21st century skills, core competencies – will this unit address? <type here></p>	Transfer	
	<p><i>Students will be able to independently use their learning to...</i></p> <p>What kinds of long-term independent accomplishments are desired? <type here></p>	
	Meaning	
	<p>UNDERSTANDINGS <i>Students will understand that...</i></p> <p>What specifically do you want students to understand? What inferences should they make? <type here></p>	<p>ESSENTIAL QUESTIONS <i>Students will keep considering...</i></p> <p>What thought-provoking questions will foster inquiry, meaning-making, and transfer? <type here></p>
Acquisition		
<p><i>Students will know...</i></p> <p>What facts and basic concepts should students know and be able to recall? <type here></p>	<p><i>Students will be skilled at...</i></p> <p>What discrete skills and processes should students be able to use? <type here></p>	

Stage 2 - Evidence

Code	Evaluative Criteria	Assessment Evidence
<p>Are all desired results being appropriately addressed? <type here></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? <type here></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? <type here></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? <type here></p>

Stage 3 – Learning Plan

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