Designing a Course for Meaningful Learning

CIL

July 2, 2019

Workshop Design

Morning session

- Group work
- Designing an interdisciplinary LAS course

Afternoon session

- Individual Work
- Start designing your course

Learning Outcomes

- By the end of the workshop, participants will hopefully be able to
  - Recognize the components of course design
  - Describe the process of backward design
  - Use the process of backward design to design own course

One Sentence Summary CHALLENGE

WHO DOES WHAT TO WHOM, WHEN, WHERE, HOW AND WHY? (WDWWWWHW)

- ✓ Enables participants to find out how concisely completely and creatively they can summarize a large amount of information on a given topic.

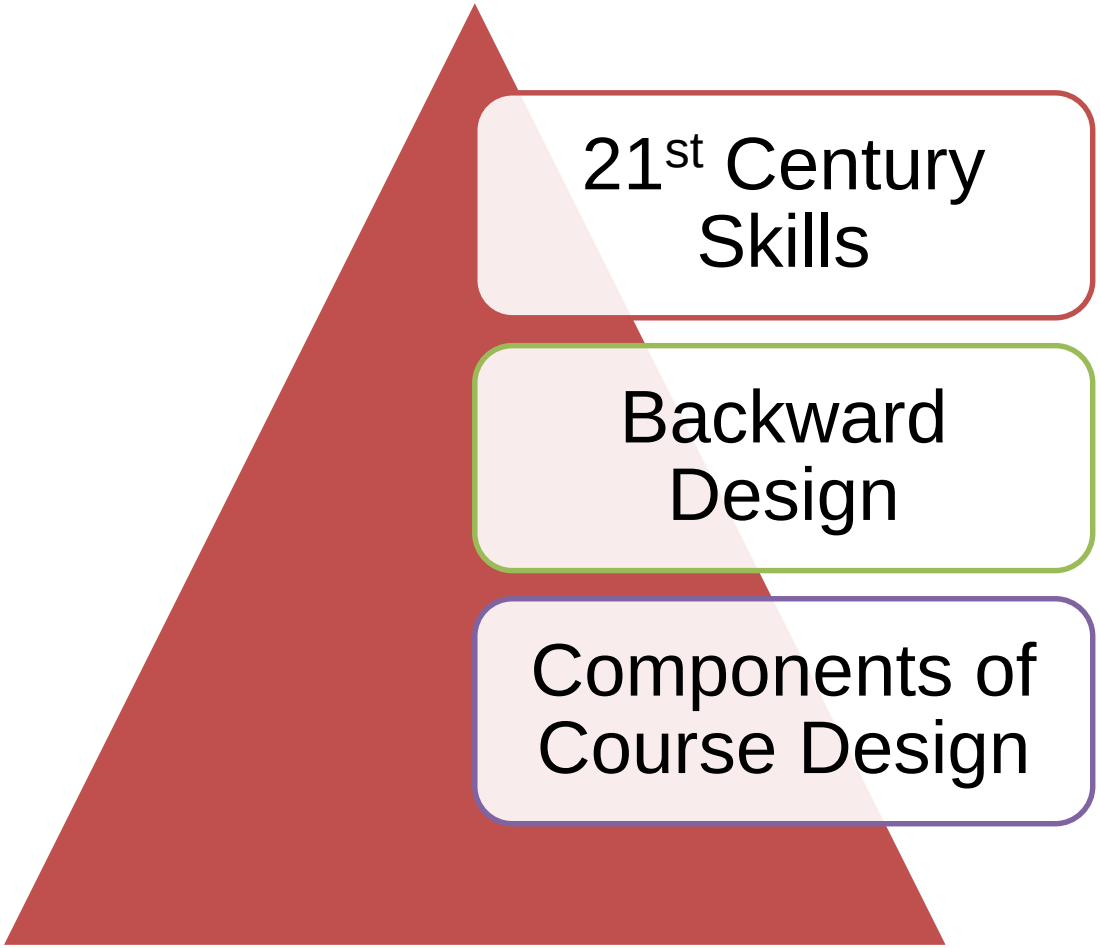
One Sentence Summary

Who	
Do (does) What	
What or Whom	
When	
Where	
How	
Why	

Note

- This workshop is based on the works of Dee Fink *A self directed guide to designing courses for significant learning and* Wiggins & McTighe *Understanding by Design* among others.

Keep in mind…



21st Century Skills

Learning Skills

- Critical Thinking
- Creative Thinking
- Collaborating
- Communicating

Literacy Skills

- Information Literacy
- Media Literacy
- Technology Literacy

Life Skills

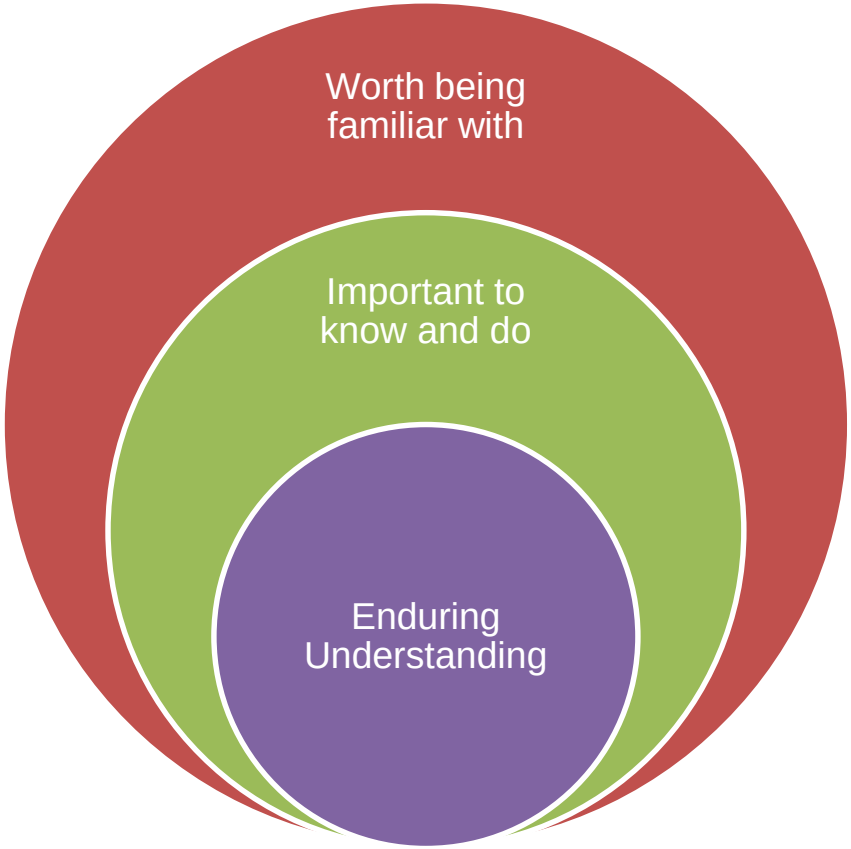
- Flexibility
- Initiative
- Social Skills
- Productivity
- Leadership

Backward Design Process

Stage 1:	• Identify Desired Results
Stage 2:	• Determine Acceptable Evidence
Stage 3:	• Plan Learning Experiences & Instruction

Identify Desired Results

What should learners know, understand & be able to do?

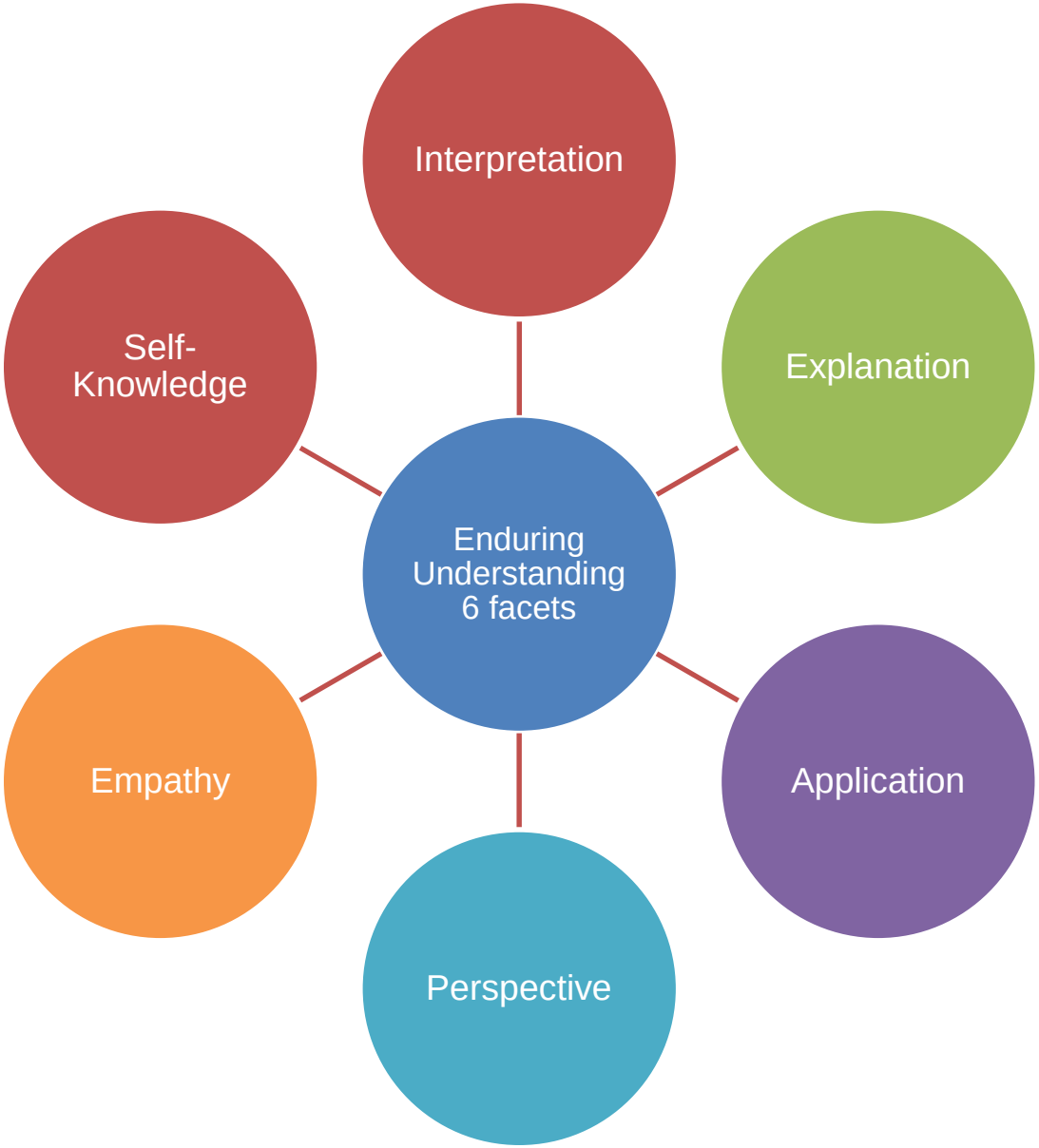


Enduring Understanding

What are the ‘Big Ideas’ and ‘Essential Questions’ of the course?

What key knowledge & skills will the learners acquire as a result of this course?

Begin with the end in mind.


Interpretation
Self-Knowledge
Explanation
Enduring Understanding 6 facets
Empathy
Application
Perspective

Determine Acceptable Evidence

Think like an assessor & gather evidence at several points.

Traditional assessments used for essential knowledge & skills may be needed for the culminating performance.

Assessment Evidence

Performance Tasks & Rubrics

Make grading criteria known to students

Reduce teacher subjectivity

Maintain focus on content, performance standards, & student work

Plan Learning Experiences & Instruction

Identify the facts, concepts, principles, & the procedures learners will need to complete performance task or project.

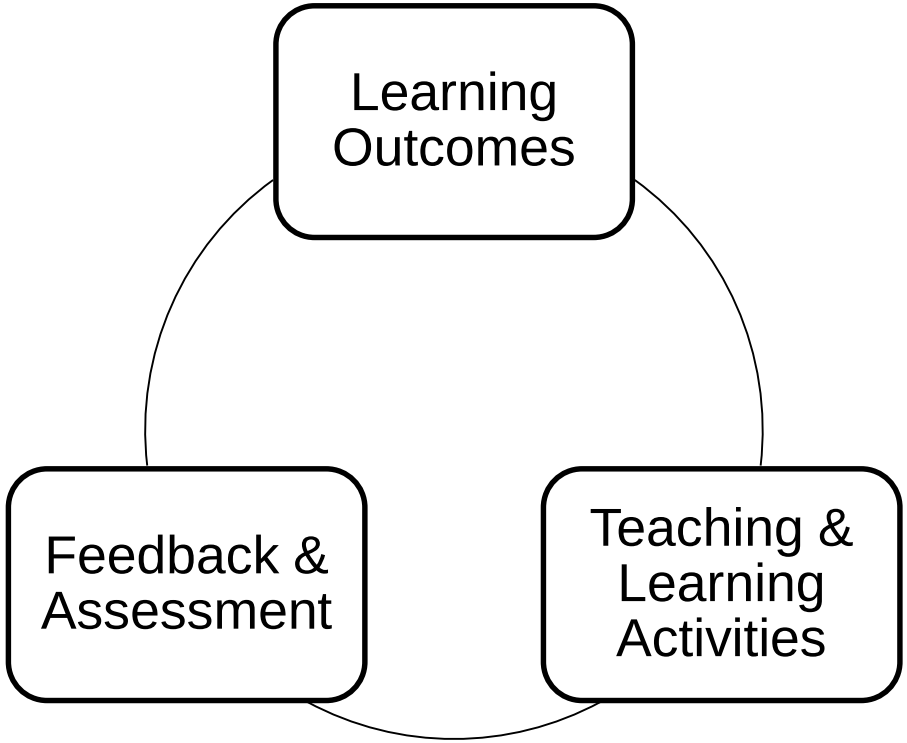
Identify content for direct teaching, coaching, & constructivist teaching.

Select activities, materials, & resources.

Learning Activities WHERETO

- What learning experiences will enable learners to achieve their goals?
- How will the design ----
  - W = help learners know where the course is going?
  - H = hook all learners & hold their interest?
  - E = equip learners, explore the issues, & experience the ideas?
  - R = provide opportunities to rethink & revise
  - E = allow learners to exhibit their understanding & evaluate their work
  - T = be tailored to the different needs, interests, & abilities of learners
  - O = be organized to maximize initial & sustained engagement & effective learning

Key components of integrated course design



Situational Factors

Five Basic Steps of Instructional Design Process

- Give careful consideration to a variety of situational factors
- Learning outcomes
- Feedback & assessment procedures
- Teaching/learning activities
- Make sure that key components are all integrated

Situational Factors

- What is the special instructional challenge of this course?
- What is expected of the course by the learners? Department? Institution? Profession?
- How does this course fit into the larger curricular context?

Situational Factors

Specific context of the teaching/learning situation

General context of the teaching/learning situation

Nature of the subject

Characteristics of the learner

Characteristics of the teacher

Learning Outcomes

What do you want learners to learn by the end of the course that will still be with them several years later?

- Think expansively beyond understand & remember kinds of learning
- Check taxonomy

Learning Outcomes

- Try to get away from topic and content
- Think of learning centered classrooms
- What would you like the impact of the class to be on your learners in 2 to 3 years from now?
- What would distinguish learners who have taken the course from students who have not?

Learning Outcomes (2)

Questions for formulating meaningful/significant learning outcomes

- I want & hope my learners will (in two or three years from now) ….

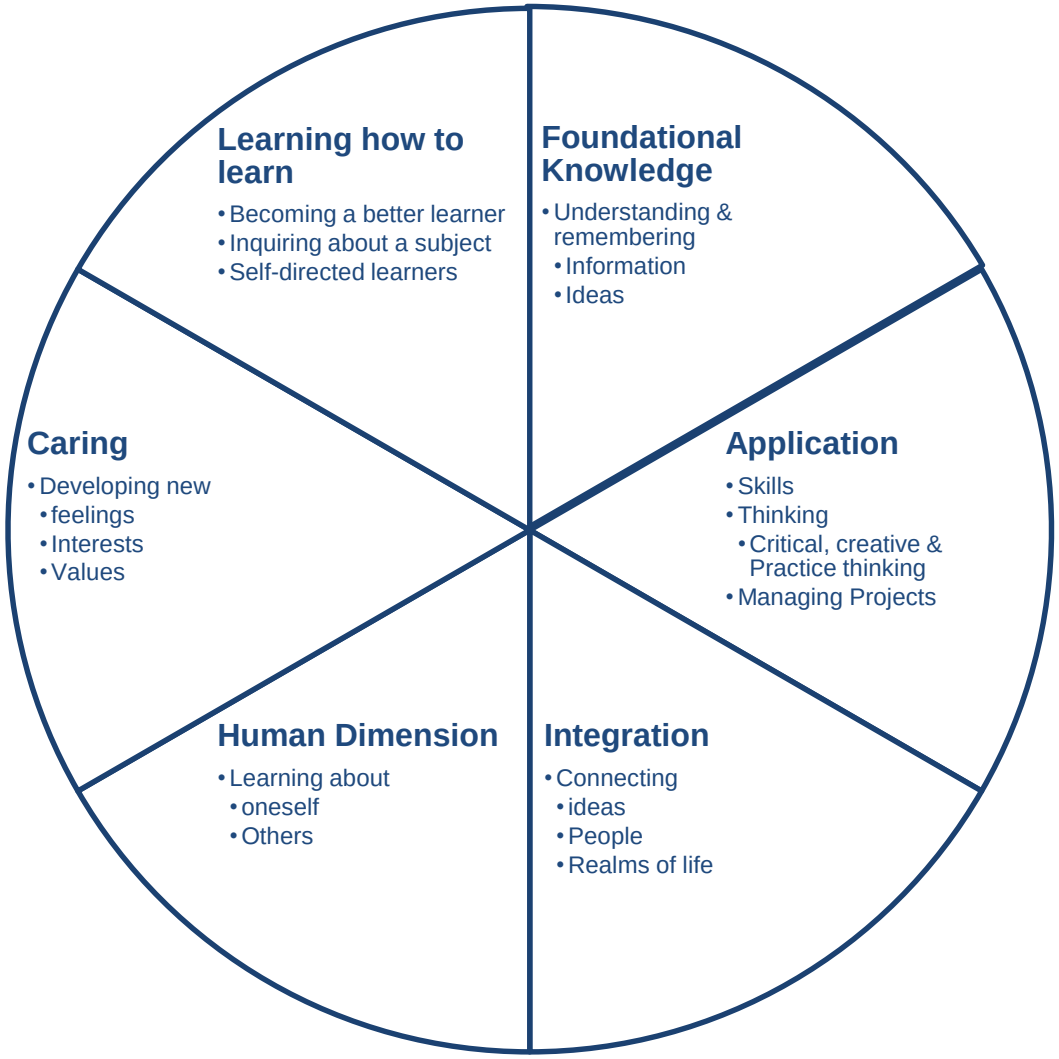
Bloom's Taxonomy

Remembering	Tell, list, describe, relate, locate, find, state, name, identify, label, recall, define, recognize, match, reproduce, memorize, draw, select, write, recite
Understanding	Explain, interpret, outline, discuss, distinguish, predict, restate, translate, compare, describe, relate, generalize, summarize, paraphrase, convert, demonstrate, visualize
Applying	Solve, show, use, illustrate, construct, complete, examine, classify, choose, interpret, make, change, apply, produce, translate, calculate, manipulate, modify
Analyzing	Analyze, distinguish, examine, compare, contrast, investigate, categorize, identify, explain, separate, advertise, differentiate, subdivide, deduce
Evaluating	Judge, select, choose, decide, justify, debate, verify, argue, recommend, assess, discuss, rate, prioritize, determine, critique, evaluate, criticize, weigh, value, estimate, defend
Creating	Create, invent, compose, predict, plan, construct, design, imagine, propose, devise, formulate, combine, hypothesize, originate, add to, forecast

Learning Taxonomy: Affective Domain

Receiving	**asks, chooses, describes, follows, gives, holds, identifies, locates, names, points to, selects, sits erect, replies, uses**
Responding	answers, assists, complies, conforms, discusses, greets, helps, labels, performs, practices, presents, reads, recites, reports, selects, tells, writes
Valuing	completes, describes, differentiates, explains, follows, forms, initiates, invites, joins, justifies, proposes, reads, reports, selects, shares, studies, works
Organization	adheres, alters, arranges, combines, compares, completes, defends, explains, generalizes, identifies, integrates, modifies, orders, organizes, prepares, relates, synthesizes
Characterization by a value of value set	acts, discriminates, displays, influences, listens, modifies, performs, practices, proposes, qualifies, questions, revises, serves, solves, uses, verifies

Taxonomy of Significant Learning (Dee Fink)


Learning how to learn
• Becoming a better learner
• Inquiring about a subject
• Self-directed learners
Foundational Knowledge
• Understanding & remembering
• Information
• Ideas
Application
• Skills
• Thinking
• Critical, creative & Practice thinking
• Managing Projects
Integration
• Connecting
• ideas
• People
• Realms of life
Human Dimension
• Learning about
• oneself
• Others
Caring
• Developing new
• feelings
• Interests
• Values

Formulating Significant/Meaningful Learning Outcomes

Foundational knowledge	• What key information (facts, terms, formulae, concepts, principles, relationships, etc.) is/are important for learners to understand and remember in the future? • What key ideas (or perspectives are important for learners to understand in the course?
Application	• What kinds of thinking are important for learners to learn? • Critical thinking? (analyze and evaluate) • Creative thinking? (imagine and create) • Practical thinking? (solve problems and make decisions?) • What important skills do learners need to gain? • Do learners need to learn how to manage complex projects?
Integration	• What connections (similarities and interactions) should learners recognize and make … • Among ideas within this course? • Among the information, ideas and perspectives in the course and those in other courses or areas? • Among material in this course and the learners' own personal, social and/or work life?
Human dimensions	• What could or should learners learn about themselves? • What could or should learners tell about understanding others and/or interacting with them?
Caring	• What changes/ values do you hope learners will adopt? • Feelings? • Interests? • Ideas?
Learning how to learn	• What would you like learners to learn about? • How to be good learners in a course like that? • How to learn about this particular subject? • How to become a self-directed learner of this subject, i.e. having an agenda of what they need/want to learn, and a plan for learning it?

Feedback & Assessment Procedures

What will learners have to do, to demonstrate that they have achieved the learning outcomes?

Think of educative assessment

Traditional Vs. Modern Methods of Teaching

Traditional	Modern
Teacher is the sender or source	Case studies; active learning
Student is the receiver	More motivation & engagement
The delivery medium: chalk & talk method & OHT	Theory & practice are of equal importance
Students assume passive roles; their concentration fades off after 15-20 minutes.	More teacher student interaction & student student interaction
Material is the information or message	Real life experiences; hands-on experience
Teaching is one way flow	Teaching/ learning is three dimensional
Lecture; Theory; Memorization	Interaction; Reflection; Feedback

Purpose of Assessment

Assessment should be an integral part of the learning process rather than something that is ‘tacked on’ at the end

What is Assessment?

Assessment is the art and science of knowing what learners know

It provides ‘evidence’ of learners’ knowledge, skills, & abilities

‘Evidence’ supports instructors’ inferences of what learners know & can do (it guides & informs instruction)

Recent Trends in Classroom Assessment

From	To
Sole emphasis on outcomes	Assessing of process
Isolated skills	Integrated skills
Isolated facts	Application of knowledge
Paper and pencil tasks	Authentic tasks
Decontextualized tasks	Contextualized tasks
A single correct answer	Many correct answers
Secret standards	Public standards
Secret criteria	Public criteria
Individuals	Groups
After instruction	During instruction

Recent Trends in Classroom Assessment

From	To
Little feedback	Considerable feedback
"Objective" tests	Performance-based tests
Standardized tests	Informal tests
External evaluation	Student self-evaluation
Single assessments	Multiple assessments
Sporadic	Continual
Conclusive	Recursive
Assessment **of** Learning	Assessment **for** Learning
Summative	Formative

Ways Assessment Can Aid Learning

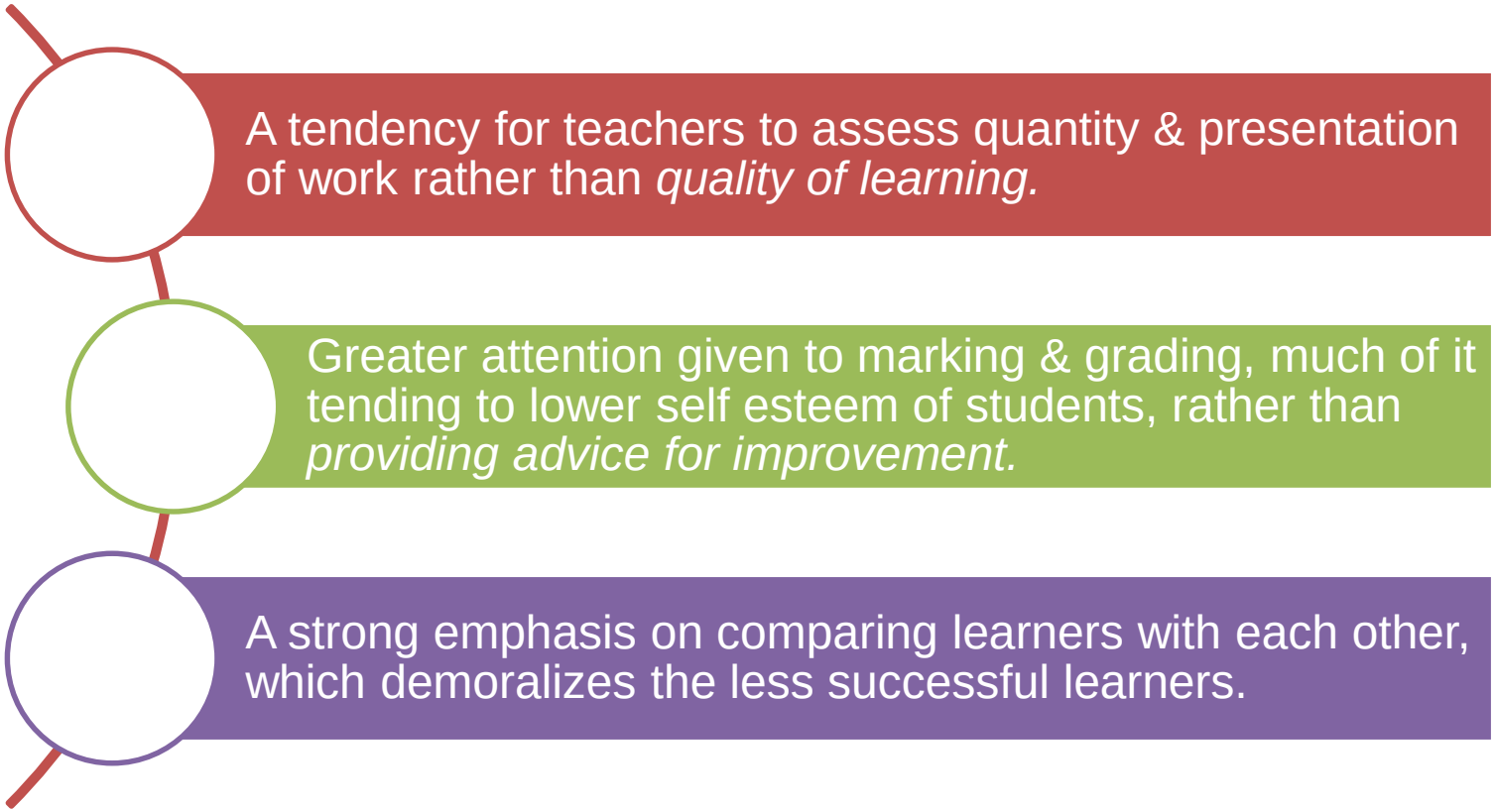
Assessment can aid

- student motivation
- retention & transfer of learning
- student self assessment
- in evaluating instructional effectiveness

The Formative Assessment Process

What It Is…	What It Isn't…
A planned process	Unplanned
Based on assessment evidence	Individual strategies
Using evidence to make instructional adjustments and/or verifying learning	Moving on regardless of student evidence
'Actionable' feedback for students	Grading

Factors Inhibiting Assessment



Balanced Assessment

Formative

Formal & informal processes teachers & students use to gather evidence to directly improve the learning of students assessed

Summative

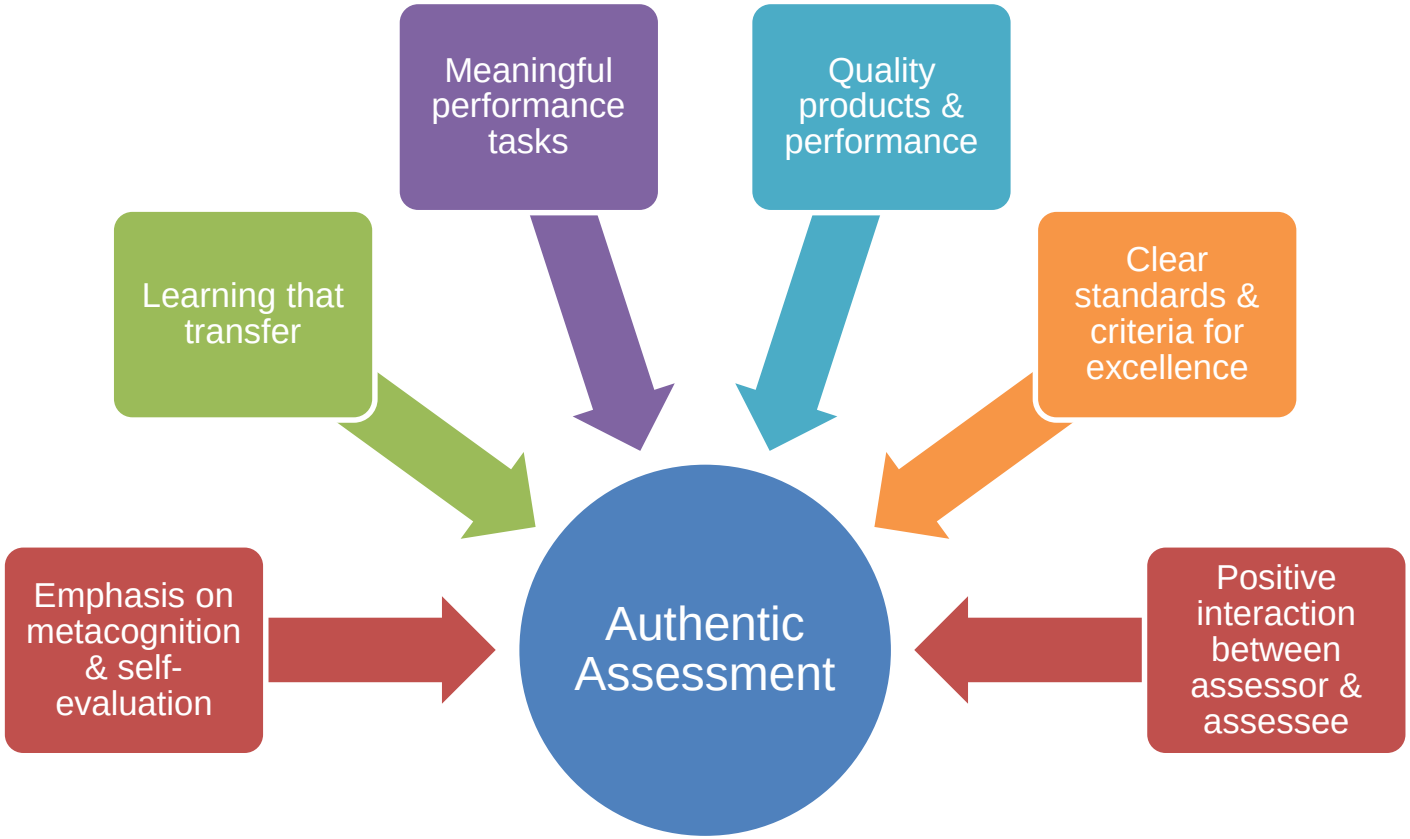
Provides evidence achievement to verify student competence or program effectiveness

Assessment *for* learning

Use assessments to help students assess & adjust their own learning
Use classroom assessments to inform teacher's decisions

Formative uses of summative data

Use of summative evidence to inform what comes next for individuals or groups of students


Meaningful performance tasks
Quality products & performance
Learning that transfer
Clear standards & criteria for excellence
Emphasis on metacognition & self-evaluation
Authentic Assessment
Positive interaction between assessor & assessee

Assessment for Learning

Balanced Assessment

Types of Assessment	Focus	Features
Traditional	• knowledge • curriculum • skills	Classroom assessments •tests •quizzes •assignments Standardized tests •norm-referenced •criterion-referenced
Portfolio	• process • product • growth	• growth and development • reflection • goal setting • self-evaluation
Performance	• standards • application • transfer	• collaboration • tasks • criteria • rubrics • examination of student work

Examples of Formative Assessment

- ✓ Paper/thesis; written composition
- ✓ Project (including group projects [collaborative learning])
- ✓ Experiment
- ✓ Development of a product
- ✓ Performance
- ✓ Community-based experience (service learning)
- ✓ Exhibition
- ✓ Case study / Critical incident
- ✓ Clinical evaluation
- ✓ Oral exam or presentation
- ✓ Interview
- ✓ Comprehensive exam
- ✓ Portfolio

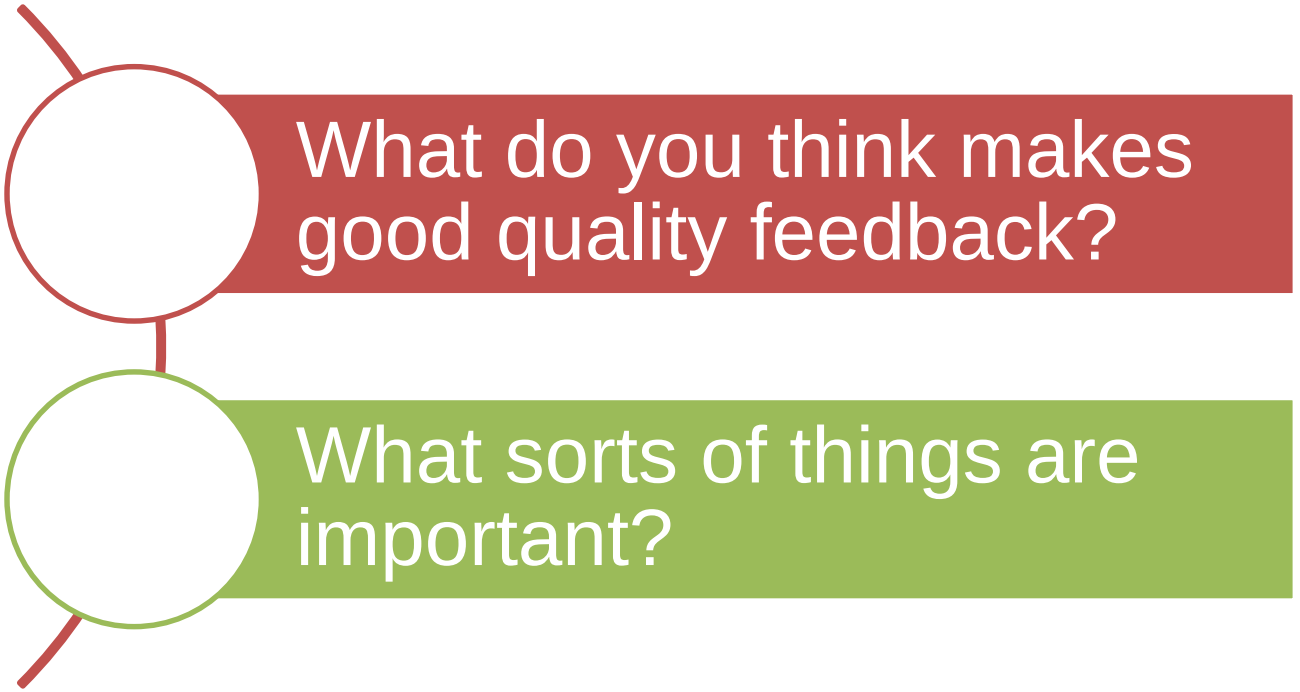
Characteristics of an Exemplary Assessment Task
(Huba & Freed, 2000)

Valid	Yields useful information to guide learning
Coherent	Is structured so that activities lead to desired performance product
Authentic	Addresses ill-defined problems/issues that are enduring or emerging
Rigorous	Requires use of declarative, procedural, and metacognitive knowledge
Engaging	Provokes student interest and persistence
Challenging	Provokes, as well as evaluates, student learning
Respectful	Allows students to reveal their uniqueness as learners
Responsive	Provides feedback to students leading to improvement

Good assessment is

Formative	Designed to collect information that can be used for improvement ongoing
Summative	Takes a picture of where you are today Contributes to resource allocation
Infused into regular operations	
Clear and understandable	
Comprehensive	Measures your primary function or activity Measures student learning
Cost effective	Time Money
Collaborative	

Questions



High quality feedback

- Is supportive & aimed at improvement
- Is analytic & critical
- Relates explicitly to the objectives of the activity/ assessed task
- Is timely….the quicker the feedback, the greater effect it has

Remember

Descriptive & specific feedback should be provided to learners

- by the teacher
- by other learners
- by both the teacher & other learners

Descriptive Feedback

Specific & appropriate communication to improve learning while that learning is occurring.

Should focus on the particular qualities of student learning with discussion & suggestions about what the learner can do to improve.

Can be provided in the form of ideas, strategies, & tasks learners can use to close the gap between current & next level

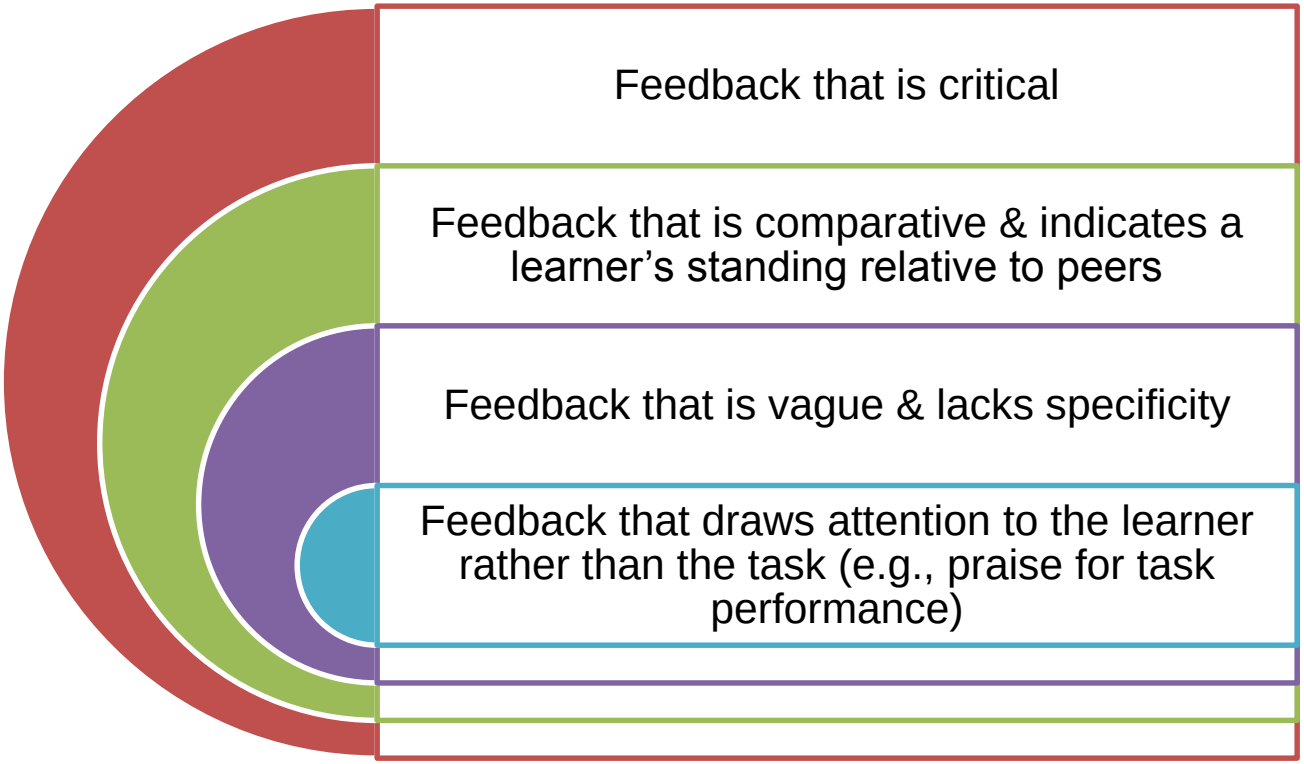
Is not in the form of a score or grade.

Should help the learner answer three questions: Where am I going? Where am I now? How can I close the gap?

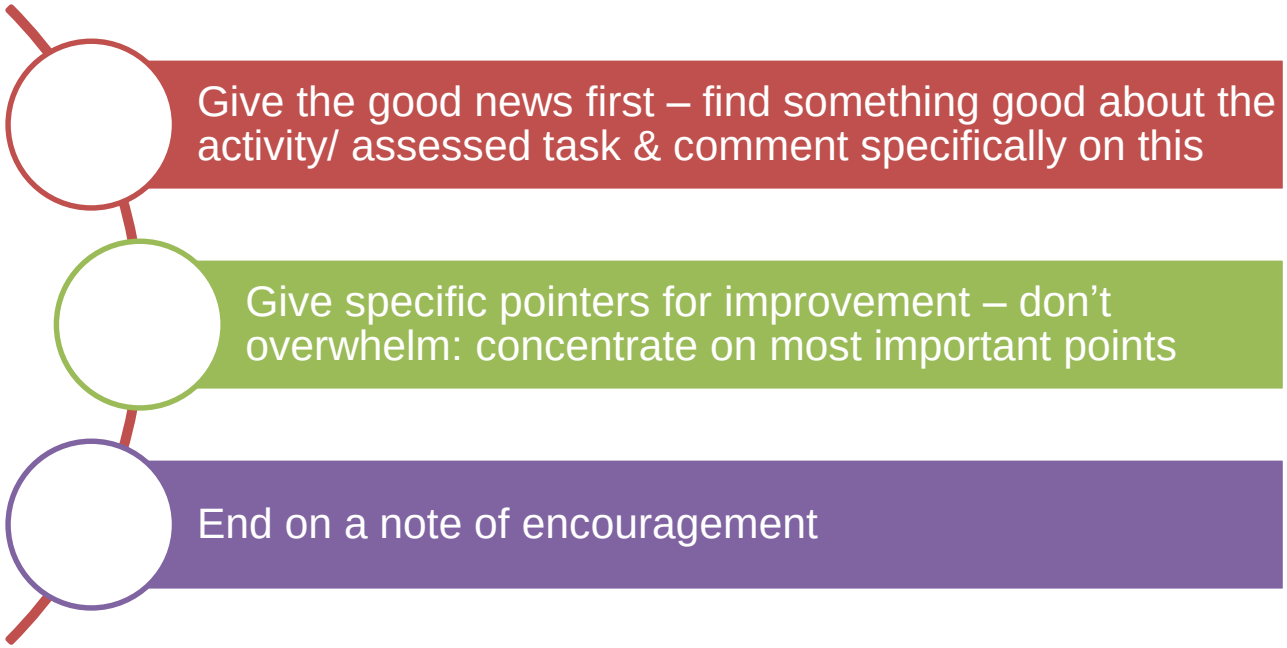
Use of Feedback in Closing the Gap

- Instructors take steps to close the gap between the learners' current learning & the objectives by:
  - Modifying instruction
  - Assessing again to give further information about learning
  - Modify instruction again…& repeat process
- Feedback should be used by the learner to improve learning in order for it to be effective in closing the gap.

Examples of Feedback That Can Have Negative Consequences (Heritage, 2010)



How can we most effectively give feedback?



Dee Fink
Audit-ive & Educative Assessment

Audit-ive Assessment	**Educative Assessment**
Backward looking assessment	Forward looking assessment Self assessment Criteria & Standards Feedback
(Traditional) Grading	Better Learning (more authentic grading

Assessment Procedures

In a typical content-centered course, assessment is two exams & a final

In a learning centered course, a more sophisticated approach is needed

Forward Looking Assessment

Exercises

Questions

Problems/ real-life context for a given issue, problem, or decision to be addressed

Open ended problem (not totally pre structured)

Criteria & Standards

- What are the criteria & the standards that you intend to use to assess the quality of learners' responses?
- Share your criteria & standards with your learners

Self-Assessment

- What opportunities can you create for learners to engage in self-assessment of their performance?

Teaching/Learning Activities

What should happen during the course for learners to do well on the feedback & assessment activities?

Think creatively for ways of involving learners that will support your most expansive learning outcomes

Use active learning activities to engage learners

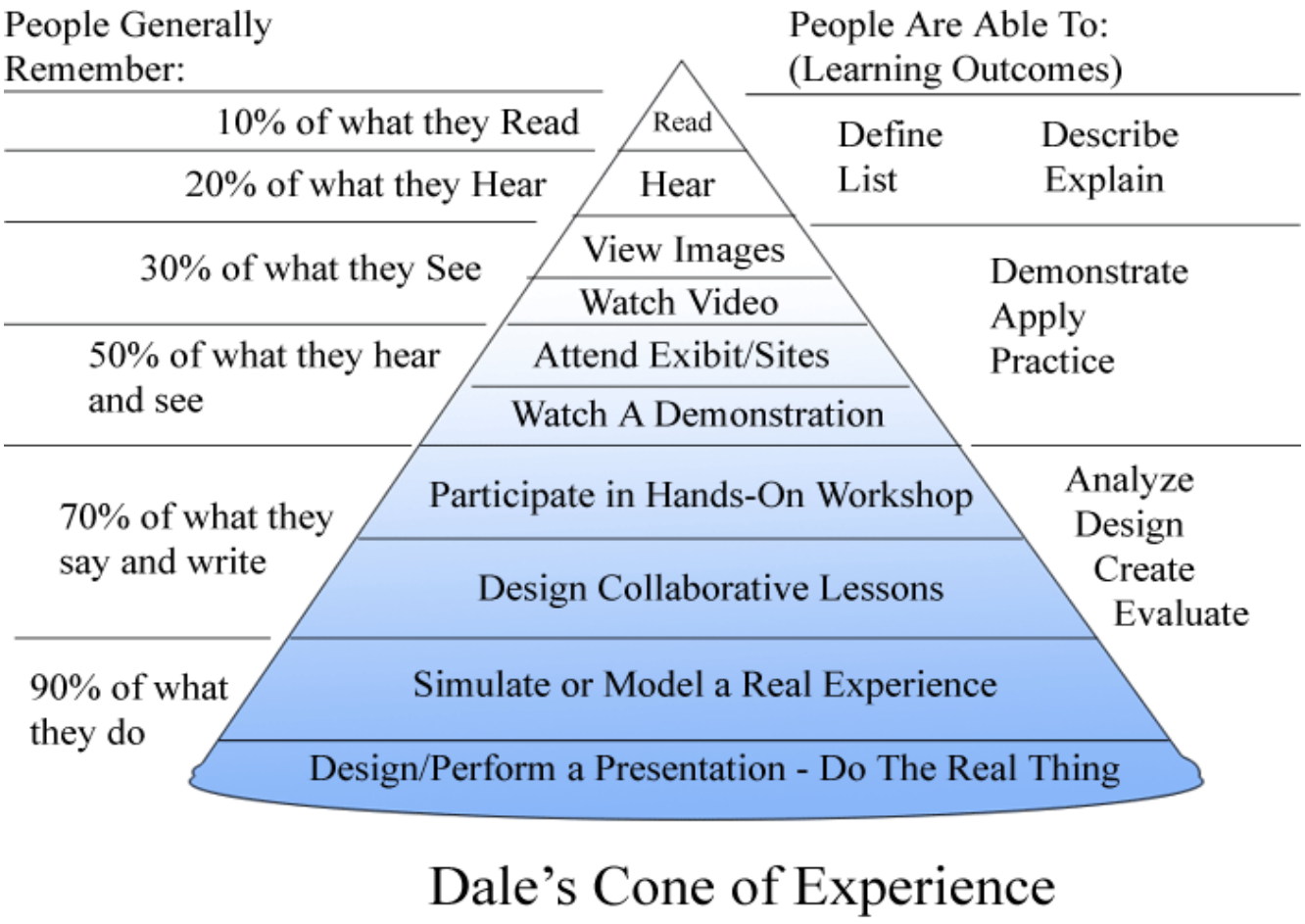
Assemble these activities into an effective instructional strategy (an interdependent sequence of learning activities & a coherent course structure)

Teaching/Learning Activities

- Use active learning

- Learners learn more & retain their learning longer if they acquire it in an active rather than a passive manner

Why do active learning?



Dale's Cone of Experience

Active Learning

- ✓ Anything that involves students in doing things & thinking about the things they are doing
- ✓ Anything learners do in a classroom other than merely listening to the teachers
- ✓ Reading, writing, discussing or engaging learners in solving problems
- ✓ Engaging learners in higher-order thinking tasks

NOTE:

Active listening in the classroom, taking notes, and acquiring information is not enough

Active Learning characteristics

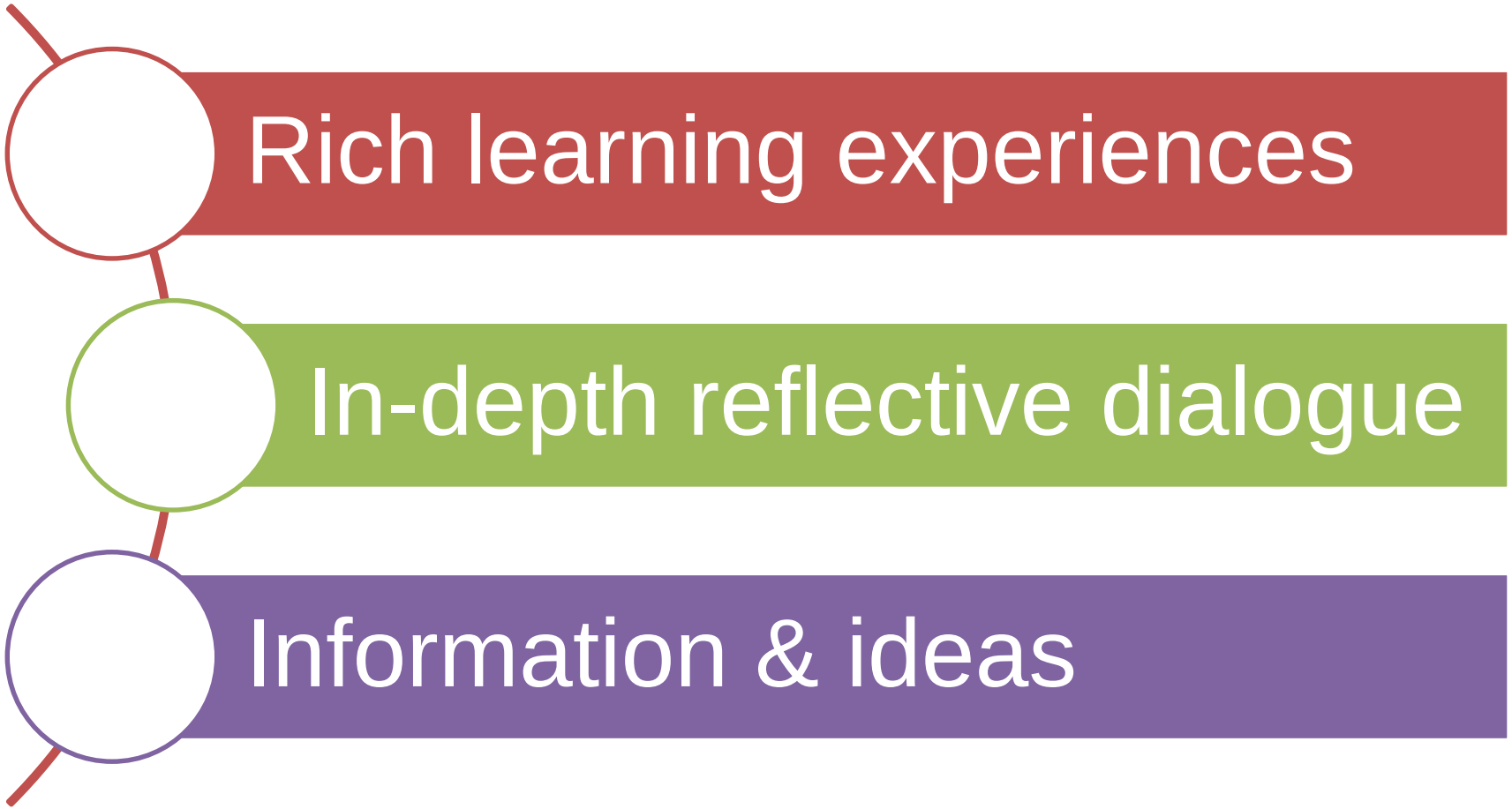
- Learners
  - ✓ are more than passive listeners
  - ✓ are engaged in activities
  - ✓ motivation is increased
  - ✓ can receive immediate feedback from instructor
  - ✓ are involved in higher order thinking skills
- Greater emphasis is placed on
  - ✓ developing learners' skills
  - ✓ the exploration of attitudes and values

Learning Activities for Holistic, Active Learning

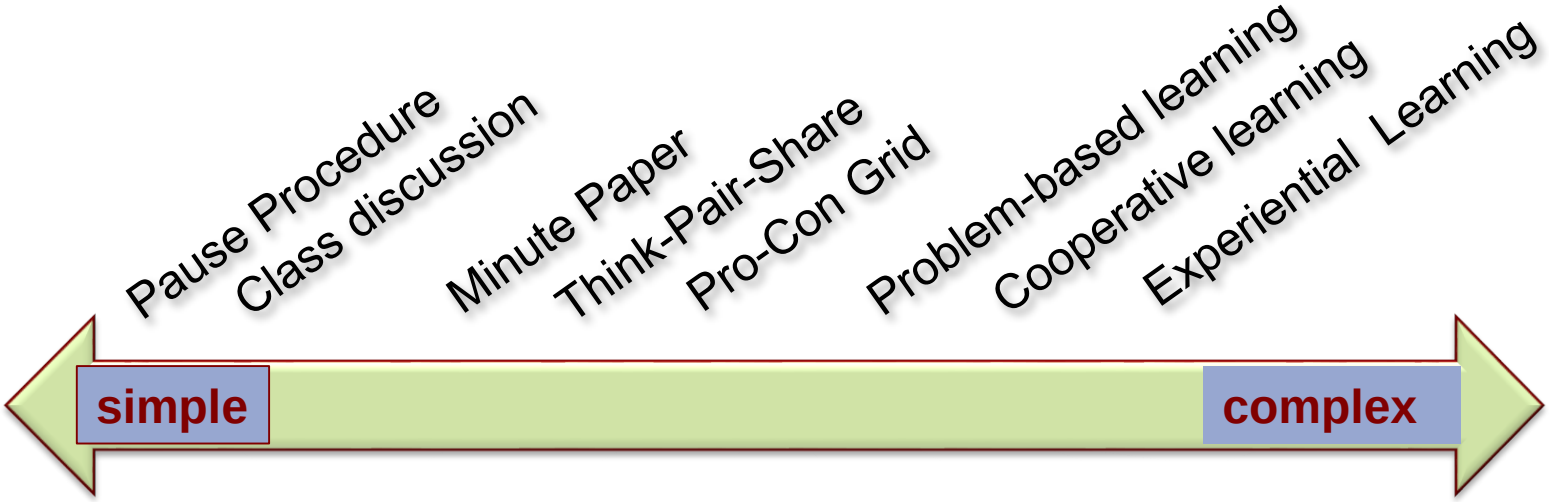
	Getting info & ideas	Experience		Reflective dialogue with	
		Doing	Observing	Self	Others
Direct	Primary data Primary sources	Real doing in authentic setting	Direct observation of phenomena	Reflective thinking Journaling	Dialogue (in or our of class)
Indirect, Vicarious	Secondary data & sources Lectures, textbooks	Case studies Gaming, simulations Role play	Stories (may be accessed via film, oral history, literature		
Online	Course website internet	Teacher can assign learners to 'directly experience…" Learneres can engage in 'indirect' kindsof experience online		Learners can reflect & then engage in various kinds of dialogue online	

Active Learning Components

Handout 5



Active Learning



(Bonwell & Sutherland, 1996)

Make sure all key components are integrated

- All key components are integrated & support each other

Integrating all steps

Situational Factors

- What potential conflicts can you identify that may cause problems?
- Are there any disconnects between your beliefs & values, learner characteristics, specific or general context, nature of subject in relation to the way you propose to run the course?

Learning Outcomes / Feedback & Assessment

- How well do your assessment procedures address the full range of learning outcomes?
- Is the feedback giving learners information about ALL learning outcomes

  Do learning outcomes include helping learners learn how to assess their own performance?

Integration (2)

Learning outcomes & teaching/learning activities	• Do the learning activities effectively support all your learning outcomes? • Are there extraneous activities that do not serve any major learning outcomes?
Teaching/learning activities / feedback & assessment	• How well does the feedback loop work to prepare learners to understanding the criteria & standards that will be used to assess their performance? • How well do the practice learning activities & the feedback opportunities prepare learners for the eventual assessment activities?

Basic Design for course is good if it includes

- In-depth analysis of situational factors
- Significant/meaningful learning outcomes
- Educative feedback & assessment
- Active teaching/learning activities
- Integrative / alignment

Assembling the components into a coherent whole (Handout 7)

Course structure

- Identify 4 to 7 major concepts, issues, or topics for the course
- What is the appropriate sequence for introducing these to the learners?
- What initial ideas do you have for assignments or problems that would reflect the increasing complexity of the subject as learners move from one topic to another?

Instructional Strategy

It is a set of learning activities arranged in a particular sequence so that the energy for learning increases & accumulates as learners go through the sequence

Instructional Strategy Remember

1. Get learners ready or prepared for later work
2. Give learners opportunities to practice (with prompt feedback) doing whatever it is you want them to learn to do
3. Assess quality of their performance
4. Allow them to reflect on their learning

- **Note:** Plan for in-class and out-of-class activities

Your turn now..

- Sketch out a sequence of varied activities using some of the learning activities you worked on earlier.

Creating the overall scheme of learning activities

- Integrate the course structure & the instructional strategy for the whole course
- Create your own diagram for it
- Find ways to enhance how these two components work together

Remember

Differentiation	• Variety (different types of learning activities from day to day …) • Development (complexity & challenge of learning)
Integration	• (should be reflected within each topic & in the progression through each topic)

How are we going to grade?

- What are the key components of the grading system?
- What will be the relative weight do the grade components? Are you going to determine that yourself or will you involve the class in the process?

What could go wrong?

What problems might arise in the course design as you see it at this time?

What might you do to solve these problems?

Syllabus Design

- Now you prepare your syllabus

- What information do you want in the course syllabus?
- How do you want to communicate the syllabus to learners?

How will you know how the course is going? How it went?

- Plan an evaluation of the course & your own teaching
  - Collect feedback throughout the course as well as at the end
  - Use a variety of information sources (video tapes, learners' rating of instruction, interviews, questionnaires, outside observes, test results, etc.)
  - Consider specific issues (the degree your learning outcomes were achieved, the effectiveness of particular learning activities, your ability to interact effectively with learners)

Questions..

What sources will you use to evaluate the course & your teaching?

What questions are you trying to answer with this evaluation?

Concluding Tips

Stay flexible

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