New Faculty Teaching Session

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Session Preview

Backward Design

Learning Activity

Planning a Lesson

Faculty Resources

Discussion & Q&A

New Faculty Welcome Attendance

Activity

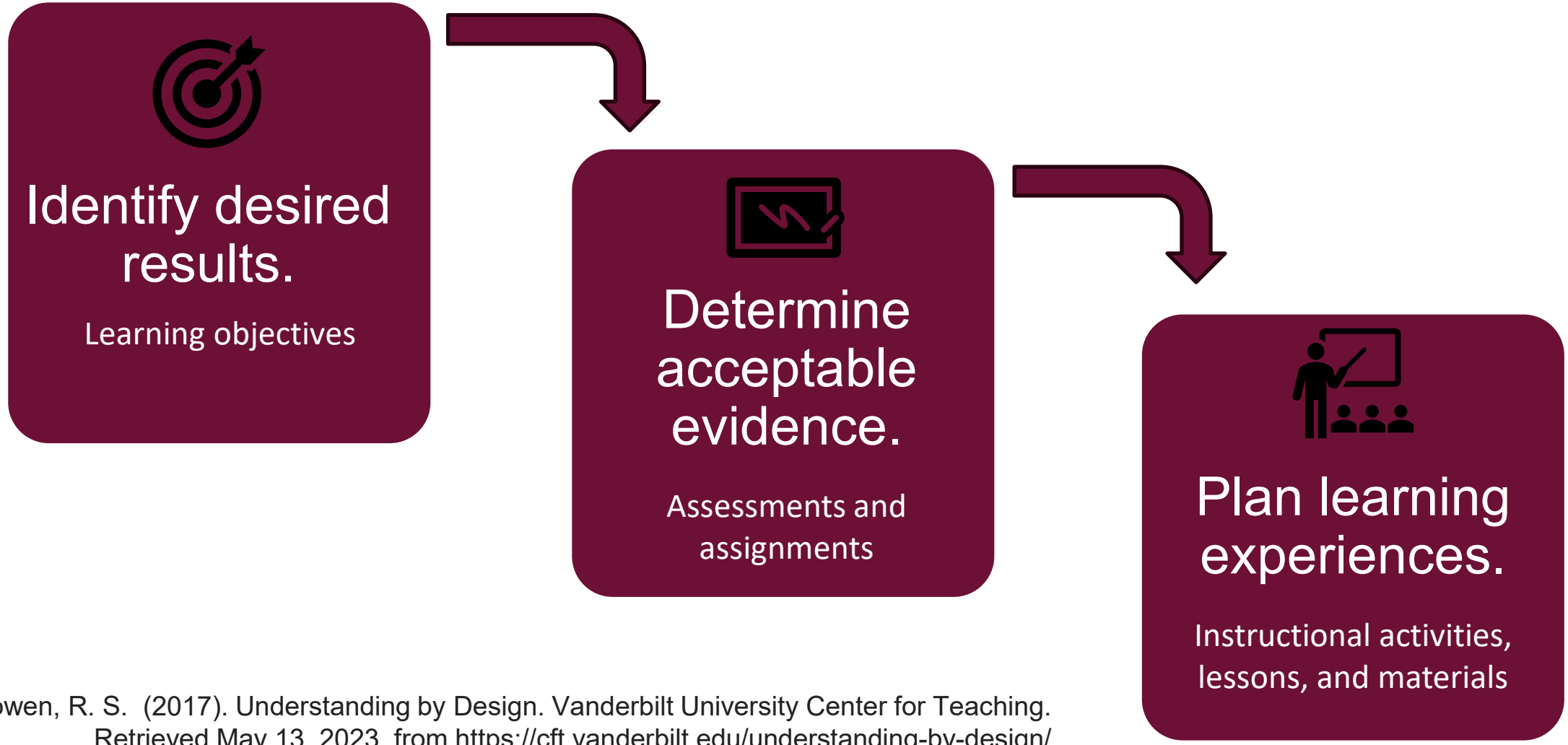
Spend a few minutes thinking about your favorite teachers and reflect on the following questions.

- What made these teachers some of your favorites? In other words, what did these teachers do - or what qualities did the teachers have - that made them come to mind as some of your favorites?

- What did the teachers do to help you learn?

Backward Design

Backward Course Design



Bowen, R. S. (2017). Understanding by Design. Vanderbilt University Center for Teaching. Retrieved May 13, 2023, from https://cft.vanderbilt.edu/understanding-by-design/

Learning Objectives → Classroom

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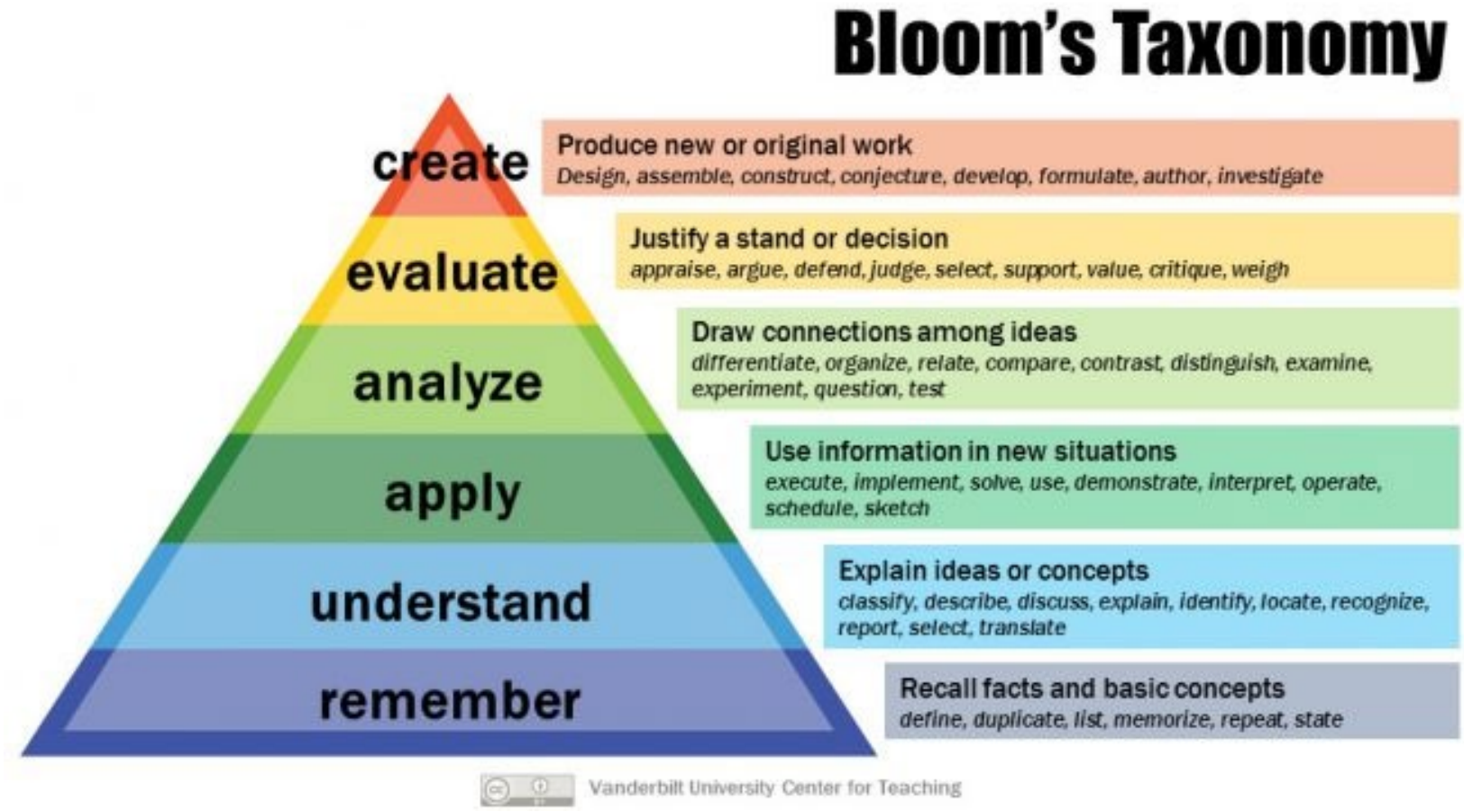
LEARNING OBJECTIVE(S)	ASSESSMENT(S)	TEACHING ACTIVITIES

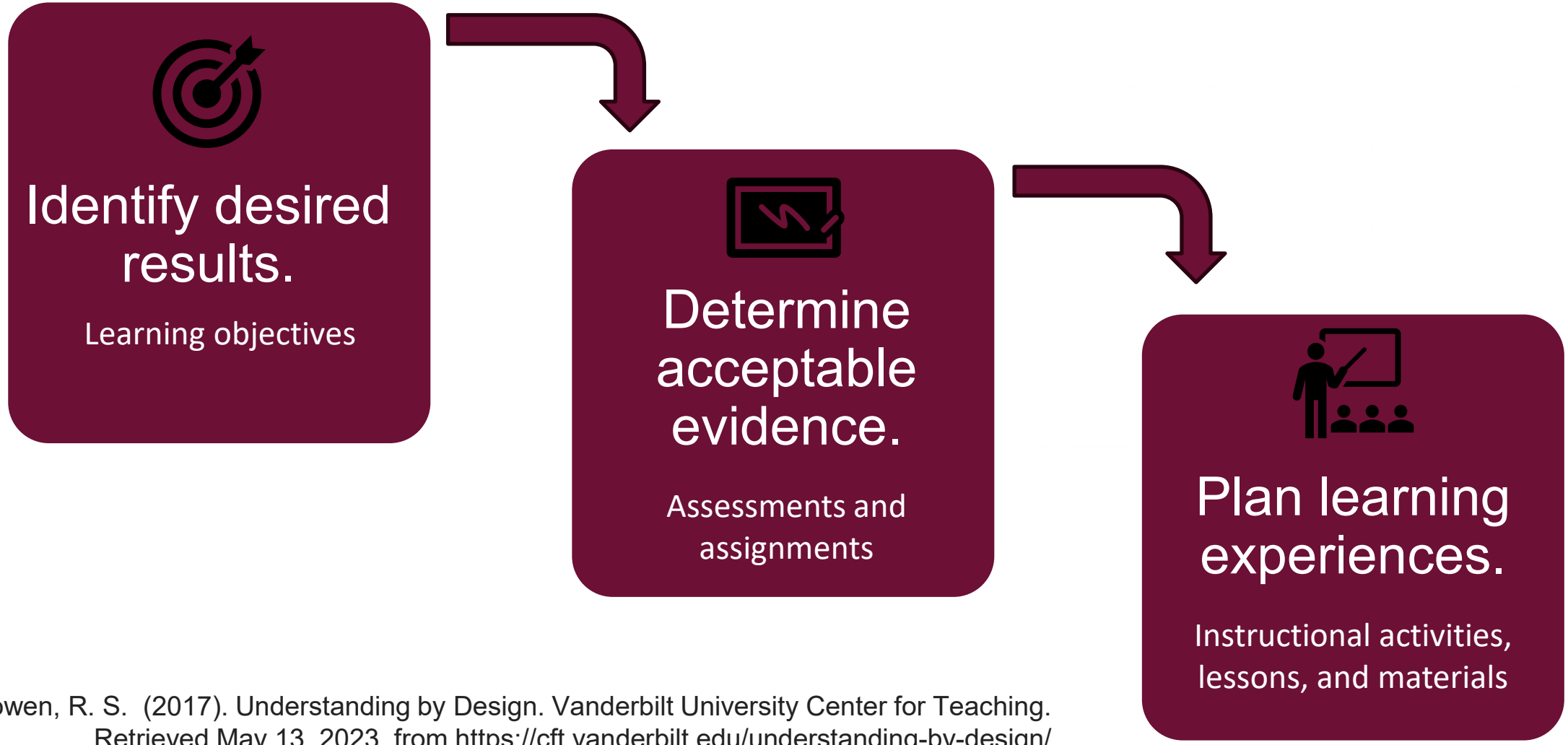
Bloom's Taxonomy



Armstrong, P. (2010). Bloom's Taxonomy. Vanderbilt University Center for Teaching. Retrieved [May 14, 2023,] from https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/

Aligning Learning Objectives with Assessments

Backward Course Design



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Purpose of Assessments and Assignments

Students

- How am I doing?
- What have I learned?
- What have I missed?
- What do I need to do next?

Faculty

- How am I doing?
- What have I taught well?
- What might still be unclear?
- What do I need to do next?

Improve the effectiveness and quality of teaching and learning

Assessment Types and Timing

Formative Assessment - for learning levels of **progress toward objectives**, usually lower stakes and should occur

- Before and/or between summative assessments
- Early
- Often

Summative Assessment - for evaluation of students' **cumulative learning**, usually higher stakes

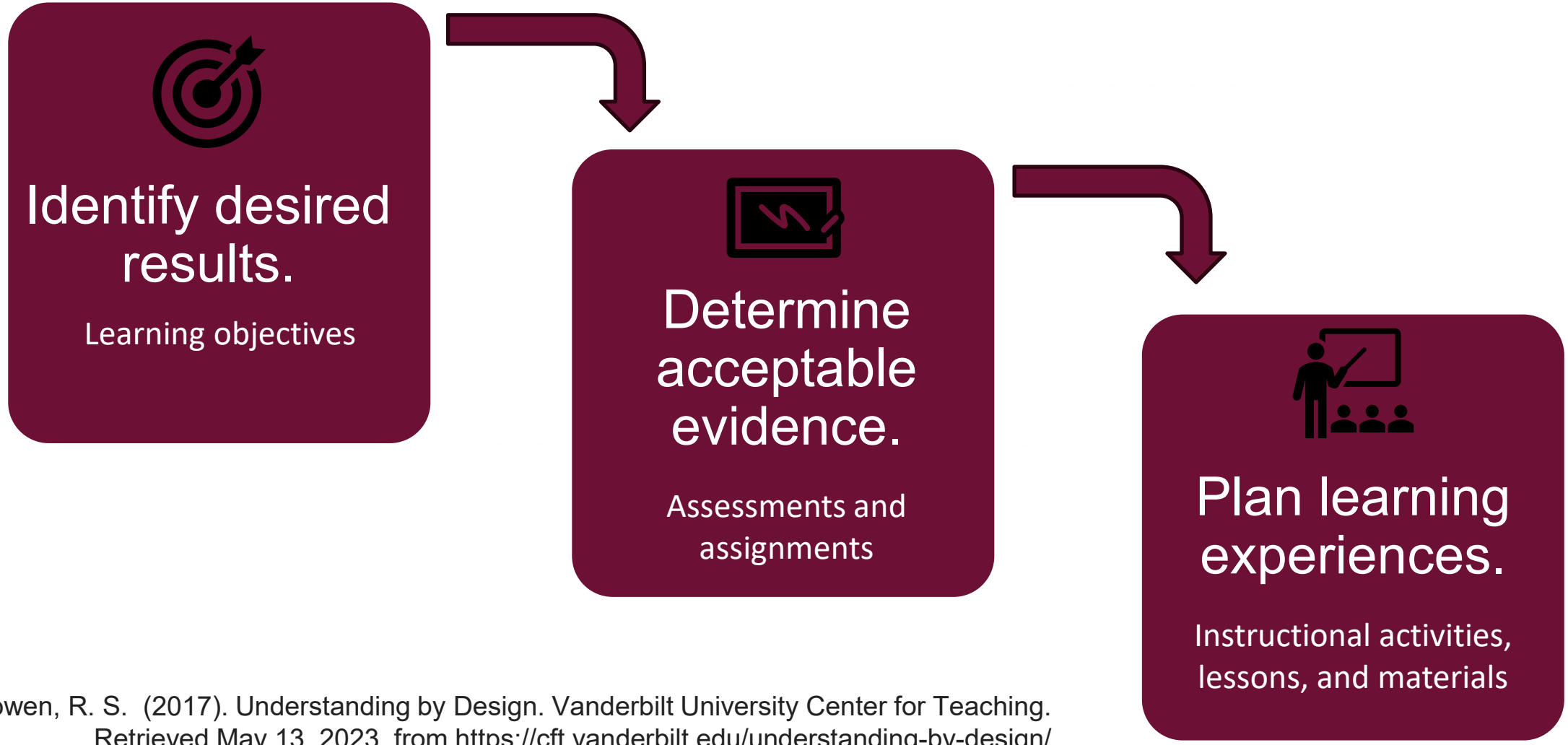
https://teaching.berkeley.edu/resources/course-design-guide/design-effective-assessments

Assessment Examples

Type of Learning Objective by Bloom's Level	Example Assessments
Remember	Fill-in-the Blank, Multiple Choice Questions, Labeling Diagrams
Understand	Papers, Oral/short answer exam questions, Practice problems, Concept maps, Compare/Contrast
Apply	Activities that require students to use procedures/information to solve or complete familiar and/or unfamiliar tasks: Problem sets, Performances, Labs, Prototyping, Role Plays
Analyze	Activities that require students to select relevant from irrelevant parts/information, determine bias, values, or underlying intent in materials: Case studies, Labs, Papers, Projects, Debates
Evaluate	Activities that require students to test, monitor, judge, or critique topic related items (i.e. products, performances, etc): Product reviews, case studies
Create	Research projects, essays, business plans, website designs, set designs, treatment plans

Connecting Learning Objectives and Assessments with Teaching Activities

Backward Course Design



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Teaching Activities

"INSTRUCTIONAL STRATEGIES are chosen to foster student learning towards meeting the objectives"

https://www.cmu.edu/teaching/designteach/design/learningobjectives.html

Strategy	Description
Cooperative Learning	Students work in small groups to achieve a learning goal
Differentiated Instruction	Methods, content, and assessments are fashioned to the prior/current knowledge and abilities of student population
Gamification	Add gaming elements like leaderboards, badges, and rewards

Teaching Activities

"Active Learning and Interactive Lecturing" - Center for Excellence in Teaching and Learning, Virginia Tech

https://teaching.vt.edu/content/dam/teaching_vt_edu/resources/Interactive%20Lecturing(3).pdf
https://teaching.vt.edu/teachingresources/active-learning-and-interactive-lecturing.html

Strategy	Description
Think-Pair-Share	Ask students to think individually, pair up with someone to discuss, then share ideas with the class
Minute Paper	Students take one minute to answer a question, can be used after a topic is covered or at the end of class
Interactive Lecture	While delivering content, allow a chance for students to do something every 10 – 20 minutes

Attention and Segmentation

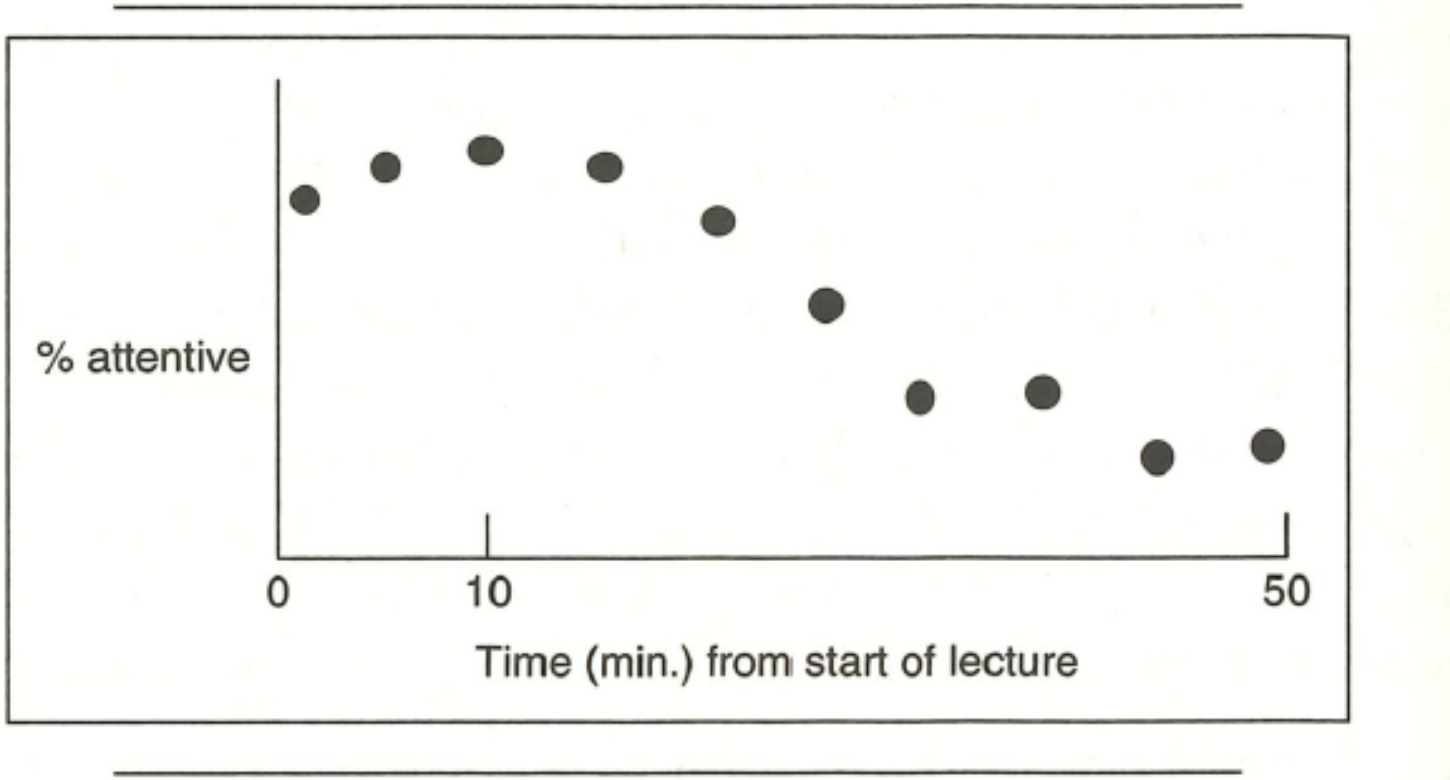


Figure 6.3–1: Attentiveness versus Time in Lecture—No Activities

from Felder and Brent (2016)

Attention and Segmentation

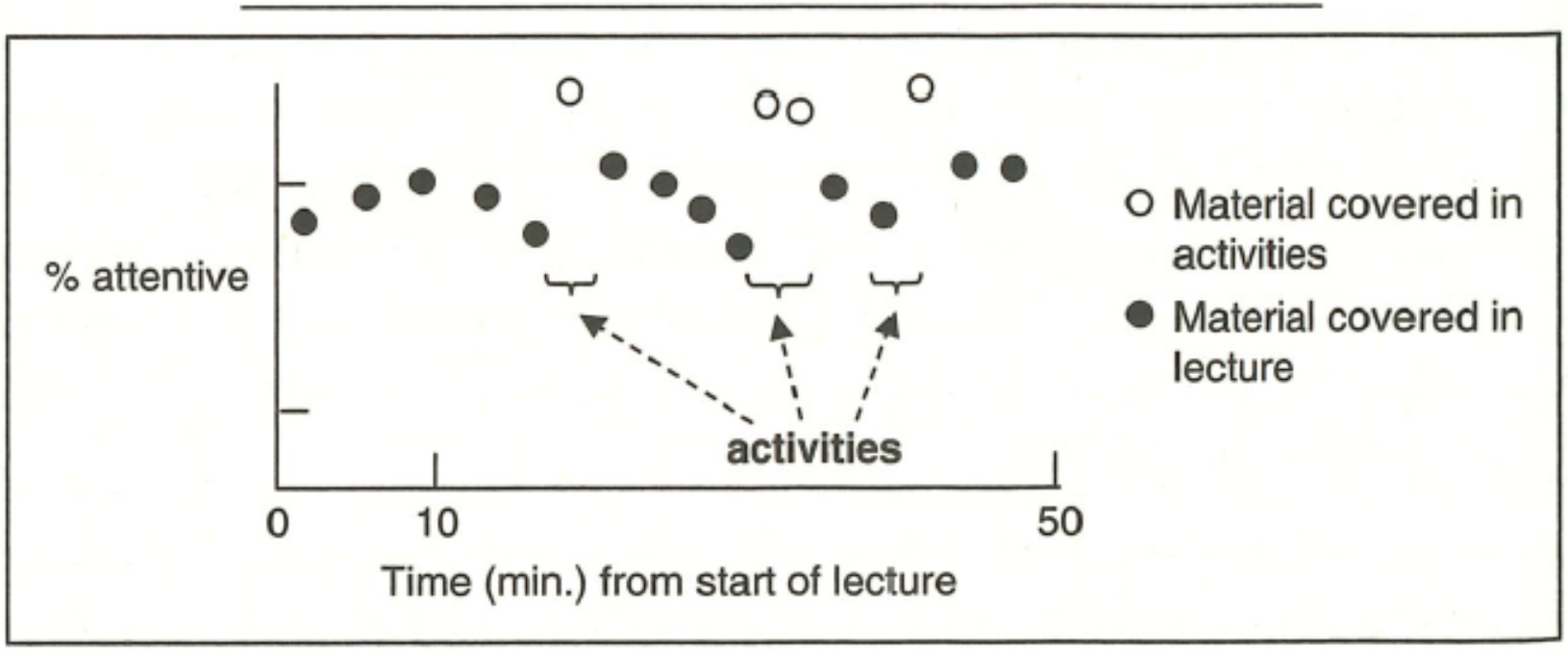
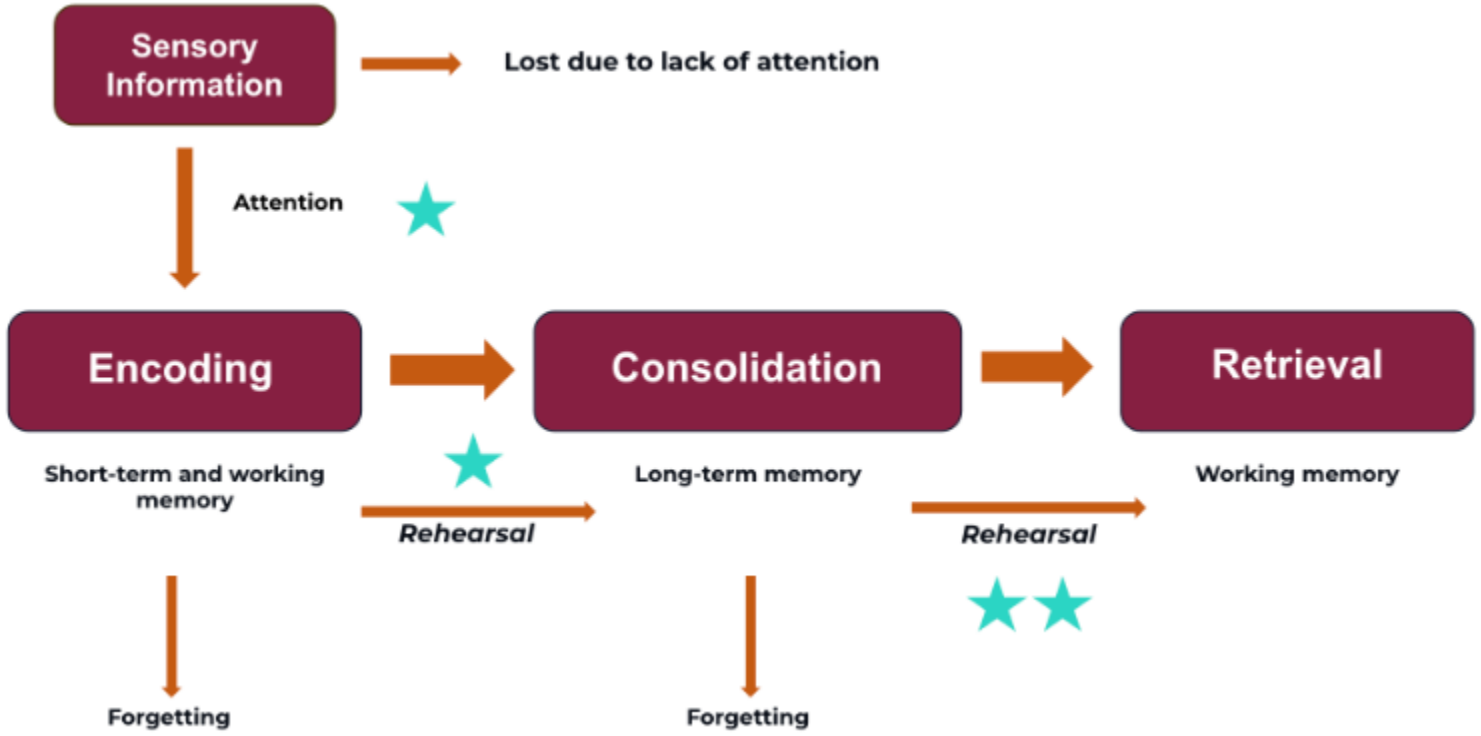


Figure 6.3–2: Attentiveness versus Time in Lecture—Activities Interspersed

from Felder and Brent (2016)

How People Learn



*Graphic created by Kristin Phillips, Collegiate Associate Professor, School of Neuroscience

Teaching Activities

"Identify Appropriate Instructional Strategies" - Eberly Center, Carnegie Mellon University

https://www.cmu.edu/teaching/designteach/design/instructionalstrategies/index.html

Some items to consider:

- Bloom's Taxonomy
- Prior knowledge and skills
- Motivation and engagement
- Available resources
- Classroom size and structure

Learning Activity

New Faculty Welcome Attendance

Let Your Opinion Be Known

Each of you has a sheet of paper with the word AGREE on one side and the word DISAGREE on the other side.

We are going to cover a few statements, and you need to declare whether you AGREE or DISAGREE by holding up your sheet of paper.

Statement 1

People learn best when taught in their learning style. For example, an auditory learner learns best when listening to a lecture.

To date, there is a lack of empirical evidence to support this claim.

Statement 2

People learn more when re-reading material versus practicing a recall activity.

When testing the performance of students who are re-reading material versus conducting a recall activity, the performance is higher for re-reading if the testing is done in a short timeframe (for example, within 5 minutes).

However, as you increase the amount of time between the task and the test, students who practice a recall activity perform better than those who re-read the material.

Statement 3

The more feedback you give students, the better they will perform.

The timing and quality of feedback is more important than the amount of feedback.

Statement 4

Intelligence is fixed so if you struggled with math in high school, you will struggle with math in college.

A person’s intelligence can change over time and students can learn more if they have a growth mindset framework.

Statement 5

Multitasking is an effective method of learning.

Multitasking can introduce confusion, reduce concentration, and increase cognitive load, all resulting in less learning.

Short Activity

Everyone needs to find one other person to work with (partner up with one person).

Designate one person as a recorder and one person as a speaker.

Each speaker is going to perform a task as the other person times the task (you can use a stopwatch function on a phone). You can start when I say “GO”

Recite the days of the week in chronological order starting with Monday.

Short Activity

Each speaker has one more task and the other person must once again start the timer when I say “GO”

Recite the days of the week in alphabetical order.

Takeaways

- Researchers have been able to develop a large literature on learning
- Instructors can help students achieve greater success in courses by understanding and implementing the results of this research

Steps for Planning Class Time

The Center for Research on Teaching and Learning at the University of Michigan (Milkova, n.d.) shares the following steps for creating lesson plans.

- "Outline learning objectives" (para. 4-5)
- "Develop the introduction" (para. 6-7)
- "Plan the specific learning activities (the main body of the lesson)" (para. 8)
- "Plan to check for understanding" (para. 9-10)
- "Develop a conclusion and preview" (para. 11)
- "Create a realistic timeline" (para. 12)

After planning, you will be ready to present the lesson to students and reflect on what went well and what you'd like to do differently next time (para. 13-14).

Milkova, S. (n.d.). "Strategies for effective lesson planning," Center for Research on Learning & Teaching, University of Michigan, https://crlt.umich.edu/gsis/p2_5

Template for Planning Class Time

1. Entry: An Anticipatory Set (Pre-class to 5 minutes)
    Have an activity, reflection, review question ready

2. Direct Instruction (approx. 20 minutes)*
    Organized content with key points
    Interactive lecturing

3. Guided Practice
    What does practice look like in your discipline? What should students practice doing?
    This can be individual, pairs, think-a-loud activities
    The key is: faculty are GUIDING students in their practice

4. Independent Practice (this can begin in class and carry over as an out-of-class assignment)

5. Exit: Have a wrap-up/closure activity (5 minutes)
    Exit Ticket: Muddiest point, Greatest Take-away, Next Steps

*** Many faculty pace their class (especially classes over one hour) with the Direct Instruction/Guided Practice being iterated twice:

    Direct Instruction/Guided practice/Direct Instruction/Guided Practice

First Day of Class

Four Principles (James Lang)

- Curiosity
- Community
- Learning
- Expectations

After the First Day of Class

Moving Forward

- The Learning Management System (Canvas)
- The Next Class and Beyond
- The Last Class

Resources for Faculty

Help with Canvas for Instructors

https://4help.vt.edu/sp?id=kb_article&sysparm_article=KB0012968&sys_kb_id=cf09fb231becb19063110f66624bcb68&spa=1

Best Practices for Canvas Course Design

https://4help.vt.edu/sp?id=kb_article&sys_id=7ef92a731babed50098aea04604bcba8

Help with Canvas for Students

https://4help.vt.edu/sp?id=kb_article&sys_id=da8d57901bc0bd14098aea04604bcb2c

For help with A/V in the classroom

https://www.classroomav.vt.edu/access.html

If a student is not performing well in your course (VT EARS)

https://advising.vt.edu/advising-resources/vtears.html

Q&A

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