



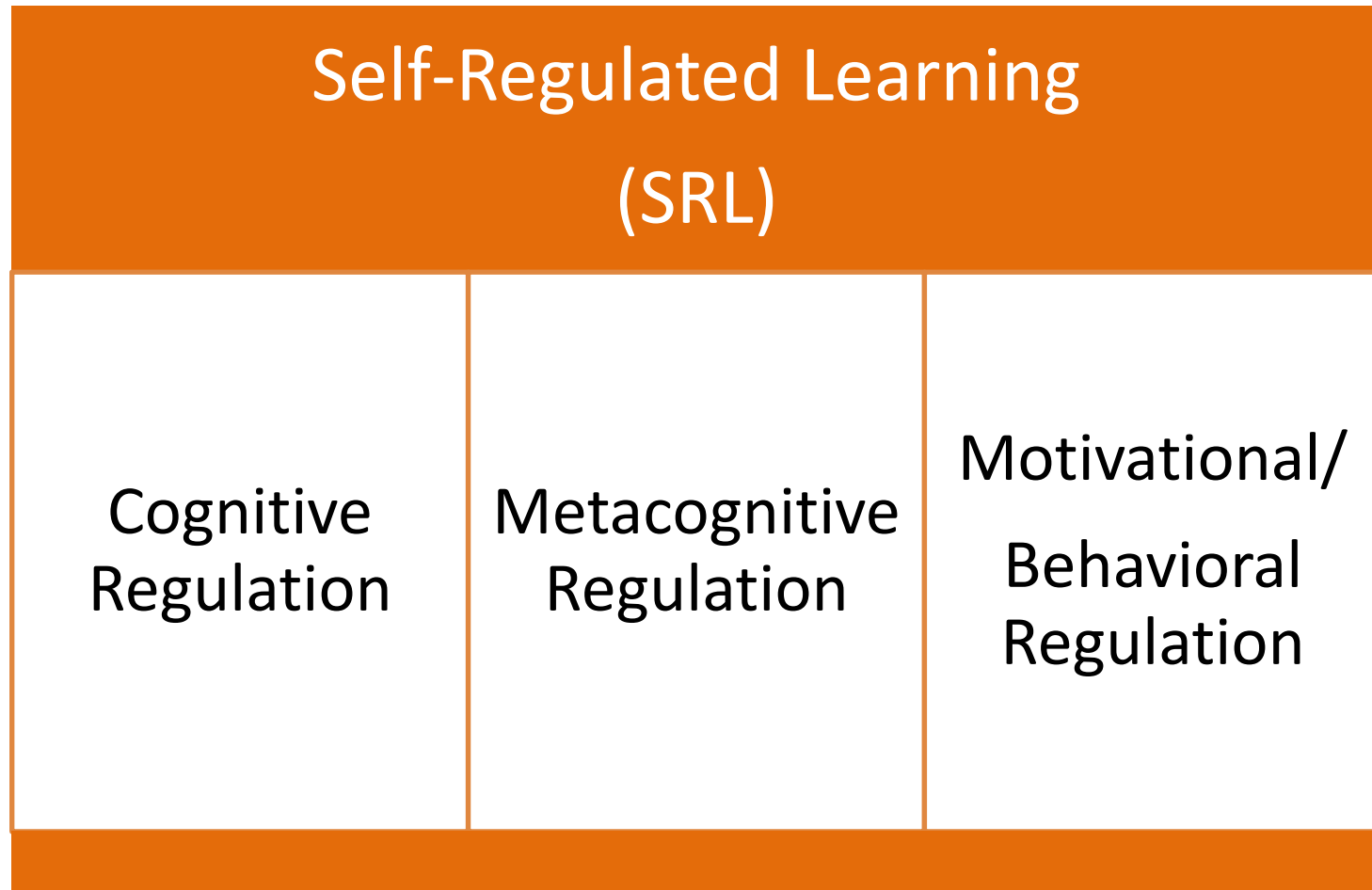
Integrating Self-Regulated Learning Activities into Your Course or Curriculum

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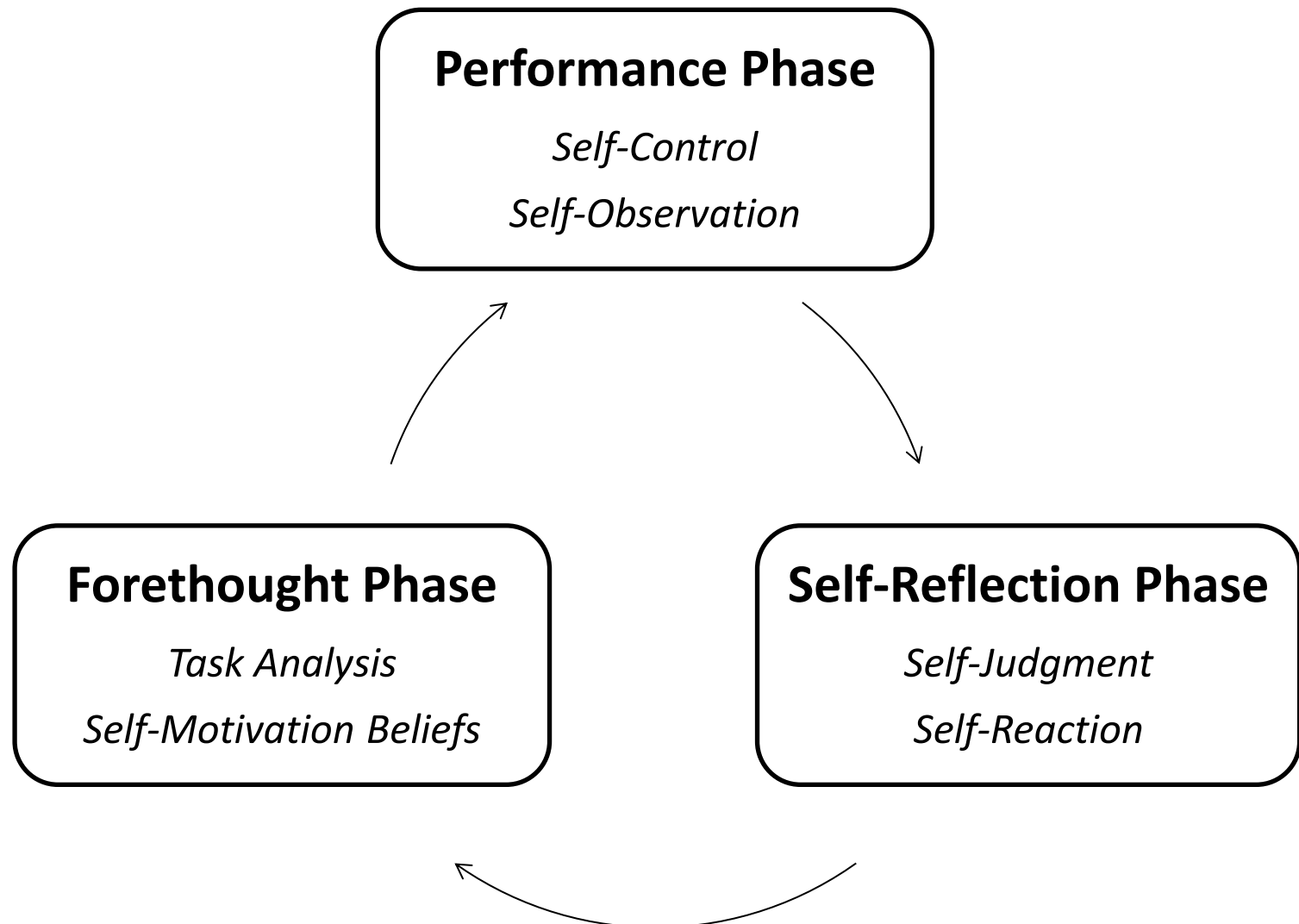


THE UNIVERSITY OF
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What is Self-Regulated Learning?



Phases of SRL



Why is SRL Important?

- Use of SRL strategies significantly correlated with course performance
- SRL strategies measures predicted grades and outside observation of effort
- SRL strategy use connected to more frequent use of peers and teachers for help
- Results across many disciplines (math, science, language arts)

Why is SRL Important to me?

- Lecturer in Engineering Fundamentals Division
 - 650 first year engineering students
- Two semesters of engineering physics (loaded with content!)
- First courses in engineering AND first courses in college
- College engineering students = high achieving
high school students = no developed study or learning skills!
- **Most of my students enter my class with no idea how to learn**

**I cannot expect my
students to be successful
engineers if they cannot
be successful students.**

Agenda

- Starting your Course
- Homework Assignments
- Preparing for/Learning From Exams
- Ending your Course

**WHAT DO YOU NEED TO DO TO BE
SUCCESSFUL IN TODAY'S SESSION?**

Starting your Course

- How Can I Make an A in this Course?
 - What types of tasks will be engaged in during this course?
 - What level of commitment do I need to have in these tasks?
 - What attitudes and behaviors do I hold that will contribute to or hinder my likelihood of making an A?
 - How can I change the negative attitudes and behaviors?

Engage in forethought phase

Homework Assignments

Sun Jan 11 add					
Mon Jan 12 add	(e)Lec 1-3 Vectors, Components	TB 1-7, 1-8 OS Vectors, Scalars, and Coordinate Systems	pdf^a pdf pptx tpqx Video	HW 1-3	
	(e)Rec 1-2 Basic Vector Operations		docx pdf		
Tue Jan 13 add					
Wed Jan 14 add	(e)Lec 1-4 Vector Addition, Unit Vectors	TB 1-9 OS Graphical Vector Addition and Subtraction	pdf^a pdf pptx tpqx Video	HW 1-4	
	(e)Rec 1-3 Unit Vectors, Force Vectors		docx pdf		
Thu Jan 15 add	(e) schw01				
	(e) schw14				
Fri Jan 16 add	(e)Last day to change without W				
	(e)Lec 1-5 Position, Velocity, Acceleration	TB 2-1 to 2-3 OS One-Dimensional Kinematics OS Problem-Solving Basics for One-Dimensional Kinematics OS Displacement OS Time, Velocity, Speed OS Graphical Analysis of One-Dimensional Motion	pdf^a pdf pptx tpqx Video	HW 1-5	
Sat Jan 17 add					

What would a typical student schedule look like for completing these assignments?
 What advice would you give students for more effective homework preparation?

Given: 5'-5" person casts a 11.5' shadow in afternoon
 Tree shadow is 44 ft
 Sun rises at 6 AM, sets at 7 PM

Required: Height of tree
 Minutes of daylight left

Strategy:
 • Find tree height using similar triangles
 • Find angle of sun using person triangle
 • Use current angle and total daylight to find remaining daylight

Solution:

$$5' - 5''$$

$$= 5.417 \text{ ft}$$



11.5 ft



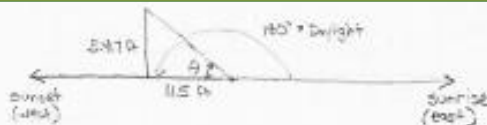
h



44 ft

Use ratios $\frac{5.417 \text{ ft person}}{11.5 \text{ ft shadow}} = \frac{h}{44 \text{ ft shadow}}$

$$h = 20.72 \text{ ft}$$



$$\theta = \tan^{-1} \frac{5.417 \text{ ft}}{11.5 \text{ ft}} = 25.22^\circ$$

$$\text{Daylight hours} = (12-6) + 7 = 13 \text{ hours}$$

During daylight, sun travels 180°

$$\text{Daylight left} = \frac{25.22^\circ}{180^\circ} (13 \text{ hr}) = 1.822 \text{ hr}$$

$$1.822 \text{ hr} \cdot \frac{60 \text{ min}}{1 \text{ hr}} = 109.3 \text{ min}$$

$$\text{Daylight left} = 109 \text{ min}$$

Spend part of one session setting up all homework problems

Forethought

Spend part of one session working all problems (or parts) that student can do individually

Performance

Come to group study session/office hours with questions on unknown parts

- Minimize anxiety and stress
- Raise confidence

Preparing for Exams

- Can you make a basket from the 3-point line?
- Can you parallel park your car?
- Can you recite the Pledge of Allegiance?
- Can you recite your times tables through 12 X 12?

How did you know if you could or could not do these activities?

Preparing for Exams

- Quick review with students on effective study procedures
 - Battling overconfidence: ACTUALLY WORK PROBLEMS
 - Practice under testing conditions
 - Studying in groups: Teaching others/ think-alouds

Engage in forethought and
performance phases

What kinds of things do you have to think about when you are writing exams for your courses?

Preparing for Exams

- Student generated exam questions
 - Students generate questions and solutions for exam
 - Teacher selects best question and includes this question on exam
- Benefits
 - Range of content to be covered
 - Level of difficulty of content
 - Motivates students to participate

Engage in performance and self-evaluation phases

Learning from Exams

Exam Wrapper: Procedure for classifying types of and magnitude of mistakes from exams

Question Missed	Points Lost	Possible Points	Carelessness	Unfamiliar Material	Misinterpreted Question	Did Not Complete

Learning from Exams

- How can we translate the exam wrapper to different types of exams/final assignments?
 - Math/Problem Solving Based Exam
 - Fill in Blank/Multiple Choice Exam
 - Short Answer (Short Essay) Exam
 - Final Paper Exam
 - Other?

Engage in self-reflection phase

Ending your Course

- A Letter to the Next Cohort
 - What do the next students to take this course need to know?
 - Keys for success
 - Attitudes and Behaviors to avoid
 - What can they learn from my success and/or failure?

Engage in self-reflection phase

Engage in forethought for next course

Summary

- Small assignments and classroom approaches can help build SRL skills in students
- Pre and post course activities engage students in forethought and self-reflection activities
- Homework scheduling and planning engages students in forethought and performance
- Exam preparation activities engage in performance and self-reflection

Challenge

What one technique can you take back and implement in the next few weeks?