Instructional and Assessment Strategies to support SCL

Objective

Understand instructional and assessment strategies
Explain and share instructional and assessment strategies
Group activity to demonstrate instructional and assessment strategy
Instructional Strategies

- Quiz, Games, Role-playing, Brainstorming, Group problem-solving, Lecture, Simulation, Case Study, etc.

Jigsaw
A cooperative learning technique where each student's part (each “puzzle piece”) is essential for the completion and full understanding of the final product.

Punctuated Lecture
Five step process: listen, stop, reflect, write, feedback.

Games
Includes “in-class” gaming activities as well as game-like simulations using computer technology;

Storytelling
Useful when discussing case studies, whether in lecture or lab.
Assessment Strategies for Student Centered Learning

Formative assessment and Summative

• Muddiest point
• Minute papers
• Student reflection
• Self assessment
• Peer assessment
• Concept mapping
Assessment Strategies for Student Centered Learning

K-State UG SLO - Critical Thinking.
Students will demonstrate the ability to access and interpret information, respond and adapt to changing situations, make complex decisions, solve problems, and evaluate actions.

Mechanical Engineering Technology (MET) Program Educational Objective
Prepare graduates with skills in problem solving
MET Outcome
an ability to select and apply a knowledge of mathematics, science, engineering, and technology to engineering technology problems that require the application of principles and applied procedures or methodologies

MET 365 Machine Design Technology II Course Level Outcome
Ability to determine internal forces due to applied forces.

Bloom’s Taxonomy
Knowledge, Comprehension, Application, Analysis, Synthesis, and Evaluation
Problem Solving

• CH3: Solve Pr. 3-72

• Problem statement and group activity (three students per group)

• 3–72* A gear reduction unit uses the countershaft shown in the figure. Gear A receives power from another gear with the transmitted force $F_A$ applied at the 20 deg pressure angle as shown. The power is transmitted through the shaft and delivered through gear $B$ through a transmitted force $F_B$ at the pressure angle shown.

  • (a) Determine the force $F_B$, assuming the shaft is running at a constant speed.

Group Activity

Discussion 5 min. (Brainstorm/asks questions)

• Identify and write down general procedure your team will use in solving this problem

Solution 10 min. (Each group presents solution)

• According to the procedure developed by your group solve the problem

• Summarize the activity and present to the class
Instructional and Assessment Strategy Activity

• List what strategies you currently use to facilitate and assess learning.

• Pick one instructional and assessment strategy. In group, develop a student centered learning activity. Identify the objective and outcome. Present your activity to your co-participants.