

Integrated E-Learning Modules: Sample Contextual Activities and Discussion Questions

1. Building, Sustaining, and Leading Effective Teams and Establishing Performance Goals

Assessment Outcomes

- Identified typical behaviors during the team development process that influenced productivity
- Assessed the team dynamics based on classifications found in a personality profile instrument
- Employed a written plan (such as a team charter or team performance plan) to help the team be effective
- Proposed approaches to resolve conflicts

Relationship to EML Outcomes

EML Outcomes addressed:

- Integrate information from many sources to gain insight
- Assess and manage risk
- Persist through and learn from failure

Contextual Activity

This module lends itself to courses in which team activities are conducted (e.g., course projects, laboratory assignments, research papers). A list of activities that target the assessment outcomes given above are described. These activities can be added to existing assignments as part of the deliverables, or assigned as standalone exercises. Furthermore, you can ask students to complete these activities in a sequence aligned with the team activities in class, or you can combine all of them into a single assignment.

1. Require students to keep a journal that describes each stage of their team development process as it unfolds and lists the behaviors they observed that are typical to each stage.
2. Have each member of the team assess their personality style through an online personality classification instrument (e.g., <https://www.16personalities.com/free-personality-test>), and have all members of the team discuss what role within the assigned task is best suited to each member to maximize the team's productivity and success.
3. Have students individually develop a team performance plan. Ask the team to review the individual plans together and consolidate them into a single team performance plan as a group. Sample plans for individual and team plans and assessment rubrics are provided below.
4. Ask students to record conflicts that arose during their projects, and discuss ways they found most fitting to resolves these conflicts (e.g., group discussion, active listening, identifying and applying objective criteria, compromise, etc.) and why?

Class Discussions

1) Discussion Title: Team Performance Management

Initial Question: Create a thread (online discussion option) that outlines your thought process for ranking the top three factors most important to your individual success.

Follow up Discussion: After reviewing responses of your teammates, consider how similarities and differences in individual perceptions of performance may influence overall team performance goals. What do you see as a successful strategy for balancing the interests of the individual and the team?

Respond to Posts: Review and comment on at least two other posts in the follow up discussion. Follow netiquette protocol and extend off (add to) an observation and or comment on an insight you had not considered.

Team Project Plan – INDIVIDUAL

Learning Goal: This assignment assists students to critically think about the team project using Team Performance Steps. Students will be able to utilize these steps as an analytical tool applicable to a management function in reviewing and enhancing organizational and individual performance.

Faculty Instructions: This assignment should be completed before the Team Project Plan. The Team Project Plan is due after this assignment has been graded. This will allow students an opportunity to respond to any feedback given by the instructor and help them prepare for the Team Project Plan activity. The completion of this assignment provides an opportunity for students to critically think about the project assignment, review the project requirements as an instrument of instruction and guidance for the project, and their role as a team member. The instructor can determine points assigned. Responses will vary depending on the course project guidelines. This assignment also provides the instructor an opportunity to review student perceptions of the project requirements with the class.

This assignment assists students to critically think about the team project using Team Performance Steps.

Student Name: _____

Recall the course Team Performance Steps covered in the e-learning module:

1. Mission
2. Team Dynamics
3. Project Planning
4. Execution
5. Assessment
6. Performance Review

Please Review:

The mission of a student team project generally arises from a course assignment with specific due dates often to be completed in a short time frame. On occasion, projects can include many degrees of freedom for students to select a topic. However, for the most part the project assignment includes strict guidelines, including project specifications and deliverable dates. How the team works together to complete the mission has a direct effect on performance.

Fill in the blank:

- 1) What is the topic for the team project? (A few words are sufficient.)

The topic for my project is _____.

- 2) List important assignments and due dates? *Add as many additional lines as needed (include assignments and dates):*

Assignment	Dates
------------	-------

a)

b)

c)

- 3) Write a mission for your project in four to five sentences. (Use your project assignment guidelines for information.)

Examples:

The _____ team will _____ (build, investigate, design, create, etc.) a _____ by or using _____ in order to or with the intent to be delivered by _____.

The BooYa team will design a financial model that will result in a recommendation for five stocks listed on the S&P stock exchange that can beat the S&P 500 by 15% on December 3, 2017.

The h2ONow team will design a water pump built from ordinary household items that delivers clean water from shallow wells to be used in third world countries. The project design will be complete by April 2017.

The GoGo HPVC team, will present a concept design for an efficient, highly engineered vehicle for handicapped veterans — from commuting to work, to carrying goods to market. Presentation of the concept will be posted on Blackboard by Dec 4, 2017 in a PowerPoint presentation.

- 4) List three to four team dynamic factors that may influence the outcome of your project. Consider personality traits, skills of team members, knowledge of project, timelines, etc. Please be specific using information from your team dynamic.

1.

2.

3.

4.

- 5) How do you want to participate on the team and/or what role(s) do you want to play?

a. Example: I would like to be the assistant design engineer. I have not done this before and would like the experience.

- 6) What can I do to help build *esprit d corps* (remember to include communication and communication)?
- 7) I reviewed the grading rubric for the project: (Circle your answer) Yes No.
- 8) Use the grading rubric as a guide. List anything that you question or what might be a challenge for team success. Be sure to include your rationale. You must list at least one item.
- 9) Base your response on project instructions. What important factor should the team consider regarding project assessment? (Results should evaluate effectiveness measures such as quality, completion, timeliness and meeting specifications. Read the project instructions first.)

Team Performance Planning Rubric (Individual)			
Category/Scale	Superior	Acceptable	Needs Improvement
<i>Practical Application</i>	The student provides a process (mission, dynamic factors, etc.) that is relevant and wholly appropriate for project activities.	The student provides a process that is somewhat relevant and appropriate for project activities. There are some inauthentic reflections, but overall the submission provides sufficient useful information.	The student provides a process that is not relevant and appropriate for project activities. The reflections are superficial are not useful in regards to project activities.
<i>Interpretation/ Synthesis of Team Performance Concepts</i>	The student effectively synthesizes concepts provided and offers credible and valuable insights in their responses.	Conclusions/reflections derived from the self-study materials offer limited insight and/or application of team performance concepts.	Interpretation of assignment guidance has significant errors. No insight or integration with team performance concepts is offered or significantly limited.
<i>Quality of Submission</i>	The student presents materials that are superior with no grammatical or spelling errors. Formatting and fonts are consistent. The materials are delivered before or on time in a manner requested. All instructional guidelines are followed.	The student presents materials that are adequate with very few grammatical or spelling errors. Formatting and fonts are fairly consistent. The materials are delivered on time in a manner requested. All instructional guidelines are followed.	The student presents materials that are inadequate with significant errors. Formatting and fonts are not consistent. The materials are delivered late or in an alternative manner than requested. All instructional guidelines were not followed.

Team Project Plan – TEAM

Learning Goal: This assignment assists teams to critically think about the team project using Team Performance Steps. Teams will be able to utilize these steps as an analytical tool applicable to a management function in reviewing and enhancing organizational, individual and team performance.

Faculty Instructions: This assignment should be completed *after* the Team Project Plan – Individual assignment. The completion of this assignment provides an opportunity for students to critically think about the project assignment as a team and correct any misunderstandings or an opportunity and to find consensus. The instructor can determine points assigned. Responses will vary depending on the course project guidelines. This is a team grade.

This assignment assists students to critically think about the team project using Team Performance Steps.

Team Name: _____

Recall the Team Performance Steps covered in the e-learning module:

1. Mission
2. Team Dynamics
3. Project Planning
4. Execution
5. Assessment
6. Performance Review

Please Review:

The mission of a student team project generally arises from a course assignment with specific due dates often to be completed in a short timeframe. On occasion, projects can include many degrees of freedom for students to select a topic. However, for the most part, the project assignment includes strict guidelines, including project specifications and deliverable dates. How the team works together to complete the mission has a direct effect on performance.

Fill in the blank:

- 1) What is the topic for the team project (A few words are sufficient)
The topic of our project is _____.
- 2) List important assignments and due dates? *Add as many additional lines as needed (include assignments and dates):*

Assignment	Dates
------------	-------

- a)
- b)
- c)

- 3) Write a mission for your project in four to five sentences. (Use your project assignment guidelines for information.)

Examples:

The _____ team will _____ (build, investigate, design, create, etc.) a _____ by or using _____ in order to or with the intent to be delivered by _____.

The BooYa team will design a financial model that will result in a recommendation for five stocks listed on the S&P stock exchange that can beat the S&P 500 by 15% on December 3, 2017.

The h2ONow team will design a water pump built from ordinary household items that delivers clean water from shallow wells to be used in third world countries. The project design will be complete by April 2017.

The GoGo HPVC team, will present a concept design for an efficient, highly engineered vehicle for handicapped veterans — from commuting to work, to carrying goods to market. Presentation of the concept will be posted on blackboard by Dec 4, 2017 in a PowerPoint presentation.

- 4) List three to four team dynamic factors that may influence the outcome of your project. Consider personality traits, skills of team members, knowledge of project, timelines, etc. Please be specific, using information from your team dynamic.
- 1.
 - 2.
 - 3.
 - 4.
- 5) List the Team Members and their role on the project.
- 6) What arrangements have the team agreed to use for operationalizing interaction on the project)?
- a) Communication _____ (e.g., texting, email, face to face meetings)
 - b) Schedule _____ (e.g., Each Monday at 3 pm)
 - c) Location (if applicable) (e.g., Meet after class in the library)
 - d) Other _____
- 7) How do you plan to record project meetings (who will take notes, record updates, agreements, plans, etc.)? Will you assign a project leader or rotate rolls?
- 8) How will the team evaluate effectiveness measures such as quality, completion, timeliness and meeting specifications?
- 9) Are there any outstanding concerns the team has regarding their ability to submit a quality project?

<i>Team Performance Planning Rubric (Team)</i>			
Category/Scale	Superior	Acceptable	Needs Improvement
<i>Practical Application</i>	The team provides a process (mission, dynamic factors, etc.) that is relevant and wholly appropriate for project activities.	The team provides a process that is somewhat relevant and appropriate for project activities. There is an attempt to find consensus, but overall the submission provides sufficient useful information.	The team provides a process that is not relevant and appropriate for project activities. The reflections are superficial and are not useful in regards to project activities.
<i>Interpretation/Synthesis of Team Performance Concepts</i>	The team effectively synthesizes concepts provided and offers credible and valuable insights in their responses.	Conclusions/reflections derived from the team discussions offer limited insight and/or application of team performance concepts.	Interpretation of assignment guidance has significant errors. No insight or integration with team performance concepts is offered or significantly limited.
<i>Quality of Submission</i>	The team presents materials that are superior with no grammatical or spelling errors. Formatting and fonts are consistent. The materials are delivered before or on time in a manner requested. All instructional guidelines are followed.	The team presents materials that are adequate with very few grammatical or spelling errors. Formatting and fonts are fairly consistent. The materials are delivered on time in a manner requested. All instructional guidelines are followed.	The team presents materials that are inadequate with significant errors. Formatting and fonts are not consistent. The materials are delivered late or in an alternative manner than requested. All instructional guidelines were not followed.

2. The Elevator Pitch: Advocating for Your Good Ideas

Assessment Outcomes

- Made an argument for exigency
- Provided a non-technical explanation of the solution
- Clearly stated a value proposition
- Provided a clear path to move forward
- Implemented strategies for recovering from an unsuccessful pitch experience

Relationship to EML Outcomes

EML Outcomes addressed:

- Explore a contrarian view of accepted solutions
- Integrate information from many sources to gain insight
- Identify unexpected opportunities to create extraordinary value
- Persist through and learn from failure

Contextual Activity

Activity integrated in Senior Design II course

Student teams prepare and deliver a 2-minute pitch at the Senior Design Expo. One to two weeks prior to the Expo, students present their pitches during class and get feedback from the instructor and other students using the rubric below. Students incorporate feedback as they prepare for the design expo.

Deliverables:

1. Pitch
2. Message Map
3. Individual write-up on revisions incorporated from feedback

Class Discussions

Requirements:

- Initial Posts should be at least 250 words.
- Response Posts should be at least 100 words.

Your initial post should include your answer and a justification as to how you came up with your answer.

Then, respond to at least two of your peers. Provide feedback as to the clarity and depth of their discussion. Make sure to tell them where they explained something well, and provide at least one suggestion where they might need to provide further clarification.

Make sure to keep track of posting deadlines. You will be graded based on your ability to effectively communicate your information, your clarity of thought and demonstration of understanding, and your feedback provided in your responses.

Due Dates: (Ideally, students have 2-3 days between the initial post and the response posts)

1) Discussion Title: Considering Different Stakeholders

Objective: Identify the value proposition of a product or service from the point of view of a variety of stakeholders.

Discussion Question:

You saw in the Lumio pitch example how the Lumio book-like light was targeted at venture capitalists. Who might be other stakeholders with an interest in the product? How might their needs be different than those of the venture capitalists? How could you address those needs in a pitch?

2) Discussion Title: Persisting through Failure

Objective: Implement strategies for recovering from an unsuccessful pitch experience.

Discussion Question:

Previously you pitched your idea to Spacely Sprockets. You thought they were the perfect audience for your concept, but they weren't interested. You have another pitch scheduled in two weeks to Spacely's competitor, Cogswell Cogs. What will you do over the next two weeks?

3) Discussion Title: Developing a Pitch

Objective: Articulate the criteria that yield an effective pitch.

Discussion Question:

As a member of a new product development team, you are asked to develop an elevator pitch. The new product is [choose one to have different possible threads] (e.g. student's idea; or new social network for engineering students; new internet based food delivery service for dorm rooms; automotive fuel from used French fry oil; firefighting robot for home use; 3D spherical octocopter; pill to remove wrinkles; fingernail polish that predicts the weather; etc.).

Using the message map technique, generate your 15-second summary of this exciting new product or service.

Requirements:

- Initial Posts should have the fifteen-second summary, followed by a short description of why you chose the approach you did (about 150 words).
- Response Posts should address whether the fifteen-second summary is effective, with an explanation - at least 100 words.
- Your initial post should include your answer and a justification as to how you came up with your answer.

Then, respond to at least two of your peers. Provide feedback as to the clarity and depth of their discussion. Make sure to tell them where they explained something well, and provide at least one suggestion where they might need to provide further clarification.

Elevator Pitch Rubric – Engineering Senior Design Expo

Project Title: _____

	3 - Expert	2 - Practitioner	1 - Apprentice	0 – Novice
Content Score: ____	<ul style="list-style-type: none"> • Clearly identified the problem/need/opportunity (pain point). • Clearly explained how the solution/innovation solved the problem. • Clearly presented the solution and explained the value proposition. • Clearly presented a path to move forward. 	<ul style="list-style-type: none"> • Clarity of one of the elements on the left was inadequate. 	<ul style="list-style-type: none"> • Clarity of two of the elements on the left were inadequate. 	<ul style="list-style-type: none"> • Clarity of three or more of the elements on the left were inadequate.
Delivery Score: ____	<ul style="list-style-type: none"> • Great eye contact, clear voice, excellent flow, and infectious enthusiasm. • Confident. • Good delivery speed; finished in 2 minutes. • Limited technical jargon to a minimum. • Connected with the audience. 	<ul style="list-style-type: none"> • Weakness in one element on the left. 	<ul style="list-style-type: none"> • Weakness in two elements on the left. 	<ul style="list-style-type: none"> • Weakness in three of more elements on the left.
Responses to Questions Score: ____	<ul style="list-style-type: none"> • Confidently provided strong responses to all questions. 	<ul style="list-style-type: none"> • Confidence and appropriateness of responses could be improved somewhat. 	<ul style="list-style-type: none"> • Confidence and appropriateness of responses needs considerable improvement. 	<ul style="list-style-type: none"> • Lacked confidence. Responses were generally weak.

Score: ____

Evaluator: _____

Adapted from: www.seas.upenn.edu/undergraduate/student-life/design-competition.php
www.sausd.us/cms/lib5/CA01000471/Centricity/Domain/494/ElevatorOK_14.pdf

3. Thinking Creatively to Drive Innovation

Assessment Outcomes

- Articulated creative component of work
- Reflected on the source of creativity (nurture vs. nature)
- Applied divergent-convergent thinking process to converge on a solution
- Applied an ideation technique to generate solutions (Ask-Ask-Ask method, Fishbone Diagram or Mind Mapping method)

Relationship to EML Outcomes

EML Outcomes addressed:

- Demonstrate constant curiosity about our changing world
- Integrate information from many sources to gain insight
- Identify unexpected opportunities to create extraordinary value

Contextual Activity

Project Overview: Students are asked to first identify a market and then develop a puzzle that can compete in that market. Students design a puzzle, starting with generating an idea and following through the steps in the design process to building and testing a prototype. Students gain experience learning how to engage customers and use their input to design a product, render technical drawings of the product using 3-D Solid Modeling software, and create a prototype for testing using 3-D printing.

- Task 1: Using feedback from surveying potential customers, choose theme, age group and difficulty level for puzzle. In teams use one or more of the ideation techniques to generate ideas for puzzles. Apply convergent-divergent thinking to converge on individual ideas for your puzzles.
- Task 2: Reflection assignment on the meaning of creativity and source of creativity
 - Based on what you learned in the module about creativity, describe how you were creative in designing the puzzle.
 - Would you consider yourself to be creative? Explain.
 - Was your creativity enhanced by what you learned from the module and what you did to create the puzzle? Explain.

Deliverables:

1. Individual reflection assignment
2. Individual puzzle design

Class Discussions

Requirements:

- Initial posts should be [200-250] words.
- Response posts should be at least [100-150] words.
-

Your initial post should include your answer and a justification as to how you came up with your answer.

Then, respond to at least two of your peers. Provide feedback as to the clarity and depth of their discussion. Make sure to tell them where they explained something well, and provide at least one suggestion where they might need to provide further clarification.

Make sure to keep track of posting deadlines. You will be graded based on your ability to effectively communicate your information, your clarity of thought and demonstration of understanding, and your feedback provided in your responses.

Due Dates: Ideally, students have 2-3 days between the initial post and the response posts

1) Discussion Title: Origin of Creativity Ability

At this early stage, the student is likely to be ambivalent on the origin of creativity/innovation, that is, the nature versus nurture issue. This discussion question will help them focus on that origin issue.

The discussion addresses:

- Learning Outcome 2: *Explain* the observation that creativity is influenced much more by nurture than nature.

Discussion question: In what ways, if at all, have you lost the creativity you had as a child. What do you think has or hasn't happened? Do you agree that creativity is nurture, not nature? Why or why not?

2) Discussion Title: Preferred Type of Team Members

This discussion question will help students internalize the implications of applying the Medici Effect. For example, some students will be torn between describing people they like (mostly like them) versus the kind of people (mostly different than them) that would comprise an effective team.

The discussion addresses:

- Learning Outcome 4: *Apply* the Medici Effect method.

Discussion question: These are the two most important characteristics of a person I want on "my" creative-innovative team and why. Did you select those characteristics because they are like your characteristics and, therefore, you are comfortable with them? Or, did you select individuals who are very different than you? Whatever you did, are you sure? Can you defend your choices?