Instructor Guide: Integrating Artificial Intelligence with the Project Leadership App

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Abstract

Project Leadership is a web-based application which empowers the STEM participants to take up leadership roles to develop diverse leadership skills. Implementing Project Leadership (PL) provides opportunities for students to provide peer and self-assessment of diverse leadership skills. By integrating Artificial Intelligence (AI) tools with PL, students co-create leadership roles and skills that are suitable for a particular task or project. After students work in different roles, they use PL to give feedback.

Description

This lesson plan should leverage AI in the context of workforce development for leadership development and track how well the AI coach guides the process. The fallacy here is that the AI will scrape common lesson plans and hence will give commonplace answers, such as the facilitator, scribe, researcher, and speaker roles. From there, students can critically analyze whether other roles and skills are needed for their specific context. After completing their tough research question, the students can assess if the AI helped them organize their work flow.

Learning Objectives

1. Instructors will be able to appropriately **guide** students to use Artificial Intelligence tools (AI) along with the Project Leadership (PL) application.
2. In courses **integrating** Project Leadership, students will co-create team leadership roles and skills.
3. Students will **develop** skills for the STEM workforce while integrating leadership roles and skills in team projects.

Phase I – Pre-implementation

Instructor Actions	Student Actions
Plan how to integrate Project Leadership in Course: Review QUBES resources on Project Leadership to learn how to use and integrate Project Leadership to support teamwork.	
Inquiry-Based Learning: Instructor will ask students to think of and write a challenging exploratory question on a topic of interest (i.e. the stump your partner activity).	Students will explore available resources like books, research articles and AI to develop a challenging question for their group project. An example prompt in an asynchronous environmental class is: What elements are enriched in your region? How do these elements impact the soil and local environment?
Exploration: Instructor will give students an opportunity to explore the Project Leadership Application (may be a video recording) and roles.	Students will independently and then in peer-groups discuss the concept of leadership, roles for each group member, and skills required for each group member. Students will use AI to further refine their leadership concepts, roles and skills for their proposed group project.
Share out – Instructor will conduct a summary activity asking each group to report out briefly one change they made during the exploration process.	Students will explain how their concepts of leadership, skills, and roles changed after exploration with each other and with AI.

Phase II - Implementation

Instructor Actions	Student Actions
Group Activity: Instructor will engage students in teamwork i.e. ask students to take up different leadership roles to complete the tasks in Project Leadership.	Students will begin their group project using the roles and skills identified in pre-implementation. Students will record the data for organization, analysis and presentation of their project. After completion of each step of teamwork, students will compose feedback for each other, using AI to refine their feedback. Once their feedback is refined, they will post their feedback on the PL application.
Self-Reflection – The instructor will then ask each group to use tools like Google, MS Sheet etc to document the process of the development of their project and team cooperation.	Each student will reflect on how the process of using PL during the course changed their understanding of teamwork and leadership.

Phase III- Post- Implementation

Instructor Actions	Student Actions
Evaluation -Instructor will choose an appropriate deliverable for the group project (such as a gallery walk, document, or a presentation). - Instructors may organize a mini-colloquium so that each group gets the opportunity to share their learning outcomes. For example if there were four groups then two groups present while two groups listen and ask questions. Afterwards , the two groups which did not present have the opportunity to present and the other groups ask questions to the presenting group.	**-** Students will submit their individual and group learning evidence to the group leader for presentation on board or powerpoint slides to be shown on a screen. Students can use AI to search for materials for their presentation. -If presenting, each member of the group will benefit from the opportunity to share their work. - Students will then move to other groups to listen and ask questions.

Phase IV- Reflection

Instructor Actions	Student Actions
Self-reflection: Instructor will engage students to reflect on the teamwork activity.	Each student will write exit interviews describing their learning process, how they used Project Leadership, and ways to improve.
Group reflection – Instructors will then engage each group to reflect on the teamwork activity.	Each group will work on refining the objectives of their roles they could have taken in the teamwork activity with and without use of AI along with PL.