

Ahmad Almufarreh

EDIT 730

Final Project Table Design

According to Dabbagh and Bannan-Ritland (2005), the instructional strategies that support problem-based learning environment are the following:

Authentic learning:

Students will be introduced to a real world problem that have multiple solutions and relevant to the students' interests and goals.

Problem solving:

Issues of the cities such as traffic control or health management will serve as the center for the instructions.

Collaboration:

Students are involved in researching the information they are tasked with the learning, organizing it into a meaningful body of knowledge, explaining it to one another, presenting it into the instructor and their classmates. (Reflection, articulation, exploration, and problem solving)

Real-world exploration:

Students will sign a consent form to follow the safety instructions in order to visit the city.

Hypothesis generation:

Students will generate hypothesis individually and in groups while they research the problem data and visit the city. The instructor also poses some questions to the presented data to increase the hypotheses generation.

Role-playing

Students will pick a professional role such as IT specialist or project manager and act out as they are facing a real world problem in their jobs.

Articulation

Reflection:

Students will reflect weekly on their discovered facts and will discuss them with their group members and the instructor.

Scaffolding:

The instructor will observe and monitor students' performance when they are completing a task and provide guidance when appropriate (self-awareness and self-management)

Self-directed learning:

Students have to set their own learning goals and make action plans to achieve these goals (time planning and management – self-evaluation)

Articulation

Students will defend their actions plan and proposal and give reasons for their decisions and strategies.

Design table for the IOT consulting and services learning environment

Learning Outcomes	Instructional Strategies	Learning Activities	Assessment
To judge whether using Internet of Things (IOT) would be the most appropriate solutions for city problems.	<ul style="list-style-type: none"> - Authentic learning - Self-directed learning - Problem solving - Real-world exploration - Collaboration - Hypothesis generation 	<ul style="list-style-type: none"> - Students will be introduced to the learning environment as employees in IOT company. - Each student will conduct a research and write an annotated bibliography about the Internet of Things. - Students in groups will take a tour in the city to observe the real environment and then write a group report. 	<ul style="list-style-type: none"> - A city tour report. - Annotated Bibliography paper.
To estimate the costs for integrating (IOT) including architecture, software, sensors, networks, and labor.	<ul style="list-style-type: none"> - Real-world exploration - Reflection - Scaffolding 	<ul style="list-style-type: none"> -Forming students with groups of five (three IT professional, one business analyst, and one project manager). 	Weekly reflection and a project action plan

	<ul style="list-style-type: none"> - Collaboration - Hypothesis generation 	<ul style="list-style-type: none"> -Students will collaboratively work as groups to share and reflect on the gained knowledge and to improve communication skills and they will be monitor by the instructor. - Students groups will work closely to the instructor to discuss the action plans. 	
<p>To propose an effective plan for implementing (IOT) in real contexts and defend it.</p>	<ul style="list-style-type: none"> - Articulation - Collaboration 	<p>Each group will come up with a proposal plan for an effective implementation for Internet of Things in the city to solve particular problems such as traffic control or a health issue, and they will determine the problem as a group.</p>	<p>A final proposal for implementing IOT to solve a specific city issue and presentation.</p> <p>Expert evaluation of the proposal and presentation</p>
<p>Students' proposals could have a chance to be funded by city leaders.</p>	<ul style="list-style-type: none"> - Authentic learning - Articulation 	<p>Each group will present their proposal to an IT experts form King Abdullah cities.</p>	<p>Expert evaluation of the proposal and presentation</p>

References

- Barrows, H. S. (1985). *How to design a problem-based curriculum for the preclinical years* (Vol. 8). Springer Pub Co.
- Dabbagh, N., & Bannan-Ritland, B. (2005). Pedagogical Models. In *Online learning: Concepts, strategies, and application*. Upper Saddle River, New Jersey: Pearson/Merrill/Prentice Hall
- Kolodner, J. L., Camp, P. J., Crismond, D., Fasse, B., Gray, J., Holbrook, J., ... & Ryan, M. (2003). Problem-based learning meets case-based reasoning in the middle-school science classroom: Putting learning by design (tm) into practice. *The journal of the learning sciences*, 12(4), 495-547.