

Group Work and Problem Based Learning

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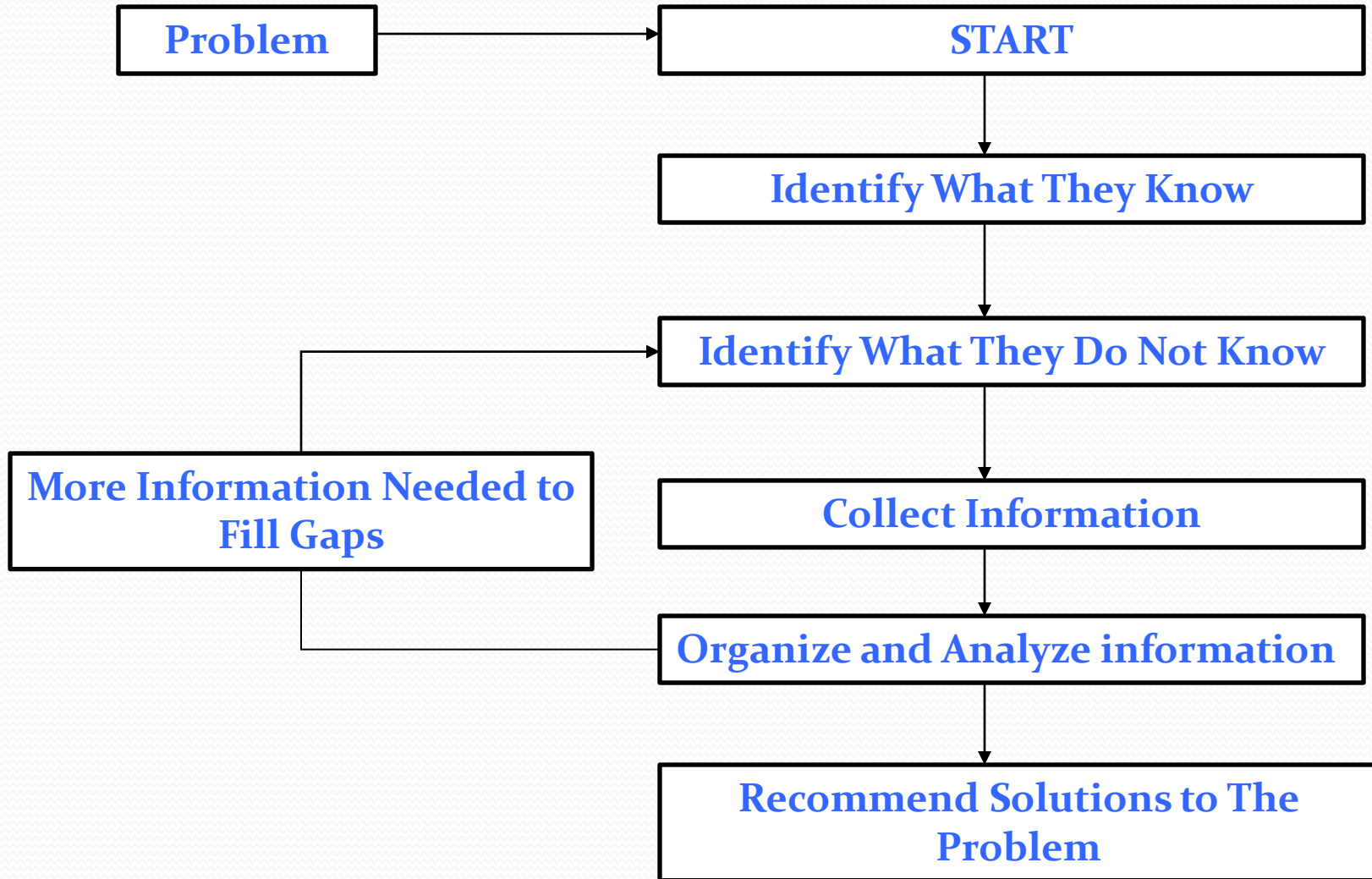
Presentation plan

- What is PBL?
- Why PBL?
- Principles of PBL.
- Group Work and Cooperative Learning Within PBL.
- Students' Evaluation.

What is PBL?

- It is a constructivist learning environment starting from an open-ended problem.
- Students work cooperatively in groups to recommend possible solutions to the problem.

Possible PBL Cycle



Example: Energy Needs in the UAE

The demand for energy in the UAE is growing. The reasons include increasing population and industrial development. The UAE government is thinking about the future. If demand for energy keeps growing, the cost of many things may increase. The environment may get damaged. What can be done to prevent this? Can less energy be used? Can other, cheaper sources of energy be used? What about the environment?

Why PBL?

Fulfil two sets of objectives

- Content Objectives
- Core Competencies Objectives

Core Competencies

1. Learner Training
2. Thinking Skills
3. Application of Knowledge
4. Information Literacy
5. Communication.

PBL Principles

- The starting point is a problem that forms a focus and stimulus for learning.
- The problem is similar to those one would face in future professions; a real life problem that greatly motivate the students.
- Teachers are facilitators who may ask probing questions to help students use prior knowledge to construct new knowledge.
- Learning is student-centered as students, individually and collectively, assume major responsibilities for their own learning.
- Most learning occur within the context of small groups.

Setting Up Groups in PBL?

- Students brainstorm the idea of working in group and set up rules.
- Students set up groups.
- The group selects a scenario.
- Students discuss the main goals of the group and what they have to do.
- Each student in the group choose a role.

Students use concept web to brainstorm ideas about group work



Select A Scenario

- As a group they select the scenario they are interested in.
- Brainstorm ideas.
- List what they know about the problem.
- List what they do not know and they need to know in order to recommend solutions.

Roles Within the Groups

- First role; Researcher: Collect and analyze information (every member of the group).
- Second Role; one of these: Group Leader, Math Expert, IT Expert or English Language Expert.

During Sessions

- Individual Work (done outside classroom) checked by facilitator.
- Each member reports his/her findings to the group.
- Group Work In Classroom:
 - A. Discuss findings and select what is relevant to the problem.
 - B. Write research questions.
 - C. Assign task to each member of the group.
- Assessment.

Formative Assessment

- Self Assessment.
- Peer Assessment.
- Group Assessment.

Summative Assessment

- Outside Classroom Preparation 30%.
- Final Product 30%.
- Presentation 40 %.

Problems Encountered by Students

- Some students did not like the idea of group work.
- Frustration and lack of understanding of what to do at the start.
- Some students did not like the group they were in.

Observations

- Students spend more time on task.
- Students gain strongly in self confidence.
- Formative assessment helps students in assessing and solving organizational problems.
- Most problems within groups solved by members of the group.
- Positive change of attitude towards group work.

Students' Evaluation(1)

curriculum competencies

| Question | Presentations | | Average Time | Average Response |
|---|---------------|-------------|--------------|------------------|
| | Total | Responses | | |
| 5 In PBL, I learned to work in a small group. | 205 | 203 | 10 | 3.06 |
| 8 In PBL, I learned to find the information I need. | 198 | 198 | 8 | 3.04 |
| 9 In PBL, I learned to use the information I found. | 195 | 193 | 8 | 3.04 |
| 4 In PBL, I became more responsible for my work out of class. | 210 | 207 | 15 | 2.99 |
| 10 In PBL, I learned to communicate information well. | 198 | 194 | 8 | 2.98 |
| 6 In PBL, I learned to solve real-world problems. | 200 | 199 | 11 | 2.96 |
| 7 In PBL, I could use things I learned in other UGRU courses. | 202 | 198 | 14 | 2.92 |
| 11 In PBL, my confidence increased. | 199 | 199 | 8 | 2.90 |
| 12 PBL will help me with my studies and career. | 193 | 192 | 8 | 2.89 |
| curriculum competencies | 1800 | 1783 | 10 | 2.98 |

Students' Evaluation(2)

5 In PBL, I learned to work in a small group.

Presentations: 205

Responses: 203

Average Response: 3.06

| Selected Answer | Endorsing | | Average Time | |
|-------------------|-----------|-----|--------------|--|
| | Count | % | | |
| Strongly Agree | 64 | 31% | 10 | |
| Agree | 106 | 52% | 9 | |
| Disagree | 15 | 7% | 21 | |
| Strongly Disagree | 18 | 9% | 9 | |

Student's Comment(1)

What i enjoyed most in the PBL course, is its idea because i planned to become a manager of a business, and that is what PBL taught me: "how to be responsible of and manage group work." This will help me later in my career , a lot.

Student's Comment(2)

I enjoy working with my group and i feel that i should be more responsable. Also i think that i learn many thing make me feel more stronger than before.

i enjoy working with my group

I enjoy working with group becuase that help me to make communication with other student.

Why Group Work Seems to Work Better in PBL?

- All students new to task.
- Task too difficult to handle by one student.
- Good Preparation of Group Work. (brainstorming and setting up rules)
- Face to face peer and group assessment.