

A decorative graphic on the left side of the slide consists of four overlapping geometric shapes: a square at the top, a circle below it, a five-pointed star below that, and a triangle at the bottom. Each shape has a soft, glowing aura around it.


Problem-Based Learning An Innovative Strategy

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What is PBL?

- ◆ A strategy for posing significant, contextualized, real world situations, and providing resources, guidance, and instruction to learners as they develop content knowledge and problem solving skills (Mayo, Donnelly, Nash, & Schwartz, 1993).



What is PBL

- ◆ The use of challenges (problems) as the primary instructional strategy.
- ◆ Solved by individuals or groups
- ◆ Cause students to improve knowledge, skills, and disposition



Four Basic Types

- ◆ Basic Challenges

- ◆ Simple adaptations of familiar activities

- ◆ Supplemented by quality criteria

- ◆ Academic Challenges

- ◆ Target specific learning standards



Four Basic Types

- ◆ Challenge Scenarios

- ◆ Introduces broader context

- ◆ Students take on different roles during problem-solving

- ◆ Real-Life Problems

- ◆ Real world context

- ◆ Demand real-life solutions

- ◆ Not simulations



Advantages of PBL

- ◆ Emphasizes meaning, not fact
 - ◆ Engages students in solving relevant, real-life problems
- ◆ Increases Self-Direction
 - ◆ Promotes students use of self-selected journals, textbooks, and other resources

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Advantages of PBL

- ◆ Promotes increased skill development and comprehension
 - ◆ Provides more meaning and applicability
 - ◆ Increases the transfer of skills and knowledge from the classroom to work



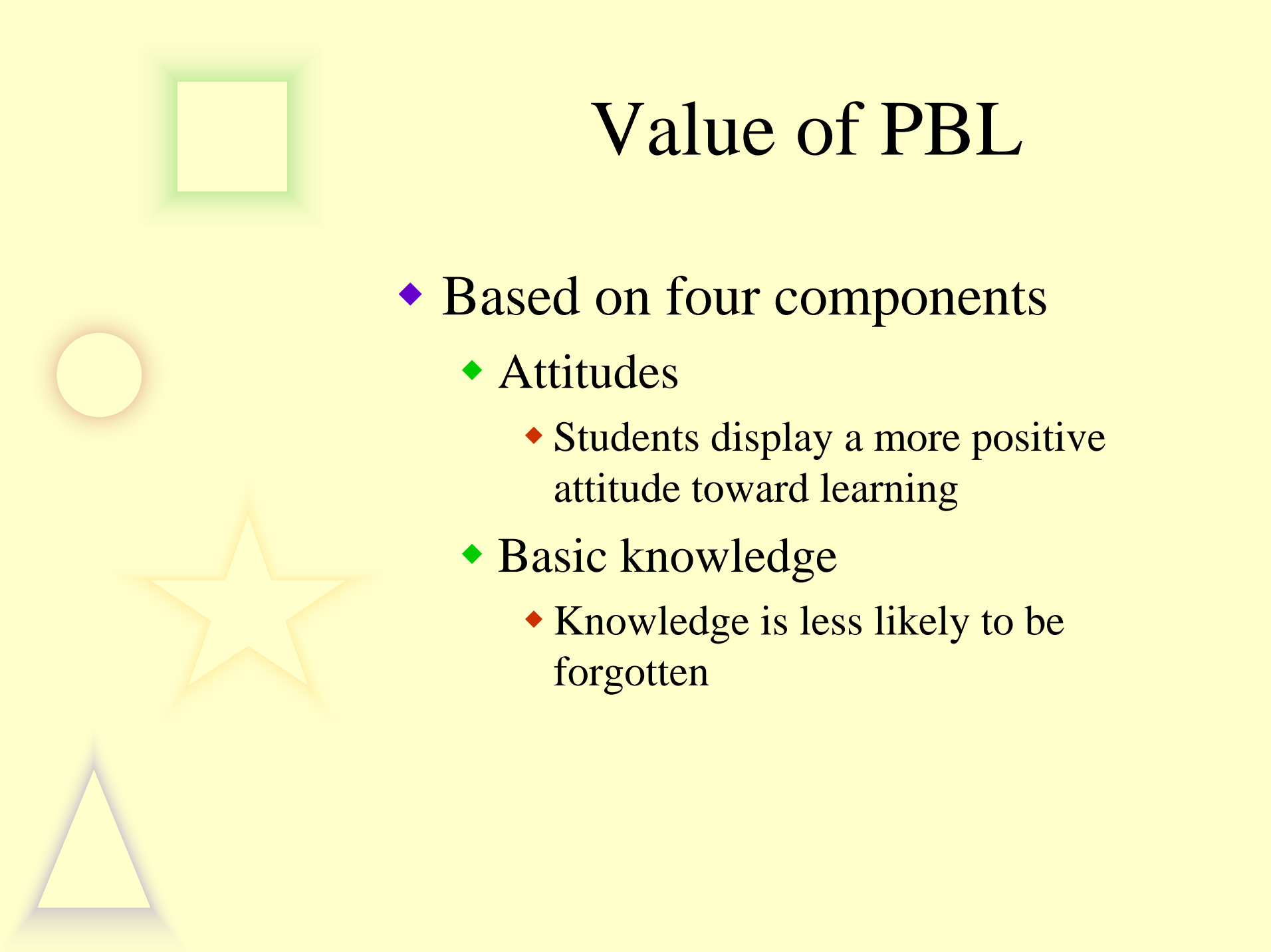
Advantages of PBL

- ◆ Incorporates interpersonal skills and teamwork
 - ◆ Uses collaborative teams to solve problems
 - ◆ Promotes student interactivity, which enhances interpersonal skills




Advantages of PBL

- ◆ Develops a self-motivated attitude
 - ◆ Students favor problem based learning
 - ◆ Increases attendance, and attitudes
 - ◆ Students are less threatened by their environment
 - ◆ Increases willingness to pursue independent learning




Value of PBL

- ◆ Based on four components
 - ◆ Attitudes
 - ◆ Students display a more positive attitude toward learning
 - ◆ Basic knowledge
 - ◆ Knowledge is less likely to be forgotten




Value of PBL

- ◆ Based on four components - con't.
 - ◆ Problem solving skills
 - ◆ Supports stronger analyzing and problem solving skills, than traditional
 - ◆ Teamwork and study habits
 - ◆ Learning takes place in small groups
 - ◆ Encourages collaborative learning

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Evaluation of Student Achievement using PBL

- ◆ Written examinations
 - ◆ Should be designed to ensure transfer of skills to similar problems
- ◆ Practical examinations
 - ◆ Used to ensure students can apply skills learned




Evaluation of Student Achievement using PBL

- ◆ Peer assessment

- ◆ Guides the peer evaluation process
- ◆ Emphasizes the cooperative nature of PBL

- ◆ Self assessment

- ◆ Encourages students to identify weaknesses in their knowledge base
- ◆ Allows for increased metacognition



Evaluation of Student Achievement using PBL

- ◆ Facilitator assessment

- ◆ Facilitator feedback to the students

- ◆ Encourages exploration of varied ideas

- ◆ Provides insight on student interaction and their cognitive growth

- ◆ Oral presentations and reports

- ◆ Provides students opportunity to develop communication skills

- ◆ Oral and written



Creating Appropriate Problems

- ◆ Three major variables
 - ◆ Relevancy
 - ◆ Critical to sustain interest during problem solving
 - ◆ Coverage of subject
 - ◆ Identify basic facts and objectives
 - ◆ Should guide students in discovering the desired information
 - ◆ Provide resources for student referencing



Creating Appropriate Problems

- ◆ Three major variables - con't.
 - ◆ Complexity
 - ◆ Problems equal real-life conditions
 - ◆ Ensures multiple “right” answers
 - ◆ Stimulates higher level thinking
 - ◆ Requires exhibition of leadership, research, and thinking skills



References

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- ◆ Mayo, P., Donnelly, M.B., Nash, P.P., & Schwartz, R.W. (1993) Student perceptions of tutor effectiveness in problem based surgery clerkship. *Teaching and Learning in Medicine*, 5(4), 227-233.

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References

- ◆ Vernon, D.T, & Blake, R.L. (1993). Does problem-based learning work? A meta-analysis of evaluative research. *Academic Medicine*, 68(7) 550-563.