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Linking Information with Knowledge for Enhanced Learning

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Enriching the Linkages

Background:
Learning happens when information (what?) received through senses is converted to knowledge (why?) that resides in the mind. This conversion process is achieved through enriching the linkages among information and knowledge in known scenarios. Enriched linkages lead to wisdom (what-if?) which is the ability to effectively apply information and knowledge to additional scenarios. Learning can be enhanced by relating course and lesson contents to knowledge and experiences gained outside the classroom.

Goal:
To enrich learning through creating linkages among lesson objectives, course objectives, and degree outcomes.

Practice:
All information provided in a lesson is linked to previous lessons. Linkages are enhanced through classroom demonstrations and discussions and opportunities to learn outside the classroom. Information is also linked to future lessons, course objectives, and overall degree program outcomes.

Need:
Learning in classroom needs continuous engagement and triggering of curiosity. A non-stop delivery of information without context becomes “blah-blah-blah”. There is a need to create a link at every step of the way in learning.

Creating Connections to Other Courses and Degree Program:
A flowchart linking the course to other courses gives student a synoptic perspective.

Other Lessons and Course Objectives:
A figure linking different concepts helps students fill knowledge gaps.

Benefits:
Students show increased interest and engagement when contents are linked to their previous knowledge and experience. These students also demonstrate better learning during exams. Student evaluation comments indicate benefits of adopted practices. For example: “He brings demonstrations to class and makes the class fun!” “I liked the online assessments for the homework and tests.”

Resources to Create Connections
Visualizations and Demonstrations:
Visualization and hands-on experience can engage students with varying learning styles.

Video Tutorials and Social Media:
Video tutorials and social media increase contact time with students and provide additional avenues of learning.

WebCampus:
WebCampus based quizzes and exams can help measure learning of each student against various course objectives and learning outcomes. Item analysis of WebCampus based testing helps improve questions in exams and quizzes.

Strategies to Create Connections
Plan Weekly Lesson Objectives:
Providing a clear list of objectives and expectations for each lesson enables students to read ahead and regularly gauge progress.

Prepare Board-notes with Linkages:
Board-notes for a lesson can include examples from everyday life linked to the objectives.

Apparatus used to demonstrate the momentum equation of fluids, using water in a soda can and air in a balloon

“A Khan Academy” style videos to solve numerical problems with explanations.

Facebook pages for class interaction outside the classroom.

Link to Life Experiences through Discussion:
Encouraging and engaging students to contribute during the lesson enriches learning through tapping into students’ personal experiences.