Using Technology to Provide Multimodal Learning Opportunities and Enhance Student Engagement in Face-to-Face and Online Courses

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Abstract

- This poster showcases how the presenters incorporate a variety of technologies, media and interactive elements to provide multimodal learning opportunities and enhance student engagement in both face-to-face and online courses. It highlights the pedagogical, logistical and evaluative considerations of creating a multimodal environment that will address the needs of a wide range of students with diverse backgrounds and learning styles, including whether student learning outcomes are achieved.
Multimodal Learning Approaches: Online Courses

- Text – Mini-Lectures, course textbooks, supplemental readings
- Online office hours – Chat Room
- Podcasts ("Fireside Chats")
- Pleasing graphics, photographs and icons; attractive color scheme; consistent format, organization and flow
- PowerPoint presentations
- Weekly online Discussion Forums – with instructor feedback and peer review
- Hands-on exercises with software
- Real-world projects (accident scene reconstruction; competitive intelligence analysis methods; comprehensive business plan with all of the elements, including financial statements; case studies)
- Self-reflection through pre-tests and post-tests
- Self-reflection through comparison with industry panels
Multimodal Learning Approaches: Face-to-Face Courses

- Text – Lectures, course textbooks, supplemental readings
- Weekly study hall
- PowerPoint presentations
- Online Discussion Forums – with instructor feedback
- Hands-on exercises with software
- Real-world projects using web applications to solve problems
- Self-reflection on a student’s engagement, retention and behavior
- Supplemental website with solutions to the lab assignments, live applications and sample student projects
- Group projects with peer evaluation
The presenters use a combination of techniques and technologies to provide both formative and summative feedback to students so that students are actively engaged in their own learning and have a clearer view of their performance and what is required to achieve excellence in their courses.

Among these assessment methods are self-reflection, peer review, pre-tests and post-tests, group projects, discussion forums, online and paper-based quizzes, real-world projects, homework assignments, labs using software and oral presentations.

In terms of self-assessment, preliminary results indicate that students tend to be honest to almost harsh in evaluating their own participation in class on such elements as engagement, attention and behavior.

Moreover, peer evaluation provides an opportunity for more regular and robust feedback throughout the semester beyond what the faculty member can provide, especially in courses with large enrollment.

One goal of multimodal learning is to promote student–student and instructor–student interaction, especially in online courses.
Group Work Using Technology

- Team Projects – in INFO I210, INFO 211, INFO I421
- In INFO I421, groups of 3–4 students:
  - Identify a real client outside of the school and interview the client about his/her database management needs
  - Design a system that supports the needs of the client
  - Build the database management application
  - Document the project
  - Present their project in four stages to the entire class
  - Conduct a peer review of each other
  - Faculty member grades the team, but adjusts it based on peer review information from the students on that team
Real–World Projects Using Software

Creating the U.S. State Capitals game in INFO I211
Creating the Kung Fu Panda Media Library application
Accident Description:

Plaintiff arrived at the pharmacy to pick up her prescription. She entered through the main entrance and crossed the front of the store. She proceeded to walk toward the candy aisle. Upon turning up the aisle, she tripped over shelving units which were placed on the floor. The fall resulted in the plaintiff’s injuries.
Ms. Alexander trips and falls at DrugMart Pharmacy

Still in pain. Visits hospital. X-rays show 3 fractured ribs. Also has a mild concussion, and badly bruised and swollen arms and legs.

Develops pneumonia. Kept in hospital 3 additional days.

Photograph of arm


Photograph of arm

Released from hospital.

Photograph of leg

Ms. Alexander visits pharmacy and presents the bill for her injuries. Manager says they will "take care of it."

8 months after receiving the bill, the Pharmacy has made no attempt to pay.

8 months after receiving the bill, the Pharmacy has made no attempt to pay.


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Creating a timeline in INFO 1470
For More Information

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