

TabletPCs in a Freshman Engineering Course: Lectures and Discussions



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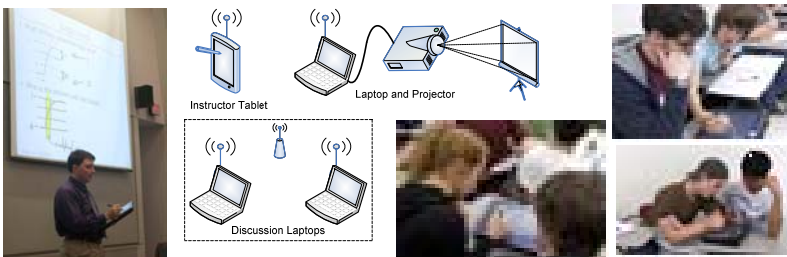
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We have **redesigned a large freshman level course** on Digital Design leveraging TabletPC technology to improve student learning and participation. We use HP mobile technology to **encourage active learning** and to **perform formative assessment**. Student surveys show a **positive reception** of this technology, good learning experiences, and a preference for TabletPCs over traditional instructional methods.

TabletPCs in the Classroom

The goal of using TabletPCs in this large course (120 students) is to increase interactivity and give individual attention to each student. We use the HP TabletPC classroom setup and Classroom Presenter software.

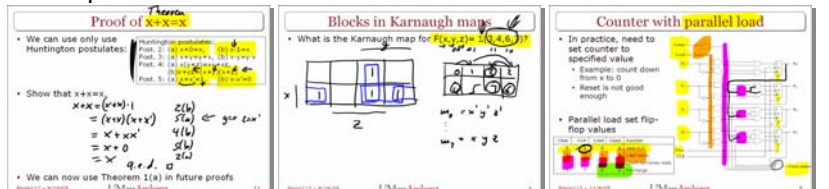


	Lectures	Discussions
Before	PowerPoint presentations forced a "linear" lecture	Chalkboard explanations did not involve all students
Improvements	<ul style="list-style-type: none"> • TabletPC for instructor • Classroom Presenter for presentations 	<ul style="list-style-type: none"> • TabletPCs for students • Classroom Presenter for interactive exercises
Results	<ul style="list-style-type: none"> • More interactive lectures • Increased student interest • Increased classroom participation 	<ul style="list-style-type: none"> • Active involvement of every student • Solicitation of questions • Personalized responses to questions
Next steps	<ul style="list-style-type: none"> • Possibly TabletPCs requirement for all students • Enable use in lectures and consistent note-taking 	



Examples from the Classroom

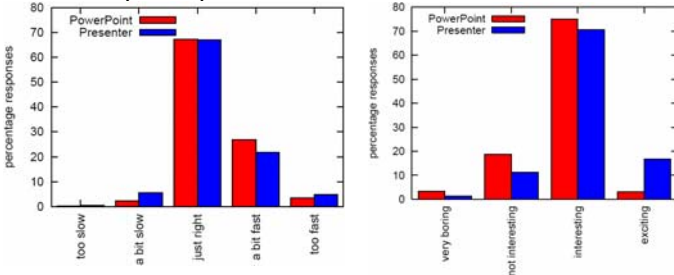
Example lecture slides:



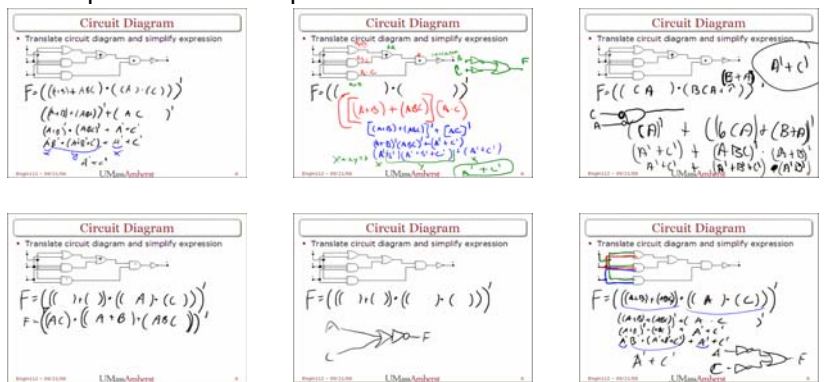
Assessment Results

Tilman Wolf, "Assessing the impact of inking technology in a large digital design course," in Proc. of the 38th ACM SIGCSE Technical Symposium on Computer Science Education, Covington, KY, March 2007.

Student perception of lectures:



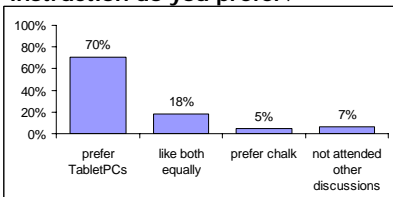
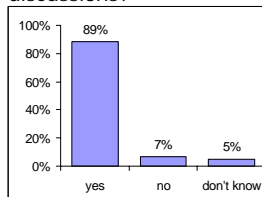
Example student responses in discussions:



Survey feedback on discussions:

"Do you feel the TabletPC helps you learn more effectively during discussions?"

"Compared to a discussion session where a chalk board or marker board is used, what technique for instruction do you prefer?"

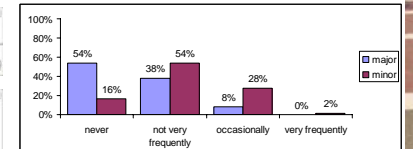


Observations

Students doodle:



"How frequently have you encountered major/minor technical problems with the TabletPC in discussions?"



Keywords: engineering, computer engineering, digital logic, undergraduate education