

# Powerful Properties of Handheld Computers in Education

Affordance	Definition	Example
<i>Accessibility</i>	Students have access to the resource when they need it. Teachers can plan without asking questions about resource scarcity.	The fact that each student can have her/his own handheld for their learning enables many of the affordances below to be realized in classrooms. There is no need to schedule time in a lab, or split up class into groups because of a dearth of technology.
<i>Immediacy</i>	The tool is available when you want it.	Students can retrieve and reflect/revise their work anytime, anywhere. Information is downloaded onto the handheld where it is accessible to the student in the classroom, on the bus, or at home.
<i>Convergence</i>	A coming together of important or needed resources.	The handheld can accommodate most of the work usually done by pen and paper and traditional computer in one place. A notebook, folder, planner, address book, and Game Boy are in one package that fits in your pocket.
<i>Permanency</i>	There is an enduring quality to the work that has been done by students.	The handheld automatically saves the work students do as they do it, and is archived every time they sync it to a traditional computer. When students hand in assignments, the original is still intact on the handheld, allowing students to continue revising and working on documents after a version has been given to a teacher or beamed to another student.
<i>Collaborative</i>	Groups of students working together to solve problems or reach a common goal.	Students work together to finish projects, often arguing over concepts after beaming. Beaming allows sharing to be natural and simple. Students also conduct learning activities involving discussion of predictions and explanations.
<i>Malleability</i>	The ability to be formed and shaped according to need.	For one student, it may be primarily a graphing calculator. For another, the handheld might be a word processor, or a database of U.S. Senate voting records. For each teacher, subject and student, the handheld can be a different tool, depending on the task a student is asked to do or the way the student prefers to use it.
<i>Simplicity</i>	Easily understood in form and use.	For many tasks, the handheld computer is "invisible." When using the Palm handheld, students are concentrating on the task they are engaged in, not the handheld as a collaborative tool.
<i>Pleasureability</i>	Students get enjoyment from use often translating into greater motivation for learning.	There is a unique bond between handheld computers and their owners that carry over into their enjoyment with its use. Students personalize their handhelds with stickers and other accoutrements, truly taking ownership of the tool. They are disappointed when they don't get to use their handhelds for class.

Table taken from: Bobrowsky, W., Curtis, M., (2002) et. al. *Exploring the affordances of handheld computers: Helping teachers engage in best practice*, International Conference of Learning Sciences (ICLS).