Every businessperson and most students have a PDA (personal digital assistant). A PDA is a handheld digital machine that unites computing, telephone/fax, internet access, and a personal planner. Many PDA’s also feature writing and voice identification features. Personal digital assistants are both engaging and accessible. They improve motivation, engagement, and learning, while remaining accessible and portable (Klopfer, Yoon, & Perry, 2005). The literature seems dominated by concerns over implementation issues for educators. For example, handheld participatory simulations seem to easily adjust to various curricular content and thus integrate well with a variety of curriculum (Klopfer, Yoon, & Perry, 2005). Findings on handhelds also seem to indicate that anonymous use assists the exploration of knowledge and enables students to see their progress in relation to all students (Davis, 2003). Additionally, private accountability promotes the student’s ability to see what every other student is thinking, thus enabling the student to construct his or her knowledge on the group’s agreed-upon knowledge. Handhelds also seem to enable the teacher to tailor content based upon the up to the minute answers of the student body. PDA’s have also been proven to enhance collaborative instructional activities, more so than face to face collaboration (Zurita, Nussbaum, 2004). The collaborative strengths of PDA’s discovered were coordination, communication, organization of material, negotiation, interactivity, and mobility.

The purpose of this research was to observe a class of fifth grade students in a low socio-economic status elementary school as they used their PDA, and to report on the conditions under which such usage led to higher academic performance and increased self-confidence. This research was completed during Spring and Fall, 2005. Each 5th grade student was given their own PDA to use both at home and in school. Quantitative data was recorded through the use of the rubberneck software (Lim, 2003, University of Michigan, downloaded from http://rubberneck.hice-dev.org/postlogin.php). This software recorded all of the clicks that each student made on his or her handheld. This quantitative data was then examined for patterns of usage. Qualitative data was also gathered through observation and audio recording, teacher interviews, and a teacher self-reflection journal. These sources of data were used to triangulate in order to increase the validity of the study. Qualitative observation data was examined through the use of narrative analysis (Murray, 2003) as well as the constant comparative method (Glaser & Strauss, 1967). Using the latter method, messages were collected, characteristics identified, and comparisons made. PDA change agents (themes that accompanied change in students) that were derived from the data were freedom of choice, a growing sense of responsibility and a sense of satisfaction in using a PDA effectively. According to Murray’s narrative analysis (2003), the six elements searched for in the data were: a) the abstract – the summary of the substance or point of the story; b) the orientation – sets the scene with respect to persons, place, time, and the initial situation; c) the complicating action – clauses describing a sequence of events in temporal order; d) the evaluation – shows the point of the narrative; e) the resolution or outcome; and f) the coda – which signals the end of the story and a return to the present. The key was reducing the
transcript down to the core narrative that excludes any material considered extraneous to the storyline. Narrative experiences observed revealed that students using the PDA’s went through an anxiety/excitement phase, followed by a phase of rapidly expanding or declining confidence and skill, which was followed by a final phase of high level confidence and slowly growing skill level. At the end of these phases, both academic performance and self-confidence increased for those students whose skill increased.

References


