

# **UNC TLT Collaborative Spring 2001 Campus Funding Allocations**

**1. Campus:** UNC Asheville

**2. Campus office that is to receive the funding allocation:** Center for Teaching and Learning

**3. Accounting information:** UNCA CTL Account Number: 2-15510-5000

**4. Project Category or Categories:**

TLT Wireless/classroom polling (\$7,250)

Other Campuses receiving allocations in this category (TLT wireless/classroom polling): UNC-A, UNC-G

TLT Other (\$1,250)

**5. Project Description (a) Active Engagement Using Wireless Polling Devices:**

Interactive engagement strategies that utilize in-class student polls as been shown [1] to increase conceptual understanding by leveraging peer interaction and active learning[2]. Wireless PDA's can achieve this goal, but often with major expense and programming effort. A simpler technology that is available now uses the same technology as IR remote controls: the Personal Response System (PRS). The technology is cheap (about \$50/unit compared to up to \$1000+ for a fully outfitted PDA) and comes with software that allows students to record both an answer and a confidence level. Surveys results (which can be either anonymous or non-anonymous) are collected and displayed on a digital projector as a histogram plot. The response units can be passed out at the beginning of class or tethered permanently. There is no incentive to steal them, so security will be much less of an issue than with PDA'S.

We propose to purchase 100 PRS units to be utilized in a large lecture hall (seating capacity 180). The largest class presently conducted in the large lecture hall is about 100 students. We also propose to purchase a 30-unit portable collection to investigate the feasibility of making a system available for checkout from the Learning Resource Center.

Budget:

Vendor: EduCue, <http://www.educue.com>

100 response units and two daisy-chained receivers: \$5,000.

30 response units plus one receiver for check out from the UNCA Learning Resource Center: \$1600

Tethers and/or distribution cases: \$650.

References

1. Mazur, E., Peer Instruction: A User's Manual, Prentice-Hall, Upper Saddle River, NJ. (1996).
2. Hake, R. R., "Interactive Engagement vs. Traditional methods: a Six Thousand Student Survey of Mechanics Test Data for Introductory Physics Courses," Am. J. Phys., 66, 64-74 (1998).

## **5. Project Description (b) Faculty Development in the Toolbook Authoring System**

ToolBook has long been recognized as a leading authoring system for web-delivered instructional materials. UNCA and NCSU recently shared the cost of a site license for UNCA. NCSU's interest is to enhance instructional resources for the joint UNCA/NCSU engineering program. They are currently pursuing content development that will enable on-line lecture resources to free up in-class time for active learning activities (such as PRS activities).

Toolbook is fairly complicated software. To facilitate the introduction of Toolbook to UNCA faculty, we propose to purchase instructional resources from Platte Canyon Multimedia Software Corp: <http://www.plattecanyon.com/tcbt/index.htm>

Budget

Mastering Toolbook Instructor and Assistant: \$1250

## **6. Collaboration with other UNC Campuses:**

Project (a): UNCG has current experience with PRS equipment. Ray Purdom at UNCG is interested in collaboration, and so are we. UNCG has an established PRS effort: see <http://www.uncg.edu/~muirrob/prs/prs.html>. We will facilitate the interchange of ideas between users of PRS hardware on both campuses.

The results of this study will also be an important component of a system-wide effort to assess the impact of wireless PDA's. The use of wireless PDA's to conduct in-class assessment is certainly one of the promises of this technology, and should be evaluated with regard for the relative merit of PRS technology.

Project (b): Collaboration is already under way with the Engineering Department at NCSU. This is also interest in collaboration with UNC Wilmington who also has an established Toolbook effort.

**7. Deliverables in addition to those specified for all 2001 UNC TLT funding allocations:** As specified.