Date: **April 13, 2000**

To: **Franklin Carver, Lawrence Lee, NCCU**

From: **Mike O'Kane, UNC Teaching and Learning with Technology Collaborative**

Subject: **Proposal to the TLT Collaborative Board for a Workshop on Visualization and Modeling**

I am pleased to inform you that the Board of the TLT Collaborative has voted to support the TLT initiative that you have proposed, with the modifications indicated in the attached document. These modifications are intended to increase the overall value of the project to the Collaborative to support efforts that help advance the effective use of technology for teaching and learning throughout our 16 campuses.

In addition to the specific modifications that are attached, the Board also requests the following:

1. That the Collaborative Board will receive a copy of any publications associated with this effort. Such publications should acknowledge the collaborative nature of the project within the UNC system and the support provided by the UNC Teaching and Learning with Technology Collaborative.

2. Your understanding that (a) no continuing funds are associated with this allocation beyond FY 1999; (b) all funds must be expended during FY1999; and (c) you will provide documentation to show that the allocated funds were expended in accordance with the approved project proposal, using a reporting template that will be provided to you for this purpose.

3. That any deliverables to the Collaborative that are specified in the proposal or in the attached modifications (reports, presentations, etc) will be delivered as indicated, and that

these may be published on the TLT Collaborative Web site, and referenced in the Collaborative's own reports.

Arrangements will be made for immediate transfer of funds in the amount of **$21,000.00** Use of these funds indicates your acceptance of the conditions outlined above. Please contact my office if you have any questions in this matter,

Sincerely,

Mike O'Kane, Executive Director

c.

Melvin Johnson (Chair)
Diana Oblinger
Ken Craig

Attachment

Proposal to the TLT Collaborative Board
for a Workshop on Visualization and Modeling

Submitted by Franklin Carver, NCCU and Lawrence Lee, Consultant to NCCU

Purpose: To develop and conduct a one-day workshop for faculty and staff at the sixteen universities on the role of visualization and modeling in teaching and learning. Additionally, support the TLT efforts in building its Portal, and provide a report at the TLT Retreat.

Visualization gives insight and understanding to the meaning of data sets. Modeling reveals cause and effect relationships and communicates information that can lead to problem solution.

Background: The School of Education at North Carolina Central University has initiated a faculty development program, under a federal grant from the Department of Education. Teams of faculty in the School of Education, School of Business, and the College of Arts and Sciences, and public school teachers are participating in a seminar series on visualization and modeling for constructivist learning environments. Each seminar session is 2 1/2 hours. Several topics are presented and discussed. See the attachment for topics and schedule of the seminar series. Each session has several computer laboratory periods. During the summer, the faculty teams will participate in a two week workshop in which they will continue in the training and use the knowledge and skills gained from the seminar series to develop interactive, web-based visualization modules for classroom use.

Proposal: It is proposed that a one-day workshop be presented to faculty and staff at the universities. The presenters in the workshop would demonstrate the role of visualization and modeling in teaching and learning. In preparation for the workshop, a steering committee with representatives from at least six universities will be formed. The steering committee will identify showcase examples of the use of visualization and modeling in teaching and learning on UNC campuses and provide this list along with any other useful overview material to Collaborative Staff in their efforts to populate the TLT Portal with resource lookups on this subject. The committee will also survey Best Practices in visualization beyond the University of North Carolina and provide a list of URLs to Collaborative Staff.

The steering committee will organize the one-day workshop and collaborate with TLT Board members to invite participants. The agenda will include presentations by campus experts showing examples of visualizations for distance and classroom education. A brief tutorial will show how to create interactive, web-based visualizations. A laboratory session will be conducted in which the workshop participants will "try-out" the visualizations and models to gain some hands-on experience. Following the workshop, at the May 30-June Instructional Technology retreat in Boone, NC, a short report and discussion of visualization and modeling will be given by some committee members, including a review of will be given to the TLT Collaborative Board on the results of the

workshop and on the showcase activities in visualization at our campuses. This report will also be posted on the TLT portal.

As an expected outcome of the workshop, a cooperative activity among the universities would be initiated to conduct additional faculty development programs in visualization and modeling, under the guidance of the TLT Collaborative. It is expected that through such a virtual institute,

- a collaborative environment would be created for incorporating visualization and modeling in teaching and learning,
- a faculty development program would be developed on the methods and tools of visualization and modeling that can be used in distance and classroom education,
- the application of visualization and modeling in teaching and learning would be expanded to other educational settings such as middle and secondary educational institutions and community colleges.

As a test of the feasibility of the concept, representatives from 5 universities met at NCCU in November to discuss developing a multi-campus faculty development program and to create a virtual institute in scientific visualization and mathematical modeling, similar to the one proposed above. All the representatives from the universities concurred on the strategic need for this. Working under or with the TLT Collaborative would be a very good way to proceed, since visualization and modeling require powerful teaching and learning technology and since the initiative would enhance the skills and knowledge of faculty and students.

Requested Budget :

Equipment Lease and software licenses	$10,000
Release time & Travel for 6 Faculty Presenters	$8000
Travel Costs for Participants	$3000
Total	$21,000

- To be retained for the expected faculty development program afterwards.

North Carolina Central University
Seminar Series in Visualization and Modeling

Session I - March 3

Examples of Interactive Graphics on the Web	Henry Schaffer
First Concepts of Computer Graphics & Visualization	Acha Debela

Session II – March 31, 9am-11:30, BBRI

Computer Drawing	Larry Lee
Introduction to HTML	Henry Schaffer & Possibly Others

Session III – April 14, 9am-11:30, BBRI

Graphics and Spreadsheets	Deborah Eaton
HTML topics	Henry Schaffer & Possibly Others

Session IV – April 28, 9am-11:30

Introduction to Java Script	Henry Schaffer
Introduction to Modeling	Alade Tokuta

Session V – May 12, 9am-11:30

More on Java Script	Henry Schaffer
Introduction to Model Development	TBD

Session VI – May 26, 9am-11:30

Embedding Interactive Graphics in Web Pages	Henry Schaffer
Model Execution and Graphics	TBD

Session VII – June 9, 9am-11:30

Use of Visualization in Constructivist Learning	Henry Schaffer
More Examples of Visualizations and Models	TBD