Teachers' Response to the First Semester of

Teaching the VisTE Pilot Units

December 2003

Submitted to:

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Introduction

VisTE is a National Science Foundation funded project that promotes technological literacy by linking to the Standards for Technological Literacy through the study of visualization, science, and technology. Over a three-year period, the VisTE project team plans to develop, pilot, and evaluate 12 units for technology education in grades 8-12. In the spring of 2003 six teachers pilot tested the first four VisTE units. During this first semester of teaching the VisTE units, teachers were asked to fill in weekly logs for each week that they taught a unit, and a unit-completion log for each unit they taught (see Appendixes A and B for examples of logs). In addition, during site visits to two schools, two VisTE teachers were interviewed to inquire about their experience with VisTE. This report includes data gathered from the weekly logs, the unit completion logs, and the two teacher interviews. Section A contains teachers' general reactions to the VisTE units, while Section B contains teachers' answers to specific questions about the units.[1]

A. General Reactions to the VisTE Units

This section of the report covers the topics that teachers commented on most frequently: the organization of the units and the VisTE staff support. It then addresses teachers' reactions to each of the specific units. For each unit, the following information is listed: the number of teachers who returned logs, the total number of logs returned, and the range of the number of weeks that teachers spent teaching the unit.

Organization of the Units

While the teachers commented that the units contained a lot of helpful information, one of the teachers' main reactions concerned the organization of the materials in each unit. In both the logs and the interviews, teachers expressed frustration at not being able to tell what materials were for them and what materials were for the students. Teachers also had trouble finding where the introduction section of the materials stopped and where the lesson section started. The teachers felt that the units contained good information; they just needed to be organized better.

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[1] These data are from the spring semester of 2003. This was the pilot semester for VisTE and the teachers did not completely understand the data collection process for the evaluation. Thus, not all of the teachers returned a complete set of data.

Several teachers expressed a desire to have the materials organized by days, by weeks, or by steps (Step 1, Step 2, etc.). This change would make the units closer to the step-by-step packaged product that the teachers felt was the desired end result. With a new organizational style teachers could just look at the materials and read what they should teach each day and what the students should be doing each day. One teacher felt that it would be helpful for her to know what activities the students would be doing on any given day of the unit before reading the background material of the unit.

One teacher felt that the openness of the units made them difficult to teach because they required the teacher to create many things from scratch. She felt that the first unit should be more like a cookbook with specific instructions, while the later units could be more open. On the other hand, one teacher felt that there were enough materials included in the VisTE units and that this was a large advantage. He commented that he did not need to do extra research and find activities for the students because all the information he needed to teach the unit was in the unit. He felt that the subjects included in the units typically would have required more preparation— especially information gathering—from the teacher than if the materials had not been preassembled for VisTE. An added plus for him was that the units also left room to expand, which he did.

The teachers that were interviewed commented that they realized that the whole point of this pilot of the VisTE project was to help the VisTE creators fine-tune the materials for the teachers. They attributed the lack of organization of the materials to it being early in the creation process and felt that they could comment better on the organization after seeing a final version of the material. The teachers also indicated that they had already communicated this feedback to the VisTE staff. They felt that in their current form, the VisTE units could not easily be used by a teacher who was given the unit materials but had not gone through any training.

Summary of Organization of the Units

Overall, the teachers felt that the units had a lot of good information in them, but they wanted some changes: clearly differentiated student and teacher materials, clearly differentiated activities and levels of activities, specific lessons to teach (rather than creating things from

scratch), specific places where they could enter and leave the unit, and estimates of how long they should spend on each activity.

VisTE Staff Support

Both teachers interviewed during the site visits reported that the support they had received from the VisTE staff had been great. They commented that the VisTE staff were always prompt in answering any questions (one teacher reported that every time she called the VisTE staff they called her back immediately), and that the staff checked in with them quite often to make sure that they were doing okay and to see if the teachers had any questions. In addition, teachers reported that the VisTE staff were prompt about sending out revisions when necessary.

Teachers commented that the main area where support could be improved was during the training. They expressed a need for more training on what they were expected to teach. The teachers would have liked the workshops to be longer, especially because they felt most teachers do not have any experience with teaching subjects such as biotechnology and medical technology. One teacher reported that he would have liked more time to become acquainted with each of the different units. He reported that they only had 1½ hours to cover each unit at the January workshop, and he felt that they needed more time. Another teacher recommended bringing in the VisTE teachers earlier in the process of creating the units and letting the teachers help develop the unit. This change would help because the teachers would immediately be able to identify parts of the units that would create problems for the students, and the VisTE staff would not spend as much time creating a section(s) that was not likely to be successful. However, overall, both teachers were very positive about the January workshop. One remarked that it was "totally effective" and a good introduction to the units, and the other said that it was great.

Communications Technology: Introduction to Visualization (5 teachers, 7 logs, taught from 2 to 3 weeks)

Overall, the teachers' responses to the Introduction to Visualization Unit was positive. Most felt the units provided them with adequate background information on the content knowledge and that the instructional materials successfully addressed the intended learning objectives. They felt that the skills in the unit were important for the students to learn and that

both they and their students liked this unit. Teachers commented that with a few more changes, this lesson would be a great introduction to precede the other units. The teachers had the following suggestions for improving this unit.

- **Better organization** – The teachers would like the unit to be more organized, with the teacher material clearly separated from the student material, They also would like the activities to be broken down by day and by week, and they would like the student multiple-choice quiz to be better formatted.

- **Student computer knowledge** – Some teachers commented that students were expected to have working knowledge of Microsoft Excel and CorelDraw for this unit. One teacher saw these prerequisites as a negative, another teacher requested a worksheet to help students learn about creating graphs and using Excel, and a third teacher taught the students about these programs before beginning the unit. One teacher suggested moving the information on how to graph in Excel to a supplemental section of the unit materials to make it easier for teachers to find.

- **Trouble importing data for the graph** – One teacher's students had trouble importing the data according to the instructions (because when they were on the server they could not copy and paste from Excel), and another teacher changed how the students got the data from the Internet in order to save time.

- **Repetitive PowerPoint presentation** – One teacher felt that it should be more concise.

- **Graphs** – One teacher would like more data for students to use to create graphs (such as utility costs, price of garbage disposal, or the price of energy in each city), including other types of graphs (such as pie charts) so that they can get more practice and become more skilled at creating graphs in Excel.

- **Insulation** – One teacher would like more handouts with examples of insulation. This teacher went on the Internet and found other examples of insulation for her students.

- **Expanded graphics section** – One teacher wanted the whole graphics section of this unit to be expanded, especially covering material on what to include in a good visualization.

She suggested including examples of good visualizations and guidelines of what types of visualizations the students would be expected to create for the VisTE units (e.g., the students should use at least two colors in each visualization). She felt that this unit would be improved by giving some examples on PowerPoint slides of acceptable and unacceptable graphics, and adding activities in which students would list what was wrong with a particular graphic and what was right. She suggested that a good activity for the students would be to critique examples of visualizations in the media for both the quality of the visualization and the degree to which the data were presented in a misleading manner. She felt it was most important to cover this material in the introductory unit because the other units require students to create visualizations. She also commented that the first unit had good information on graphing with two and three variables, but that there were no student projects that actually required using more than one variable. She would like to have seen exercises of this type. Similarly, she commented that there was information on bar graphs, but the students were not required to create bar graphs.

Transportation Technology: Visualizing Rocketry (5 teachers, 8 logs, taught for 1-3 weeks)

Most of the teachers felt that the transportation technology unit was a good one and that the students learned new concepts. They reported that the students enjoyed this unit and that they loved making and launching the rockets. They felt that this unit provided them with adequate background information on the content knowledge needed for the introductory projects and that the instructional materials successfully addressed the intended learning objectives.

One teacher commented that the transportation technology unit increased students' knowledge of mathematics and science. He expanded the unit and covered physics and mathematics material so that the students could apply the things that they learned in class to something hands-on (building and testing the rockets). He felt that this unit took material that the students had learned in mathematics and science classes and showed them ways to apply that material. He also felt that this unit increased students' interest in science and mathematics, as well as in technology. For example, some students became as interested in doing the calculations and the sketches that showed the calculations as they were in creating the visualizations. This teacher commented that all of the units should include hands-on activities (he noted that he

considers using various software packages on the computer to be hands-on activities) because he believes that students lose interest if there is not something physical for them to do.

The teachers had some suggestions for improving this unit:

- **Objectives** – One teacher felt that the objectives were not detailed enough for high school students, instead being more appropriate for college students.

- **Rocket kits** – One teacher wanted to be provided with examples of how her students could make rockets without the kits and a list of materials needed to do so.

- **Timing** – One teacher commented that only after the class had made progress on the construction of the rockets did they make progress with the learning objectives—and the class spent almost three weeks constructing the rockets, which the teacher thought was too long.

Biotechnology: The PCR (3 teachers, 3 logs, number of weeks taught unknown)

For the most part, the teachers felt that this unit provided them with adequate background information on the content knowledge needed for the introductory projects. One teacher, however, would have liked more information for the "PCR Machine" project. Similarly, for the most part the teachers felt that the units met the learning goals and objectives. One teacher remarked, "I think there are endless possibilities on where you can go with this lesson." The teachers offered some suggestions for improving this unit.

- **Instructional level** – The presentation activity should be aimed at a high school biology class, not a fifth-grade class.

- **Illustrations** – The unit should include a short movie clip to demonstrate the PCR process.

- **Examples** – The unit should include more examples of a PCR machine.

Medical Technology: Imaging (4 teachers, 5 logs, taught for 1-2 weeks)

For the most part, the teachers who responded regarding this unit felt that it covered the background information necessary to teach this unit and that the instructional materials successfully addressed the intended learning objectives. Teacher liked the projects in this unit but felt that some of the material was too difficult for the students. The teachers' comments included:

- **Level of difficulty** – The teachers suggested that the concepts in the unit should be simplified for the both the teacher and the students, because medical technology is very difficult for nonmedical people to understand.

- **Illustrations** – The PowerPoint presentation was very helpful.

- **Division of materials** – The teachers were unable to distinguish between the student and teacher materials.

- **Changes to projects** – one teacher reported that the measurements of the dog skulls did not work and the project was too hard to complete. It might help to include a "mutt" and a pure-bred dog for each category.

- **Examples** – It would help to include more visuals of actual machines.

Summary

The teacher logs provided helpful formative feedback on the VisTE units. There was strong agreement among the teachers that they would like the materials in the unit to be organized differently, that they would like more time at the workshop to learn the unit materials, and that the VisTE staff support that they received was superb. The teachers also generally agreed that the units provided them with adequate background information on the content knowledge and that the instructional materials successfully addressed the intended learning objectives. While the teachers provided specific suggestions for improving each unit, their overall response to the units was positive.

B. Answers to Specific Questions About the VisTE Units[2]

Section B lists each specific question asked in the teacher weekly and completion logs, along with the answers and representative comments from the teachers.

Question: How effective was using this unit in enhancing your students' understanding of the intended learning objectives?

Introduction to Visualization (5 teachers)
> Very effective = 4
> Somewhat effective = 1
> Not at all effective = 0

Rocketry (5 teachers)
> Very effective = 3
> Somewhat effective = 2
> Not at all effective = 0

Biotechnology (3 teachers)
> Very effective = 2
> Somewhat effective = 1
> Not at all effective = 0

Medical Technology (4 teachers)
> Very effective = 1
> Somewhat effective = 2
> Not at all effective = 1

Selected Teacher Comments on Students' Understanding

Introduction to Visualization
- "I liked the unit. Communication skills are an important part of my curriculum."
- "I bet they learned more about all the different aspects of design…technology, and imagination…come together in creating a finished project."

Rocketry
- "The learning goals were something different [new], so that was okay with the class."
- "I think the students learned some new concepts."

Biotechnology
No comments

Medical Technology
- "Good unit."
- "Radiation was good, electromagnetic spectrum okay, dog skulls—not good."
- "A little over some students' heads."

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[2] The number of teachers answering the questions differs among questions because some questions were asked on the weekly log and some were asked on the completion log. More teachers filled out the weekly logs than the completion logs. If a teacher filled out more than one weekly log per unit and gave two different answers, the higher answer was used (e.g., if the teacher answered "very effective" in one log and "somewhat effective" in another log, "very effective" was listed as the answer).

Question: Using the scale below, please rate how interested your students were in the material taught during this unit.

Introduction to Visualization (5 teachers)
Very interested = 3
Somewhat interested = 2
Not at all interested = 0

Rocketry (5 teachers)
Very interested = 4
Somewhat interested = 1
Not at all interested = 0

Biotechnology (3 teachers)
Very interested = 1
Somewhat interested = 2
Not at all interested = 0

Medical Technology (4 teachers)
Very interested = 2
Somewhat interested = 2
Not at all interested = 0

Selected Teacher Comments on Students' Interest

Introduction to Visualization	• "The students did not want to leave for their next class."
Rocketry	• "They loved making and launching the rockets." • "About 30% give [any] project [their] best effort; some students gave a really good effort on this rocket."
Biotechnology	• "Some [students] were very interested." • "All the students liked the PCR process, but they really only went through the first few steps. The complete process was extremely hard for them to understand."
Medical Technology	• "Tough concepts to grasp." • "At first they were extremely excited, but extremely disappointed with the lack of success with the dog skulls." • "Students enjoyed looking at the dog x-rays."

Question: On average, while teaching the unit, did you notice any change in students' attitudes towards the material covered?

Introduction to Visualization (5 teachers)
Students' attitudes more positive = 3
No attitude change = 1
Students' attitudes more negative = 0
Missing data = 1

Rocketry (5 teachers)
Students' attitudes more positive = 3
No attitude change = 2
Students' attitudes more negative = 0

Biotechnology (3 teachers)
    Students' attitudes more positive = 2
    No attitude change = 1
    Students' attitudes more negative = 0

Medical Technology (4 teachers)
    Students' attitudes more positive = 2
    No attitude change = 2
    Students' attitudes more negative = 0

Selected Teacher Comments on Students' Attitudes

Introduction to Visualization	• "Apprehensive at first, much more enthusiastic as the project moved along."
	• "Students began to see how important data visualization is in a career."
	• "At the start, the students did not understand all the technical aspects of what was being taught, but they grew to understand while using the different aspects of this lesson."

Rocketry	• "Students seem to be okay with project."
	• "Competition always brings out the best. 'Mine looks better than yours.'"
	• "Most students were pleased to learn new material and some will give their best effort every time."
	• "They developed ownership of their rockets."
	• "Most kids enjoyed rocketry to begin with."

Biotechnology	• "Students usually have a positive attitude to start with."

Medical Technology	• "Most were very interested in how the machines work."
	• "After the disappointment with the skulls, they liked the radiation."
	• "Some had these procedures done, but didn't really know why."

Question: Has lack of access to computers, computer programs, or technology limited what you or your students were able to do for this VisTE unit?

Introduction to Visualization (5 teachers)
    Yes = 3
    No = 2

Rocketry (5 teachers)
    Yes = 0
    No = 5

Biotechnology (3 teachers)
    Yes = 2
    No = 1

Medical Technology (4 teachers)
    Yes = 1
    No = 3

Selected Teacher Comments on Access to Computers and Technology

Introduction to Visualization
- "Could not download from Internet."
- "We could use a more upgraded lab and thereby produce much better results."
- "Used PowerPoint to present climate data as if they were presenting it to their boss."
- "I wish I had more computers in my classroom."

Rocketry
- "Need more updated computers."
- "Computer[s] mean research. A couple of working computer[s] [would] help some."

Biotechnology
- "More computers would help when [we are] using the applications."

Medical Technology
- "Unable to get E-file Lite to run with our security. Use 1 computer with projector to do measurements."
- "Too many on-site computer problems. Next year will be better."

Question: Compared to the average amount of time you typically spend preparing to teach material that you have not taught before, how many extra hours did you spend preparing to teach this unit?

Introduction to Visualization (2 teachers)
1-2 hours

Rocketry (3 teachers)
3-6 hours

Biotechnology (1 teacher)
2 hours

Medical Technology (1 teacher)
2 hours

Selected Teacher Comments on Preparation Time

Introduction to Visualization
No comments

Rocketry
- "Any new project, I make a working model. This helps with problems that students have."

Biotechnology
- "Attending this workshop lowered my prep time—otherwise I think it would take longer."
- "If you really wanted to help the teachers, make a small video explaining the unit and what the students will be doing."

Medical Technology
- "Again, the workshop lowered my prep time."

Question: **How helpful was participation in VisTE for increasing your students'**
understanding of the role of technology, science, and/or mathematics in real-
world contexts (e.g., the workplace)?

Introduction to Visualization (2 teachers)
  Very helpful = 0
  Somewhat helpful = 1
  Not at all helpful = 0
  Don't know = 1

Rocketry (3 teachers)
  Very helpful = 0
  Somewhat helpful = 3
  Not at all helpful = 0
  Don't know = 0

Biotechnology (1 teacher)
  Very helpful = 0
  Somewhat helpful = 1
  Not at all helpful = 0
  Don't know = 0

Medical Technology (1 teacher)
  Very helpful = 0
  Somewhat helpful = 1
  Not at all helpful = 0
  Don't know = 0

Selected Teacher Comments on Students' Understanding of Real-World Contexts

Introduction to Visualization	No comments
Rocketry	• "The students have knowledge of what technology is….Rocketry is an example of a project within the technology area."
Biotechnology	No comments
Medical Technology	No comments

Question: How much do you think the material in this unit appealed to female students?

Introduction to Visualization (2 teachers)
  Very appealing = 0
  Somewhat appealing = 1
  Little or no appeal = 0
  Don't know = 1

Rocketry (3 teachers)
  Very appealing = 0
  Somewhat appealing = 2
  Little or no appeal = 1
  Don't know = 0

Biotechnology (1 teacher)
  Very appealing = 0
  Somewhat appealing = 1
  Little or no appeal = 0
  Don't know = 0

Medical Technology (1 teacher)
  Very appealing = 0
  Somewhat appealing = 1
  Little or no appeal = 0
  Don't know = 0

Selected Teacher Comments on Materials' Appeal to Females

Introduction to
Visualization
- "Not gender specific."
- "Least interest of all units to the girls."

Rocketry
- "As opposed to the other students I don't think there was much difference."
- "All material was the same for male or female students."

Biotechnology
- **"**I didn't see a difference in this area."

Medical Technology   No comments

Question: How much do you think the material in this unit appealed to minority students?

Introduction to Visualization (2 teachers)
    Very appealing = 0
    Somewhat appealing = 1
    Little or no appeal = 0
    Don't know = 1

Rocketry (3 teachers)
    Very appealing = 1
    Somewhat appealing = 1
    Little or no appeal = 1
    Don't know = 0

Biotechnology (1 teacher)
    Very appealing = 0
    Somewhat appealing = 1
    Little or no appeal = 0
    Don't know = 0

Medical Technology (1 teacher)
    Very appealing = 0
    Somewhat appealing = 1
    Little or no appeal = 0
    Don't know = 0

Selected Teacher Comments on Materials' Appeal to Minority Students

Introduction to
Visualization
- "Not race specific."
- "No difference."

Rocketry
- "As opposed to the other students, I don't think there was much difference."

Biotechnology
- "Again, no difference."

Medical Technology   No comments

Selected Teacher Comments on Enhancing Effectiveness

Introduction to Visualization	No comments
Rocketry	• "Weekly lesson layouts and more details on completion criteria." • "More time to prepare for each unit." • "How to make rockets without a kit."
Biotechnology	• "Intro video…more examples of machines."
Medical Technology	• "Change the dog skull activity."

Question: In order to teach the material effectively, did you need to use instructional strategies other than those suggested in the unit?

Introduction to Visualization (2 teachers)
    Yes = 1
    No = 1

Rocketry (3 teachers)
    Yes = 2
    No = 1

Biotechnology (1 teacher)
    Yes =1

Medical Technology (1 teacher)
    Yes =1

Selected Teacher Comments on Added Instructional Strategies

Introduction to Visualization	• "Had to teach students how to graph."
Rocketry	• "We added more web-based research. We also added some detailed math and science concepts." • "You have to have a plan that students could follow. A working model and a set of plans."
Biotechnology	• "Did not do the paper cut. This needed to be done in CorelDraw or CorelPaint."
Medical Technology	• "Needed handouts for each dog case on the skull unit."

Introduction to Visualization (2 teachers)
    Yes = 0
    No = 2

Rocketry (3 teachers)
    Yes = 1
    No = 2

Biotechnology (1 teacher)
    Yes =1
    No = 0

Medical Technology (1 teacher)
    Yes = 0
    No =1

Selected Teacher Comments on Future Instructional Strategies

Introduction to Visualization	No comments
Rocketry	No comments
Biotechnology	• "Maybe give them parts that they need to have on their machines."
Medical Technology	No comments

Question: Based on your experience teaching this unit, what suggestions do you have for improving the VisTE training workshops in order to better prepare teachers?

Selected Teacher Comments on Improving Workshops

Introduction to Visualization	• "Give the presenters more time to train the teachers on what they want them to teach."
Rocketry	• "More hands-on, more time on each unit." • "Show or give an example rocket."
Biotechnology	No comments
Medical Technology	• "Change skull unit"

Appendix A: Example of Teacher Weekly Log

VisTE Weekly Log – Introduction to Visualization

Teacher Name: _____   Date: _____

Class Name: _____   Class Period (e.g., 1st, 2nd): _____

Week Teaching the Unit (e.g., 1st out of 2 weeks, 2nd out of 4 weeks): _____

What are the grade levels of the students in this class? (Please check the box next to each grade that applies).

☐8th   ☐9th   ☐10th   ☐11th   ☐12th

1. Did the materials in the unit provide you with adequate background information on the content knowledge to effectively teach each project?

    Yes   No

      Introductory Level

    ☐   ☐   **Project 1 – Interpreting Graphics**

    ☐   ☐   **Project 2 – Data Driven Graphics – Graphing Maximum and Minimum Temperatures**

    ☐   ☐   **Project 3 – Data Driven Graphics: Graphing Degree Day Data**

    ☐   ☐   **Project 4 – Conceptual Graphics – The Value of Insulation**

    Comments:

2. Listed below are the learning goals for the entire unit and the learning objectives for each project in this unit. Please indicate whether the instructional materials successfully address the intended goals and learning objectives by checking yes or no.

Yes   No

Overall Unit Goals

☐   ☐   Students will gain an appreciation for graphics as a communications technology by showing how graphics have been used as a communication tool over different periods of history.

☐   ☐   Students will gain an understanding of how scientific/technical information can be decomposed and organized so that it can be graphically represented through a standard design process.

☐   ☐   Students will become aware of both inadvertent and purposeful misrepresentation of information with graphics.

Introductory Level

Project 1 – Interpreting Graphics

☐   ☐   Identify the audience(s) for example graphics.

☐   ☐   Analyze graphics in order to determine the component parts (e.g., independent and dependent variables, concept elements).

☐   ☐   Explain the information that a graphic is trying to convey.

Project 2 – Data Driven Graphics – Graphing Maximum and Minimum Temperatures

☐   ☐   Appreciate the effect of climatic conditions on the location and design of a manufacturing facility by exploring the impact of weather conditions on the effectiveness of various transportation systems and on the operation of the manufacturing facility.

☐   ☐   Access and repurpose climatic data maintained by the National Oceanic and Atmospheric Administration (NOAA).

☐   ☐   Use spreadsheet software (Excel) to generate line and bar charts from the climatic data.

Project 3 – Data Driven Graphics – Graphing Degree Day Data

☐   ☐   Appreciate the effect of climatic conditions on the location and design of a manufacturing facility by exploring the impact of weather conditions on the effectiveness of various transportation systems and on the operation of the manufacturing facility.

☐   ☐   Access and repurpose climatic data maintained by the National Oceanic and Atmospheric Administration (NOAA).

☐   ☐   Use spreadsheet software (Excel) to generate line and bar charts from the climatic data.

Project 4 – Conceptual Graphics – The Value of Insulation

☐   ☐   Use object-oriented 2-D graphics software (CorelDraw, Fireworks, FreeHand, etc.) to communicate how insulation retards the movement of heat energy from a hotter region to a cooler region.

If you do not think that the instructional materials successfully addressed the intended goals and learning objectives, please tell us why.

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How effective was using this unit in enhancing your students' understanding of the intended learning objectives? Please select a number from the scale below.

Not at all effective	Somewhat effective	Very effective
1	2	3
☐	☐	☐

Comments:

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3. Using the scale below, please rate how interested your students were in the material taught this week.

	Not at all interested	Somewhat interested	Very interested
	1	2	3
	☐	☐	☐

Comments:

4. On average, while teaching the unit, did you notice any change in students' attitudes towards the material covered? Please select a number from the scale below.

	Students' attitudes more negative	No attitude change	Students' attitudes more positive
	1	2	3
	☐	☐	☐

Comments:

5. Has lack of access to computers, computer programs, or technology limited what you or your students were able to do for the VisTE unit this week?

	Yes	No
	☐	☐

Comments:

6. What constructive criticism can you offer the VisTE staff based on your experience teaching the unit this week?

Comments:

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Thank you very much for filling out this form. Please save the completed form and e-mail it to pfrome@rti.org (or fax it to Pam Frome at 919-541-5849).

Appendix B: Example of Teacher Completion Log

VisTE Completion Log

If you have finished a unit or are moving to a higher level of a unit (e.g., from introductory to intermediate), please complete the following survey.

1. Compared to the average amount of time you typically spend preparing to teach material that you have not taught before, how many extra hours, if any, did you spend preparing to teach this unit? (Include preparation time before you began teaching the unit but not time spent at the VisTE teacher workshop.)

   Approximately _____ extra hours

   Comments:

2. How helpful was participation in VisTE for increasing your students' understanding of the role of technology, science, and/or mathematics in real-world contexts (e.g., the workplace)? Please select a number from the scale below or select "Don't know."

Not at all helpful	Somewhat helpful	Very helpful		Don't know
1	2	3		
☐	☐	☐		☐

   Comments:

3. How much do you think the material in this unit appealed to female students? Please select a number from the scale below or select "Don't know."

Little or no appeal	Somewhat appealing	Very appealing		Don't know
1	2	3		
☐	☐	☐		☐

Comments:

[text box]

4. How much do you think the material in this unit appealed to minority students? Please select a number from the scale below or select "Don't know."

Little or no appeal	Somewhat appealing	Very appealing	
1	2	3	Don't know
☐	☐	☐	☐

Comments:

[text box]

5. What could be done to make the unit more effective?

Comments:

[text box]

6. In order to teach the material effectively, did you need to use instructional strategies other than those suggested in the unit? If yes, please describe those instructional strategies.

Yes	No
☐	☐

Comments:

[text box]

7. Did teaching this unit give you any new ideas about different instructional strategies that you might use in the future for material not included in VisTE? If yes, please describe those instructional strategies.

Yes   No

☐   ☐

Comments:

8. Based on your experience teaching this unit, what suggestions do you have for improving the VisTE training workshops in order to better prepare teachers?

Comments:

9. Please type any other comments here:

Comments:

Thank you very much for filling out this form. Please save the completed form and email it to pfrome@rti.org (or fax it to Pam Frome at 919-541-5849).