

## Case Study Development under the TEFATE Project\*

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The Tennessee Exemplary Faculty for Advanced Technological Education (TEFATE) project was the result of a National Science Foundation ATE grant designed to educate an interdisciplinary group of faculty who would provide leadership in communications technology curriculum development<sup>1</sup>. A primary product of this project was twenty-five case studies designed to deliver academic content and develop problem-solving skills in engineering technology courses. Each of the twenty-five cases joins academics with the workplace via a real life scenario in an effort to increase student interest and involvement<sup>1</sup>. Through industry partnerships, faculty internships, and site visits to area businesses, TEFATE participants were able to document contemporary, real-world telecommunications/engineering issues that were resolved by real-world engineering technicians<sup>2</sup>.

Initially we were introduced to case study models used in senior-level business courses, law and education; we realized early in the discovery process that our needs did not mirror those of existing programs using case studies as a teaching tool<sup>1</sup>. We would have to create our own niche in case study development—and that is what we did. We began researching and writing our first case studies somewhat blindly, but the development process itself brought clarity to concepts that were previously ambiguous. As a result, our own ideas regarding case studies began to mature as we recognized the special challenges of writing cases for the freshman/sophomore level student in technological education.

Throughout the TEFATE project, faculty read books and attended workshops focused on case study development and teaching strategies designed to foster student interdependence and improve communication skills<sup>1</sup>. Collaborative learning/teambuilding and the ability to clearly explain solutions to non-team members are important aspects of case-based learning. Thus faculty must know how to structure the case to effectively develop these skills.

The importance of business partners cannot be overemphasized. The TEFATE case studies came directly from internship experiences and site visits. Clearly, without businesses willing to participate in providing information about their real-world problems and without their willingness to assist in proofing drafts for technical accuracy, there would be no case studies. By combining what we

learned from reading and workshops with what we encountered “on the job,” we were able to develop our own set of case studies relevant to technological education.

As the TEFATE project drew to a close, we tried to hammer out where we were in our understanding of case study development. A paradox of sorts became evident. We had spent an awful lot of time trying to determine what exactly a case study should “look like” and accomplish—we wanted to be sure all our cases fit the proper mold. After much reflection on possible answers to these questions, it dawned on us that although there are certain necessary components and characteristics to any case study, there is also much room for flexibility in presentation, format and scope.

The special training scheduled each semester as part of the TEFATE project provided opportunities to learn from experts using cases (in other fields) and from experts using teaching strategies conducive to the case method. These workshops also provided time for team members to collectively determine how we could best utilize cases in engineering technology courses. The faculty internships and industry site visits provided the technical material for the cases. It was through this collaboration that we have arrived where we are today—designing case study “kits” containing actual cases and materials to educate faculty on case development and implementation in technological education.

### **Bibliography**

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2. Greenwood, C. & House, C., (eds.). *Guidebook for Developing Faculty Internships*. Compiled by the Tennessee Exemplary Faculty for Advanced Technological Education Project. (1998).

### **Biographical Information**

SUSAN RANDOLPH is currently an Assistant Professor in the Department of Mathematics at Jackson State Community College where she is now participating in the SEATEC project. Ms. Randolph received her B.S. in Mathematics Education and M.A.T. in Community College Education/Mathematics. In addition to teaching, she continues to take graduate mathematics courses at the University of Memphis.

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