

## Current Research Projects in Technology Education - 2003

Council on Technology Teacher Education Research Committee

Researcher(s) or Contact(s)	Title	Institution(s) or Organization(s)	Date(s)	Project Description	Funding/Grant Source
Phillip L. Cardon (pcardon@emich.edu) & Ray Davis (davisrj@ncat.edu)	Recruitment through an on-line database of technology education graduate programs.	Eastern Michigan University. 14 Sill Hall, Ypsilanti, MI 48197 Telephone: 734- 487-4330	Start: July 1, 2002 End: On-going	To develop an on-line database of technology education graduate programs for the distinct purpose of recruitment.	
Aaron Clark (aaron_clark@ncsu.edu), Eric Wiebe and Tom Shown	VisTE: Visualization in Technology Education	NC State University Dept. of Mathematics, Science, and Technology Education Box 7801 Raleigh, NC_27695-7801 919-515-1771	Start: June, 2002 End: June, 2005	VisTE is a National Science Foundation funded project, which promotes technological literacy by linking to the Standards for Technological Literacy through the study of visualization, science, and technology. Over a three-year period, our project team will develop, pilot, and evaluate 12 activities for technology education in grades 8-12. These activities will promote effective use of graphics to communicate scientific and technical information; support conceptual and theoretical problem solving through an inquiry-driven design brief format; allow visualization of both qualitative and quantitative data, support National Standards in Technology, Science and Mathematics; and promote positive attitudes toward technology.	National Science Foundation
Rodney L. Custer (rlcuster@ilstu.edu), Michael K. Daugherty (mkdaugh@ilstu.edu), Rick Satchwell (resatch@ilstu.edu)	Project ProBASE	Illinois State University 211A Turner Hall; Normal, IL 61790-5100 (309) 438-3661	Start: July 1, 2002 End: June 30, 2005	Project ProBASE is a NSF funded, standards-based curriculum development project designed to develop 8 units of instruction for 11 <sup>th</sup> -12 <sup>th</sup> grade technology education. The materials are grounded in a set of essential understandings, which have been developed based on the Standards for Technological Literacy. Units are being developed for each of the seven context standards.	National Science Foundation

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William E. Dugger, Jr. & Technology for All Americans Project Staff (duggerw@itea-tfaap.org)	Advancing Excellence in Technological Literacy: Student Assessment, Professional Development, and Program Standards	ITEA's Technology for All Americans Project, 1997 South Main Street, Suite 701, Blacksburg, VA 24060 540-953-0203	Start: October 1, 2000 End: In progress	This project was developed to establish student assessment, professional development, and program standards for technological literacy.	National Science Foundation and National Aeronautics and Space Administration
William E. Dugger, Jr., Pam Newberry, & Technology for All Americans Project Staff (duggerw@itea-tfaap.org)	Standards for Technological Literacy: Content for the Study of Technology	ITEA's Technology for All Americans Project, 1997 South Main Street, Suite 701, Blacksburg, VA 24060 540-953-0203	Start: October 1, 1996 End: September 30, 2000	This project was developed to establish the content for the study of technology for Grades K-12.	National Science Foundation and National Aeronautics and Space Administration
William E. Dugger, Jr. & Lowell E. Rose (duggerw@itea-tfaap.org)	ITEA/Gallup Poll Reveals What Americans Think About Technology	ITEA's Technology for All Americans Project, 1997 South Main Street, Suite 701, Blacksburg, VA 24060 540-953-0203	Start: February, 2000 End: January, 2002	This research was conducted to ascertain what Americans think about technology.	National Science Foundation and National Aeronautics and Space Administration
William E. Dugger, Jr. & Richard Satchwell (duggerw@itea-tfaap.org)	Technology for All Americans: A Rationale and Structure for the Study of Technology	ITEA's Technology for All Americans Project, 1997 South Main Street, Suite 701, Blacksburg, VA 24060 540-953-0203	Start: October 1, 1994 End: September 30, 1996	This project was developed to establish a rationale and structure for the study of technology in Grades K-12.	National Science Foundation and National Aeronautics and Space Administration

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Michael Hacker & David Burghardt	New York State Curriculum for Advanced Technological Education (NYSCATE)	Hofstra University	Start: 2002 End: 2005	A material development project creating curriculum modules for grades 9-14 in bio/chemical technology, materials technology, and information technology.	National Science Foundation
Michael Hacker, David Burghardt, & Thomas Liao	Integrating Mathematics, Science, and Technology in the Elementary Schools	Hofstra University & Stony Brook University	Start: 2002 End: 2007	A teacher enhancement project associated with the MSTe Project. This project has provided staff development to 1500 elementary teachers in New York State.	National Science Foundation
Michael Hacker, David Shaw, & Thomas Liao	WEBTECH	Hofstra University, SUNY Buffalo, & Stony Brook University	Start: 2002 End: 2005	A material development project creating Web-based Technology Education curriculum modules.	National Science Foundation
William Hodgkinson (hodgkinb@milwaukee.tec.wi.us)	21 <sup>st</sup> Century Urban Technical Education Project	Milwaukee Area Technical College	Start: 2002 End: 2005	To be implemented over a three-year period, the project initially targets the Construction Technology area and has a focus on high schools and two-year colleges. Students will receive broad-based knowledge, hands-on experience, and project-based learning. The project allows for curriculum flexibility, providing students with options and opportunities to transition into related career areas. <a href="http://www.matc.edu/21cutep/about.htm">http://www.matc.edu/21cutep/about.htm</a>	National Science Foundation
Pat Hutchinson	Children Designing & Engineering	The College of New Jersey	On-going	The purpose of the CD&E Project is to develop instructional materials for the K - 5 age group using a thematic Design and Technology approach. This means that children participate in 4 to 6- week units in which they put math, science and technology to work, solving practical problems related to a real-world setting. <a href="http://www.tcnj.edu/~cde/home.html">http://www.tcnj.edu/~cde/home.html</a>	National Science Foundation

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Franzie Loepp	Integrated Mathematics, Science, and Technology (IMAST)	Illinois State University	End: 2003	Integrated Mathematics, Science, and Technology curriculum for middle schools. The project currently has twelve test sites with control and experimental groups. A Terra Nova test is being used to check performance in mathematics and science. The entire curriculum is scheduled to be published in 2003. <a href="http://www.ilstu.edu/depts/cemast/imast/welcome/">http://www.ilstu.edu/depts/cemast/imast/welcome/</a>	National Science Foundation
Charlie McLaughlin (Cmclaughlin@ric.edu)	The Workshop for the Integration of Mathematics & Science Within Technology Education	Rhode Island College 600 Mt. Pleasant Ave Providence, RI 02908 (401) 456 -8793	Start: January, 2002 End: December, 2002	The purpose was to train math, science, and technology education teachers to develop integration materials and hands-on activities that emphasize the relationships among each discipline's concepts, resulting in relevant learning experiences. Teacher teams developed 4 integrated instructional units suitable for use in the three areas as a result of participation in the workshop.	Eisenhower Professional Development Program/Rhode Island Board of Governors for Higher Education
Charlie McLaughlin (Cmclaughlin@ric.edu)	Integrating Mathematics, Science, and Technology Education with Robots	Rhode Island College 600 Mt. Pleasant Ave Providence, RI 02908 (401) 456 -8793	Start: February, 2003 End: December, 2003	The proposed project will provide 30 teachers with new pedagogical skills, a better understanding of the educational needs of technologists, new skill sets from using Robots as high technology teaching and learning devices, and the confidence and resources to develop meaningful curricula that integrates math, science and technology.	Rhode Island Higher Education Partnership Grants/Rhode Island Board of Governors for Higher Education
Chris Merrill (cpmerri@ilstu.edu)	Growing the Research Base in Technology Education	Illinois State University Department of Technology, Campus Box 5100, Normal, IL 61790 309-438-7862	Start: October, 2002 End: May/June, 2003	Constructing undergraduate research teams and faculty members from five Midwestern universities to learn and apply research in a non-threatening manner. These teams are engaged in action-based research as both an individual team and larger team. The expected results of this project include six research studies, a published monograph, and state and national presentations.	Technical Foundation of America

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Hassan Ndahi (hndahi@odu.edu)	Delivering Technology Education Laboratory Courses through Means	Old Dominion University, Department of Occupational & Technical Studies, 108 Technology Building, Norfolk, VA 23529	Start: March, 2002 End: June, 2003	The purpose of this study is to investigate how laboratory courses are being taught through distance learning in various fields of study, and especially engineering. The data obtained will form a basis for planning, developing, and teaching technology education laboratory courses through distance learning. Currently, only lecture type courses are taught through distance learning in technology education.	Council on Technology Teacher Education
Richard Peterson, John Penick, Sarah Berenson, Rosanne White, Tom Shown, Victoria Deaton, Mellissa Morrow, Donovan Bowers, and George Willcox (techknow@gw.ncsu.edu)	TECH know: Integrated Instructional Materials for Technological Literacy	North Carolina State University, Box 7801, Raleigh, NC 27695-7801; Technology Student Association, Departments of Public Instruction/Education in Florida, Oklahoma, North Carolina, and Virginia, and ExplorNet.	Start: August 1, 2001 End: July 31, 2005	The purpose of the TECHknow Project is to create twenty instructional units for middle and high school teachers. The units are based upon selected Technology Student Association competitive events and correlated with the <i>Standards for Technological Literacy</i> , <i>National Science Education Standards</i> , and <i>Principles and Standards for School Mathematics</i> .	National Science Foundation
Philip A. Reed	The Technology Education Graduate Research Database (TEGRD)	Old Dominion University, Department of Occupational & Technical Studies, 108 Technology Building, Norfolk, VA 23529 757-683-5226	Start: May, 2000 End: On-going	The goals of the Technology Education Graduate Research Database (TEGRD) are to highlight the history of research within technology education, provide a springboard for researchers, and to help scholars build upon past research and create diverse new research. The TEGRD is available in two forms. The first format is a monograph containing theses and dissertations from 1892-2000 that may be downloaded and printed. The second format is designed as an online, searchable database that contains the original studies but is also updated on a regular basis. The electronic/searchable version of the database now contains 5453 theses and dissertations from 1892-2002. <a href="http://www.teched.vt.edu/CTTE/">http://www.teched.vt.edu/CTTE/</a>	
John Ritz & Hassan Ndahi (jritz@odu.edu & hndahi@odu.edu)	Technology Teacher Supply & Demand.	Old Dominion University, Department of Occupational & Technical Studies, 108 Technology Building, Norfolk, VA 23529	Start: 2002 End: 2003	Replication of a previous study to determine the supply and demand for the technology teaching profession.	

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Mary Annette Rose (arose@bsu.edu)	Cognitive Dialogue, Interaction Patterns, and Perceptions of Graduate Students in an Online Conferencing Environment under Collaborative and Cooperative Structures	Ball State University, Department of Industry & Technology, Muncie, IN 47306 765-285-5648	Start: August, 2000 End: May, 2002	This dissertation examines how the interactions of graduate students engaged in a problem-based activity differ under cooperative and collaborative approaches in an online conferencing environment. The dissertation is available at <a href="http://www.bsu.edu/web/arose/Vita/MARose.pdf">http://www.bsu.edu/web/arose/Vita/MARose.pdf</a>	
Mary Annette Rose & Jim Flowers (arose@bsu.edu & jcflowers1@bsu.edu)	Cognitive Role Assignment in Problem-Based Learning	Ball State University, Department of Industry & Technology, Muncie, IN 47306 765-285-5648	Start: August, 2001 End: May, 2003	The goal is to examine the influence of cognitive role assignment (i.e., roles based upon critical thinking skills) upon the function and quality of group interaction in an asynchronous discussion board during the pursuit of a collaborative problem-based learning activity.	
Mark Sanders	Graphic Communication Electronic Publishing Project (GRAPHIC COMM CENTRAL)	Virginia Tech, 300B War Memorial Hall, 24061-0313 Telephone: 540-231-8173	Start: March, 1997 End: On-going	With continuous funding since 1997, the GRAPHIC COMM CENTRAL Project ( <a href="http://TechEd.vt.edu/GCC/">http://TechEd.vt.edu/GCC/</a> ) continues to be <i>the</i> Web portal for Communication Technology educators and students. The site hosts 2,500+ content files and 3,000+ links including: 900+ <i>Articles and Tutorials</i> ; 100 <i>Trade Publications</i> ; 35+ <i>Virtual Tours</i> ; <i>University and HS Programs</i> ; <i>Instructional Materials</i> ; <i>Student Resumes</i> ; and <i>Career Information</i> . In 2002, GCC received nearly 2 million electronic accesses.	Graphic Arts Education and Research Foundation (GAERF)
Kathleen Stansbury (tsa@vatsa.org)	See Description	Virginia State University PO Box 9045 VSU Petersburg, VA 23806 804-524-6809	Start: 2002 End: 2003	This study is reviewing a possible correlation between elementary school technology implementation and Virginia Standards of Learning (SOL) test scores.	

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Anthony E. Schwaller (Schwaller@stcloudstate.edu)	Modular Technology in the Technology Education Classroom	St. Cloud State University, College of Science and Engineering, 720 4 <sup>th</sup> Ave South, St. Cloud, MN 56301-4498 320-255-3235	Start: Fall 2001 End: Spring 2002	Identify strengths and weaknesses in modular technology laboratories, through interviewees with teachers. Look at the relationship between modular technology and the Standards for Technological Literacy.	Sabbatical leave funds
Kenneth Volk (kvolk@ied.edu.hk)	Pupil's Attitudes Toward Technology (Gender)	Hong Kong Institute of Education	Start: 2002 End: On-going	Replication of a previous study by the same researcher. The major outcome of this research was to force the Education Department to have girls take Design & Technology and that boys take Home Economics. In the past, they did not. Now, with girls in some schools completing Secondary 3 D& T, I am examining to see the difference between the "haves and have-nots". Approximately 4,000 surveyed, with surveys being returned now.	
Kenneth Volk (kvolk@ied.edu.hk)	Pupil's Attitudes Toward Technology (Academic Banding)	Hong Kong Institute of Education	Start: 2002 End: On-going	Using the data set from the above study, the researcher will examine the differences according to the academic band students are in. In Hong Kong, students are grouped into three bands of secondary schools, according to tests they take in 6 <sup>th</sup> grade. This research may have implications as to how D & T is taught in such schools. Also the negative effects of "labeling".	
Scott A. Warner	A Survey of the Design Component in the Curricula of the Technology Teacher Education Programs in the United States	Ball State University		This research will provide information to the profession about the status of design related courses and experiences in undergraduate programs across the United States. The focus of the research will be to collect the raw data that answers the two basic questions of what aspects of design are being taught and what design related experiences are students having during their undergraduate program.	

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Kenneth Welty (weltyk@uwstout.edu)	An Evaluation of the Children Designing & Engineering Project	University of Wisconsin-Stout, Communications, Education & Training Department, Menomonie, WI 54751 715-232-1206	Start: June 7, 1999 End: October 12, 2002	The evaluation studied the usefulness and impact of four interdisciplinary thematic units of instruction on elementary students and teachers. It focused on the materials for Bright Ideas Playhouse (grades K-2); Say It With Light, Inc. (grades 3-5); Opening Day at the Safari Park (grades K-2); and Camp Koala (grades 3-5)	The College of New Jersey under the auspices of a contract with the National Science Foundation
Karen Zuga & Theodore Lewis (Co-PIs), Team: Michael DeMiranda, Phillip Cardon, Brian McAlister, Bob Wicklein, Roger Hill, and George Rogers (zuga.1@osu.edu)	Technology Teacher In-service Education	The Ohio State University, 1100 Kinnear, Columbus, OH 43212 614-292-7471 University of Minnesota, Colorado State University, Eastern Michigan State University, Wisconsin – Stout, University of Georgia, Purdue	Start: September, 2002 End: May 30, 2004	The goal is to create a conceptual framework for technology education as defined by the new standards and to create a content outline for agricultural and medical technologies. This information is to be distributed to the field via web pages operated by NAITTE.	National Science Foundation
Mark Sanders	Bridges for Engineering Education: Virginia Tech	Virginia Tech, 300B War Memorial Hall, 24061-0313 Telephone: 540-231-8173	Start: Sept. 1, 2003 End: August 31, 2004	Bridges for Engineering Education: Virginia Tech is designed to bring engineering and education faculty at Virginia Tech together to: 1) Increase K-12 engineering content via: a) the development of a new Technology Education masters/licensure program for engineering graduates at Virginia Tech; and b) the establishment of the "Virginia Engineering / Education Collaborative;" and 2) Develop a framework for improving engineering pedagogy at Virginia Tech.	National Science Foundation