

The National Science Foundation and IT@Sinclair Partners to Solve Major IT Opportunity

Announcing Technology Zone

The IT@Sinclair Technology Zone is a news line addressing the life and times of IT@Sinclair. It is supported in part through a National Science Foundation Advanced Technological Education grant. Each edition consists of: a feature (located in the gray boxed area), best practices, lessons learned, rewards and recognition, progress updates, coming attractions, and connections. From time to time there will be a "Special Feature" edition.

What's this Edition About?

This, the first issue, is one of those Special Feature editions! All that you will get, will be the "Special Feature!" This issue introduces the newly awarded National Science Foundation grant focusing on student success and retention. You will learn about the grant and the core grant team, what they are planning on doing and what has already been accomplished.

Stay tuned for future editions.

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IT@Sinclair: Improving Student Retention in IT Programs

Sinclair Community College and 10 educational and industrial partners have received a three-year, \$883,320 National Science Foundation grant to address the needs related to student readiness, faculty development, and course content to improve student success and retention in information technology introductory sequence courses.

"Building upon these three major areas of needs, the project goal is to develop effective models in student assessment, curriculum content, and faculty development to increase student success and retention by at least 20% in the IT foundation sequence courses," said Charlotte Wharton, project director and chairperson and professor of Computer Information Systems at Sinclair.

The three objectives are: 1) to ensure student mastery of course competencies through a comprehensive student readiness assessment process; 2) establish a repeatable process and common framework (Instructor Resource Kits) to acquire, reuse, and consistently deliver predictably high quality IT course content; and 3) to improve faculty effectiveness through a Faculty Institute process to upgrade the IT pedagogic skills (faculty facilitation strategies and faculty-student interaction) of full-time and part-time IT faculty.

Press Release 11/11/2003

Grant Award and Purpose

The NSF IT@Sinclair grant focuses on developing processes and materials to improve student success and retention in the IT foundation courses. Leveraging the development and establishment of the student readiness processes and procedures, the grant will also address the overall faculty development and will identify key processes in critical growth areas. The strategic goal of this grant is to develop effective models in student assessment, curriculum content, and faculty development to facilitate increased student success and retention in the Information Technology foundation sequence courses.

This project will build upon the success and the lessons learned from the prior NSF IT@Sinclair grant in Information Technology and focus on the broader impacts of advanced discovery and understanding in developing and utilizing appropriate assessment instruments for student readiness, improve competency-based courses, affect faculty development activities while promoting teaching, training and learning.

Prepared By:
 Mary E. Robinson
 NSF Grant Project Manager

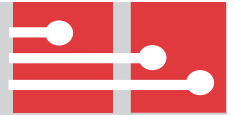


Questions, Comments, or Article Submittals?

For more information on the IT@Sinclair Technology Zone newsletter, contact, David Siefert, (937) 512-2195 or david.siefert@sinclair.edu.

Editor, David Siefert

Design/Layout, Kelly Vogelsong



Introducing NSF IT@Sinclair Grant...

The NSF grant entitled: IT@Sinclair: Improving Student Retention in IT Programs, is an \$883,320 three grant that began July 1, 2003. The side bar provides an overview of the grant. The following graphic provides an illustration as to how the grant is organized. Following the graphic, is brief discussion for each initiative identified in the illustration.

Charlotte Wharton, Principal Investigator, Program Director



Charlotte Wharton is chairperson of the Computer Information Systems department at Sinclair Community College and is principal investigator for IT@Sinclair grant. She

has been involved with higher education administration, technology in education, integrating computing into the curriculum, and faculty development for over 20 years.

Ruth Schneider, National Visiting Committee Chairperson



Ruth is the chief of Strategic Management, Human Resources, Aeronautical Systems Center (ASC), Air Force Materiel Command (AFMC), Wright-Patterson Air Force Base, Ohio. She

serves on the staff of the commander of the organization that develops and acquires aeronautical weapons systems for the Air Force and allied nations.

Pam Tate, Ph.D., External Evaluator

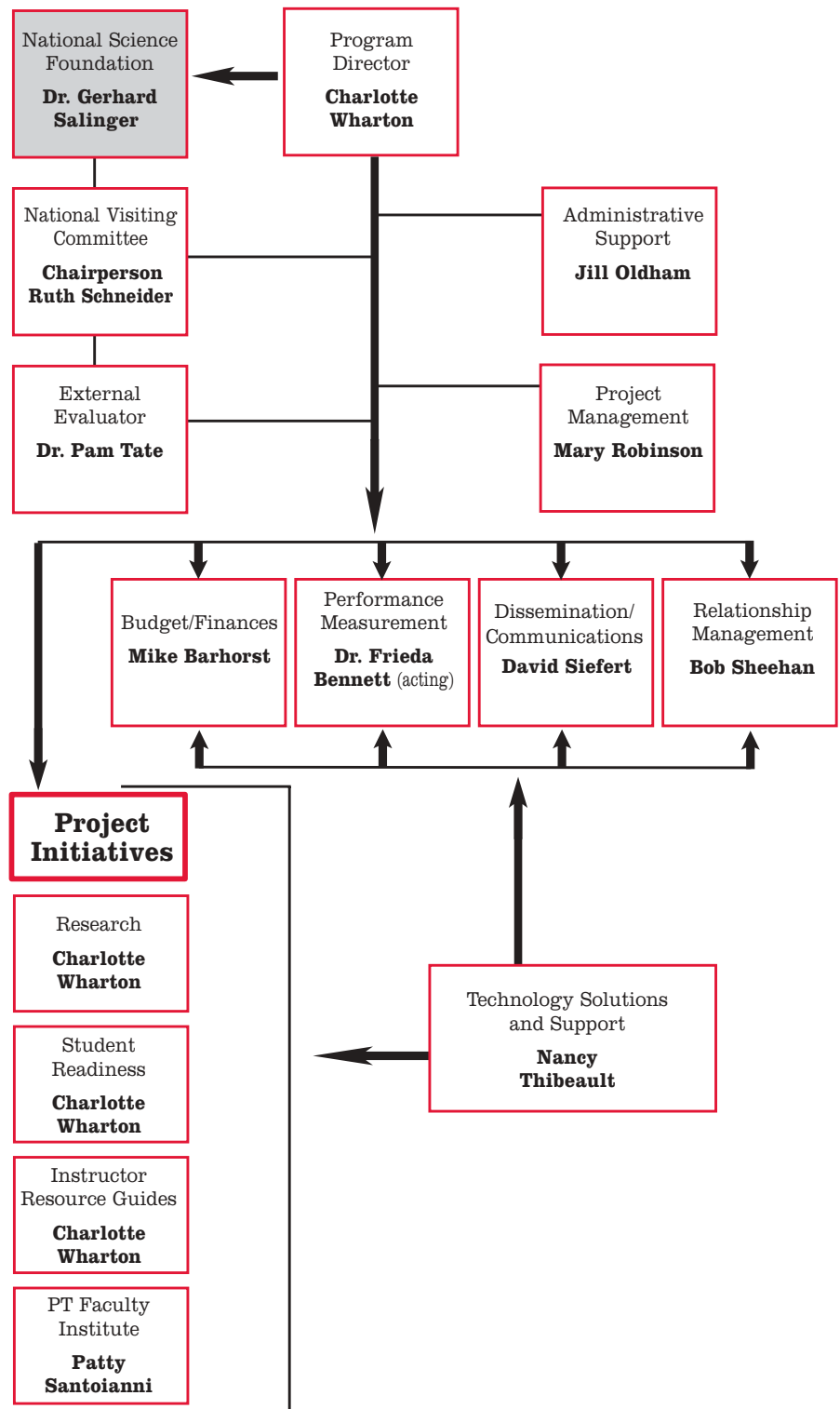


Dr. Pamela J. Tate, NSF external grant evaluator, is president of The Council for Adult and Experiential Learning (CAEL). CAEL is a national, non-profit educational organization committed to expanding

lifelong opportunities for adults and advancing experiential learning.

NSF IT@Sinclair Student Retention Grant

Functional Organizational Chart





Jill Oldham



Jill Oldham provides administrative support for both Computer and Business Information Systems chairpersons and faculty. She is the department's front line customer support. Additionally, Jill provides administrative support to the NSF IT@Sinclair grant team that includes event coordination, team and meeting coordination, and extensive administrative support.

Administrative Support

Team Leader

Jill Oldham

Team Members

Marian Jones

Description

Jill provides administrative support to the grant. This includes support for meetings and event coordination, telephone, help desk, contracts, documentation preparation and distribution.

Deliverables

1. Meeting coordination
2. Telephone
3. Documentation prepared and distributed
4. Event management

Mary Robinson



Mary Robinson is the Program Manager for the IT@Sinclair: Improving Student Retention Grant. She has over 12 years experience in Program Management, government and commercial contracting.

Project Management

Team Leader

Mary Robinson

Team Members

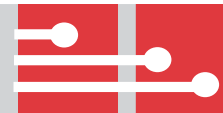
NSF Team
Mark Schmid

Description

Reporting to the grant principal investigator and program director, Charlotte Wharton, Mary is the project manager of the grant. She ensures that plans are in place, maintained and achieved. This includes deliverables that are on time and budget.

Deliverables

1. Integrated plan
2. Integrated budget
3. Annual report preparation
4. Site visits
5. National visiting committee
6. Surveys



Charlotte Wharton



Charlotte Wharton is chairperson of the Computer Information Systems department at Sinclair Community College and is principal investigator for IT@Sinclair grant. She has been involved with higher education administration, technology in education, integrating computing into the curriculum, and faculty development for over 20 years.

Student Readiness

Leader

Charlotte Wharton

Team Members

Mohamed Ali, Linda Denney, Carolyn Hannah, Shirley Ivory, Gordon Robinson, Nancy Thibeault

Description

The initial task for this initiative is to research what constitutes student readiness for successfully completing IT courses and to summarize this research.

Secondly, the team will adopt and adapt an assessment instrument or instruments to help identify students who are not prepared and to then develop an advising strategy to help students enroll in the appropriate classes to help them be better prepared for success.

The assessment instruments will be pilot tested then applied to all students who want to enroll in the core IT courses.

A third element of readiness assessment is a faculty developed readiness test administered at the beginning of each class in the core course sequence, CIS 107, 108, 110, and 111. A common test is used in all sections of each course. Scores on these tests will be collected before any treatment to establish a base line. The scores will continue to be collected after treatment and compared to scores prior to treatment.

Finally, retention data will be collected and analyzed each term.

Deliverables

1. Summary of research on student readiness
2. Readiness model design
3. Readiness instrument
4. Readiness scale for motivation, expectations, intent, academic preparedness
5. Pilot test readiness assessment process
6. Best practice on IT readiness assessment
7. Report readiness data collected throughout grant



Charlotte Wharton



Charlotte Wharton is chairperson of the Computer Information Systems department at Sinclair Community College and is principal investigator for IT@Sinclair grant. She has been involved with higher education administration, technology in education, integrating computing into the curriculum, and faculty development for over 20 years.

Instructor Resource Guide (IRG)

Leader

Charlotte Wharton

Team Members

John Brotbeck, Randy Brown, Linda Denney, Carolyn Hannah, Shirley Ivory, Pete Maggiacomo, Mary Robinson, Patty Santoianni, Bob Sherman, Bob Stone, Nancy Thibeault

Description

The Instructor Resource Guide (IRG) is a lesson builder resource and an instructor guide.

The goal is to provide a consistent, high quality lesson that includes significant active learning and participation by the students.

The lessons will be composed of learning objects (LO) developed by faculty first at Sinclair and later by our partner college faculty. Lessons will be competency-based and stored electronically in a database. Access to the objects will be through a web-based lesson builder and delivery system. LO's may be reused in any course by any instructor who has access to the web and an account on IT@Sinclair's server. As we progress, we will build a repository of objects contributed by faculty from many institutions.

Ideally each competency will have multiple objects so that faculty and students may choose the LO that is most appropriate to his or her style. Lesson structure will have some required components and some that are more flexible. A lesson can span over one class period or multiple class periods to accommodate various class schedules.

An instructor guide will exist for LO's. It will give detailed directions and best approaches for using the LO. For example, an activity LO will include all instructions for setting up or preparing for the activity, all instructions for carrying out the activity, as well as detailed instructions for follow up including suggested discussion questions and

key points that are important. Faculty members will be guided to use varied pedagogical approaches to ensure they are meeting the needs of varied learning and teaching styles. All assessments including homework, projects, or tests will have directions, answer keys or rubrics with suggested scoring values. The goal is to maintain consistency across multiple sections and to make the process easier for faculty.

A third component is the web-based lesson delivery interface. Once the lesson is built, the instructor can bring the lesson up on the screen in class, and follow the plan easily. All lecture, activities, discussion, homework, and assessment will be cued.

Deliverables

1. Four Sinclair IRG's: CIS 107, CIS 108, CIS 110, CIS 111
2. Learning Objects for each lesson in each course (up to 100 objects per course or about 400 in all to complete the basic set for these four courses)
3. A process for developing IRG's in the form of a best practice document.
4. IRG's from Belmont, Owens, and Columbus State Community Colleges



Patty Santoianni



Patty Santoianni is a professor at Sinclair Community College in the Computer Information Systems (CIS) department. She was also a co-principal investigator for the previously completed NSF IT@Sinclair grant.

Part-Time Faculty Institute

Leader

Patty Santoianni

Team Members

Belmont Technical College
(Marilyn Wildman, PI)
Columbus State Community College
(Libby Daugherty, PI)
Owens Community College
(D'Naie Jacobs, PI)

Description

The objective of the Faculty Institute is to improve faculty effectiveness through a process to upgrade the IT pedagogic skills (faculty facilitation strategies and faculty-student interaction) of full-time and part-time IT faculty.

Instructor Resource Guides (IRGs) will be the primary component used to help faculty with their roles as learning facilitators. The Faculty Institute will accomplish faculty professional development related to pedagogy, the Instructor Resource Guide process, and specific IRGs.

This professional development process has four major components: a personal pre-assessment, a personal individual learning plan (ILP), faculty training, and a post assessment.

Secondary objectives are to increase the retention of part-time faculty and to improve the success and satisfaction of part-time and full-time faculty.

Deliverables

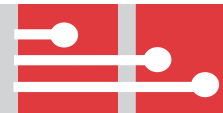
1. Faculty Development Transfer Sessions

The project will conduct five Faculty Transfer Sessions in Ohio, that will focus on student assessments, pedagogy, technical content etc. and will be held by our partner colleges. The faculty development transfer sessions will be held in urban campuses serving large numbers of under served minority students, as well as in designated Appalachian counties of Ohio.

2. Ohio State IT Educators Conference

Each spring our team will conduct a statewide IT educators conference. The goal is to improve Ohio's IT education by providing a forum for secondary and post-secondary educators and their business and community partners to exchange experiences, knowledge and expertise.

3. Develop personal pre-assessment tool
4. Develop personal ILP planning tool
5. Prepare for faculty transfer session



Mike Barhorst



As a budget analyst for Sinclair Community College, Mike assists in the development and administration of the college's \$90 million annual operating budget and provides financial analyses for the review of existing and proposed programs and investment opportunities.

Frieda Bennett, Ph.D.



As the dean of Business Technologies, Dr. Frieda Bennett is responsible for providing leadership to 16 departments offering associate degrees, short-term technical certificates, and industry certifications. The division enrolls over 1,800 full-time equivalent students, accounting for nearly 20 percent of the college's total full-time equivalent enrollment. She previously served as assistant to the president.

Budget/Financial Management

Leader

Mike Barhorst

Team Members

Frieda Bennett, Joe Must, Mary Robinson, Mark Schmid, Charlotte Wharton

Description

Mike leads the Financial Management function. He seeks to direct project resources to their highest and best use from a financial standpoint so as to facilitate the attainment of the project's ultimate goal of improving student retention. Additionally, Mike performs as an internal financial auditor for the grant.

Deliverables

1. Budget
2. Financial review
3. Financial management processes

Performance Measurement

Leader

Dr. Frieda Bennett, Ph.D.

Team Members

David Siefert

Description

Dr. Bennett is the manager for the grant's internal and external evaluation activities that address the following questions:

- What did we say we would do?
- What was done?
- What was the impact?

Additionally, Dr. Bennett leads the annual external grant evaluation preparation planning and meeting.

Deliverables

1. Evaluation plan/process
2. External evaluation planning/meeting
3. Data analysis tracking and reporting
4. Conduct external evaluation
5. Annual position report
6. Grant annual report





David Siefert



David Siefert is currently director strategic programs, Business Technologies division, at Sinclair Community College. He was principal investigator, program director and project manager of an \$856,000 NSF grant that ended in 2003, focusing on founding IT@Sinclair in support of work force development. Dave is co-principal investigator for the current NSF IT@Sinclair grant.

Bob Sheehan



Bob Sheehan is the information technology liaison for the Miami Valley Tech Prep Consortium and Sinclair Community College. A retired guidance counselor (34 years in area high schools), Bob coordinates the high school IT Tech Prep Pathway with the CIS course of study at Sinclair Community College.

Dissemination/Communications

Leader

David Siefert

Team Members

Ann Armstrong, Marian Jones, Kelly Vogelsong

Description

This team develops communications, publications and promotions for the grant. The delivery channels include printed media, e-mail and web. They also concentrating on building a communications strategy and keeping a consistent look and feel throughout these pieces.

Deliverables

1. Radio stations
2. Vendor show cases
3. Grant journal
4. Best practices
5. Newsletters
6. Web site through IT@Sinclair
7. Annual report
8. Communication strategies

Relationship Management

Leader

Bob Sheehan

Team Members

David Siefert

Description

Bob provides the oversight and the process that manages the grant's internal, to Sinclair and external partners and contractors relationships.

Deliverables

1. Partners database
2. Partners mailing list
3. Partners network sessions
4. Relationship process



Nancy Thibeault



Nancy Thibeault is director of Distance Learning & Learning Technology Support at Sinclair Community College and a co-principal investigator for the NSF IT@Sinclair Grant.

Mark Schmid



Mark is assistant purchasing manager for Sinclair Community College and the Purchasing department liaison on the NSF- Grant Team. Mark is responsible for counseling the team regarding their functional procurement activities to ensure appropriate proactive performance and coordination, to meet the team's objectives and grant goals.



Technology Solutions and Support

Leader

Nancy Thibeault

Team Members

Russ Little
Dave Siefert

Description

The objective of the Technology Solutions and Support initiative is to research, design, and implement a component-based technology framework that will be used to acquire, reuse, and consistently deliver predictably high-quality IT course content. Numerous small, single-concept modules will be created and stored on a server and used for both synchronous and asynchronous delivery of the Instructor Resource Guides (IRGs).

Multiple components will be created for each course objective, and then dynamically combined via the instructor interface to create a lesson. Lessons will then be combined to form a course IRG.

The benefits of such a component-based, technology-based system include effective and efficient course material development, faster updating of content, more consistent instruction (among part-time and full-time faculty), and delivery modes that can be customized to student learning styles.

Deliverables

1. Technical architecture and documentation for the delivery of the IRGs
2. The technical architecture and processes for the web-based system will be researched.
3. The hardware, database software, and user interface design discovered during research will be adapted and adopted for delivering the course IRGs.
4. The technology solution will consist of four major components: repository, drill down and search interface, student interface, faculty interface, and administrative interface. The faculty and student interfaces will be easy to use and require minimal training.

Purchasing

Leader

Mark Schmid

Team Members

Mike Barhorst, Mary Robinson,
Charlotte Wharton

Description

Mark provides consultive support on purchasing related matters to the grant.

Deliverables

1. Purchasing process
2. Contract development
3. Contract management