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Project Narrative

Benedict College

Grant # 45-60-99040
Education, Culture, and Lifelong Learning
Columbia, South Carolina

MINORITY ACCESS TO HIGHER EDUCATION
M.A.T.H.E.

EXECUTIVE SUMMARY

This project is designed to improve the overall academic performance of underserved African-American students through the use of telecommunications technology. Education, Culture, and Lifelong Learning and Community Networking will serve as the primary and secondary application areas. Benedict College has formed a partnership with school districts in Aiken, Richland, and Bamberg Counties to implement this project. These were selected because of the extremely low economic status of the residents and the poor academic achievement of the students, especially among African Americans.

Through the use of a telecommunications network, Benedict College will develop an interactive program for students, parents, and other members of the community. The project will implement two program activities: (1) an After School Tutorial Program and (2) Saturday workshops for both parents and students. Some of the specific objectives of the project are to: (1) strengthen academic skills for middle and secondary students; (2) provide a forum for students to explore math based careers; (3) encourage parental and community involvement in education, culture, and lifelong learning; and (4) expose students, parents, and others in the community to the Internet and other electronic communications systems.

This project will improve standardized test scores and overall academic performance among students and increase the use of telecommunications technology by students, parents, and community through the use of technology. The success of this project will serve as a model to establish future partnerships between Benedict College and other communities in South Carolina.

I. PROJECT DEFINITION

The Problem

Someone once said that children are our future. Our children's educational failure in South Carolina causes us to be concerned about the future. South Carolina has the lowest SAT scores of any state in the nation. In addition, over 27 percent of the students drop out of school, 35.3 percent of 10th grade students do not pass all parts of the exit exam for graduation, and 11.3 percent of the students repeat one of three grades, 1 - 3, (Commission for Minority Affairs, 1997). Suffice it to say that a significant percentage of our children are failing academically.

These gloomy statistics, however, are gloomier for certain segments of the population in South Carolina. Although, overall, 35 percent of 10th grade students do not pass all parts of the high school exit exam, and 58.4 percent of African-American males and 51.4 percent of African-American females do not pass all parts of this particular exam. In addition, 18.1 percent of African-American male students repeat grades 1 - 3, and nearly one-third of African-American children are considered "not ready" for first grade. These statistics highlight a continual educational crisis for the African-American community.

The educational failure of disadvantaged minority children is a major concern as we enter into the 2lst century. It is in the national interest to support projects that seek to combine educational models of success with new ideas and current day technology.

Proposed Solution

Given the educational failure of African-American students within every county across the State of South Carolina, any county could have been chosen to participate in this project. This project's school districts were chosen based upon strong commitments of key community leaders and a willingness of schools to participate. The College recognizes that a successful plan to increase educational outcomes of children must include educational opportunities for the entire community. Through a two-point network, this project will connect Benedict College to community-based educational centers within three communities.

Benedict College has already begun to address the educational disparities that exist in the African-American community through the implementation of a small pilot program in the Aiken, South Carolina community. The Student Science Enrichment Program is in its fifth year of existence and is primarily supported through contributions from Benedict College, the community, the church, and parental involvement. Students who have entered the program have excelled in their academic performance and continued on with their academic careers in a variety of fields.

The current project proposes to expand upon and then replicate the existing pilot project between Benedict College and the Aiken School District to include two additional underserved communities in the State (Appendix M). The College will provide a comprehensive educational curriculum (Diagram A - Appendix B) for students, parents, and other community members in these sites across South Carolina (Appendix M). Our strategy will assure African-American students' access to current technology outside of the classroom. Recent studies show a nexus between access to technology and academic achievement. Due to limited income, a great disparity exists between African-American and White children's access to computers and

information technology. Therefore, African-American children do not have access to similar educational resources as other families.

Benedict College's faculty in mathematics, science, education, and computer technology will provide training in the use of software application, the Internet, and other information technologies. Current available software will be used to meet particular end-user requirements and enable the exchange of information across networks. Furthermore, the College will provide a comprehensive curriculum to meet the community's needs.

Through the establishment of a telecommunications network, Benedict College will provide each site with an academic enrichment program consisting of three parts: (1) after school activities program; (2) Saturday workshops, twice monthly; and (3) parental/community workshops. A description of the major parts of the program is given in Appendix A. Interwoven within each part is participation by students, parents, and the community.

Students. For the students in these sites, our plan primarily focuses on providing an enriching mathematics program. A recent study by the College Board (The State of Black America 1998: The Political Economy of Black America) shows that a focus on mathematics greatly equalizes the gap in educational outcomes between White and African-American students. In addition, this study shows that an expectation of excellence is also key to student performance. If a student believes that he or she can excel, the teacher expects excellence, and the environment encourages excellence, then the student will rise to that expectation level. We propose to combine lessons learned in other math enrichment programs and deliver to these communities an educational learning enrichment program (a yearlong math experience in an after school program and a bi-monthly Saturday Math Academy) through telecommunications technology.

Parents. Parental involvement is key to student achievement; therefore, parents will be intimately involved in all aspects of the program. A parental signature will be required for the student's participation. A *Parent Training Program* will be designed to increase parental participation in their children's academic success. Workshops will be designed to expose parents to the types of math their middle school children are learning; Internet classes will be offered; and computer literacy tutorial programs will be available at each site. In addition, parents will be required to participate in at least one cultural enrichment activity with their child during the year. Parents will be encouraged to attend sessions with their children.

Community. Education will be promoted as a community obligation; therefore, community groups, including the church, will be intimately involved in all aspects of the program. Community groups and the church have stated a deep interest in participating in the program. It will take the community's commitment to achieve the outcome of a well-educated student population. Benedict College will also offer classes for special populations within the community. For instance, we plan to offer a seminar series to those interested in starting a small business, a sociology course to inform senior citizens of issues facing them, and a host of seminars targeted to certain segments of the community.

Anticipated Outcomes and Potential Impacts

This project seeks the following three primary outcomes: (1) an increase in standardized test scores; (2) an increase in overall academic performance; and (3) an increase between pre- and post-tests performance on a specialized exam for participants in the program. We also expect several secondary outcomes. We expect that students from this program will go on to college at higher rates than their peers. Also, we expect more of these students to choose careers in math and science than their peers do. After the conclusion of this project, students will be motivated to learn, and they will have a better sense of themselves and their capabilities. The participants and their parents will have set goals for excellence and they will have an increased awareness of technology in the learning process. This project also seeks to enable parents and the community to be a part of the children's educational process. Furthermore, the community will benefit by having a computer lab whereby they will have access to the Internet and Benedict College. This project will give participants, parents, and the community access to information.

2. EVALUATION

To curtail the academic failure of African-American children, Benedict College proposes a strategy of increasing educational excellence through increasing mathematical skills of middle school students and providing educational information to the entire community. Throughout the course of this project, we will evaluate the effectiveness of our strategy.

In evaluating the program, we will ask several questions:

- Are students' standardized test scores increasing?
- Are students' grades improving?
- Are parents playing a greater role in the education of their children?
- Are community residents accessing information electronically?
- Are the educational centers providing useful information and programs for the residents?

The Center of Excellence for Community Development and faculty members from the academic departments, including the Education Department at the College, will be the internal evaluator of the project. The Center will design both quantitative and qualitative instruments to answer these questions. In addition to the student, parent and community resident outcome evaluations, the Center will also conduct an evaluation of the project from its inception and throughout the duration of the project. Dr. Joyce Buxton, Richland School District I, will serve as the external evaluator of the project. Both Federal and matching funds are being requested in the budget for the evaluation of the project. The overall evaluation plan is detailed in Appendix D.

Evaluation data will be collected and used to address the evaluation questions stated above. Quantitative data from the students' performance on standardized tests and nine-week evaluation reports will be collected by the school counselors and provided to the evaluators with the consent of parents or guardians. Initially, test scores and performance in math courses will be collected on all prospective participants and used as baseline data.

Therefore, pre- and post-tests will be used to measure skill improvements in mathematics. A score of 80% will be considered as mastery. Both the internal and external evaluators will compile the data separately and compare the data to non-participants within the same target population and throughout the State. Statistically, significant mean score differences from pre-to post-tests will be considered evidence of skills improvement. Pre- and post-changes in attitudes toward mathematics, confidence in mathematical skills, career choices, and educational aspirations will be measured through questionnaires developed by the staff. Pre- and post-tests comparisons of scores on a standardized career interest inventory will measure shifts in career interests.

Data related to the questions of parental and community involvement will be collected from sign-in logbooks and student/parent surveys. These surveys will be designed to assess the role parents are playing in the overall education of their children and answer the questions: Are community residents accessing information electronically? Are the educational centers providing useful information and programs for the residents?

Each program activity (workshops, seminar sessions, adult computer literacy classes, and the After School Tutorial) will be evaluated by the use of short questionnaires. These questionnaires, giving immediate feedback on the extent to which the program activity is meeting its stated objectives, will be extremely useful in the evaluation of the M.A.T.H.E. Project. A program activity will be considered as meeting its objectives if 90% of the program participants give an average rating of 4 (five-point scale) to the activity. The program evaluation should prove to be an invaluable research instrument in determining program strengths and weaknesses in the M.A.T.H.E. Project.

The Population of Students. We estimate over 900 students will be served in this project. Currently, at the pilot site in Aiken, 300 seventh through twelfth graders participate in the Enrichment Program. Of these, 150 students participate in the After School Tutorial Program and The Saturday Academy during the academic year. We estimate a similar population base of students will participate in the program within the other two sites. An implementation schedule for the project is given in Appendix E.

3. SIGNFICANCE

Innovation

We propose the creation of the M.A.T.H.E. Project between Benedict College and three community school districts in South Carolina to increase underrepresented minority students' interest in math. To date, no other college or university (HBCU) in the State of South Carolina is providing this type of program to underserved minority communities. We believe that Benedict College is in the best position to serve these communities given our success in educating and graduating a student population from these and similar minority communities.

This project is innovative in three ways. First, we will provide a comprehensive math enrichment program to these sites through telecommunications technology. Second, this project

is targeted to middle school students in both inner city (Aiken) and rural (Lower Richland and Bamberg I School Districts) underserved minority communities. Most programs are targeted at high school students. And third, this project provides all the residents of the community access to information via the latest technology.

Exemplary Program

At the end of the third year of this project, Benedict College will design a replicable model that can be used between any institution of higher learning and elementary, middle, or high school throughout the country. We will be in a position to discuss the benefits of the comprehensive strategy and each of its components on African-American student performance. Furthermore, we will be able to provide long-term strategies for providing predominately minority communities access to electronic technology.

4. PROJECT FEASIBILITY

Technical Approach

Access to technology is key for communities to successfully move into the next millennium. Benedict College is prepared to make technology easily accessible to all students, their parents, and the extended Benedict College community. The goal is to create an informational system of resources and tools (both physical and virtual) geared to assist, strengthen, and advance mathematical understanding, initiate collaborative learning and teaching, and facilitate access to digital information via Internet (a glossary of terms is provided in Appendix D).

Interoperability. Currently, there are over 50 existing compressed video distance education projects involving K-12 school districts and state-supported higher education institutions in South Carolina. Each of these state projects uses Broadband Exchange Lines and BVCS technology, which they receive at reduced rates. In order to interface with the existing State compressed video network, it is necessary to connect T- 3 circuits (minimum) from each of the Local Access Transport Areas (LATAs) within the state to Benedict College. These are circuits provided by the local telephone company and an interchange carrier combining local and long distance service because of statewide use.

As a private institution, this project will, therefore, enable Benedict College to utilize the existing Carolina State Fast Packet backbone and develop telecommunications networks with underserved communities throughout the State. Currently, there are no compressed video distance education classes being delivered from or to a private college to a state higher-education institution or K-12 school district. This would be the first such application in the State.

Scalability. Once the total network and infrastructure have been put in place, it will provide Benedict College uninterrupted accesses to teleconferencing services such as Fast Packet Services and Multi-point Video Conferencing Service. The Broadband Exchange Lines and BVCS will allow Benedict to interact with Multi-point conferencing between two or more locations throughout the State of South Carolina, therefore, allowing us to add additional community sites.

Applicant Qualifications and Ability to Serve as a Model. Benedict College is well positioned to serve as a model for this project. Our qualifications are discussed in Appendix G. This project will be housed within the Center of Excellence for Community Development under the direction of Dr. Larry Lowe (Organizational Chart - Appendix H). The Benedict College computer center staff, the Library Information Systems staff, and Dr. Lowe all have significant experience in distance learning technology. The distance learning network facility will be housed in the Learning Resources Center at Benedict College. Benedict College is providing matching funds for the installation and maintenance of the distance learning facility to this area in order to prepare it for use in this project.

Budget, Implementation, and Timetable. The budget, implementation, and schedule timetables are provided in the Appendix E.

Sustainability. The College is committed to providing institutional support to the continuation of this project. As noted in the budget, the College is supporting most of the personnel as its match to the project. In this proposal, we are requesting funds to primari1y provide the hardware and network for the project. We will seek additional funds from other sources once this project period ends in order to maintain the on-going programs and expand to other community sites.

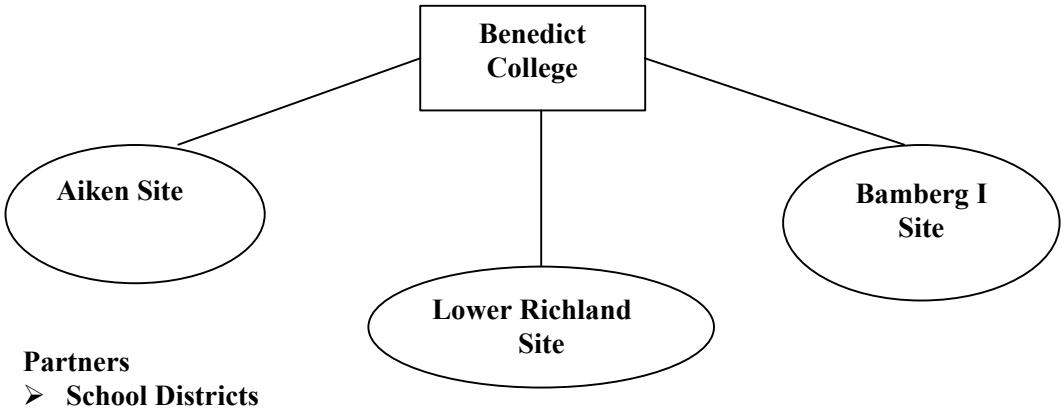
5. COMMUNITY INVOLVEMENT

Partners. Over the past two years, community leaders across the State have played a significant role in forming the structure of this initiative. At the onset of this initiative, representatives from Benedict College met with key representatives from the sites to discuss the parameters of this project and to obtain their support. Letters of support from community partners are included in the Appendix.

Community Involvement. Key representatives (parents, students, church members, and school district representatives) of several communities participated in informal (brainstorming session) and formal (PowerPoint presentation) sessions to assess their needs and to discuss their involvement in the development and implementation of this project. Each community identified better education, exposure to technology, and good role models as essential needs for all children and especially for the middle and high school. A survey related to the availability and use of computers and information technology was given to all those in attendance at these sessions (survey instrument in Appendix I). Consistently, the survey identified that the students, parents, and members of each of the three target sites had a limited access to and knowledge of computers and the Internet.

Diagram A

HUB



- **Partners**
  - **School Districts**
  - **Churches**
  - **Education Department**
  - **Benedict's Library Information Center**

Support for end users. Rising African-American seventh graders and students from grades eight through twelve will be a part of this project. Although publicity about the program will cover the entire counties, students within the school districts within the counties will be especially encouraged to participate. From those who express an interest in the program by applying, the project director will select students in each site to participate. Based on student participation at the Aiken site, it is expected that well over 900 hundred students will be participating in the overall project. Site coordinators, along with mentors, will monitor the students' progress in the program. The counselors will be responsible for providing student class grades to the coordinators. The coordinators will work with counselors within the school districts to obtain standardized test scores of each child.

Privacy. Privacy will not be a major issue for this project. No confidential information on the students will be sent via computer. Data records and logs will be sent monthly to the project director. The director will keep these records in a locked cabinet in his office.

6. REDUCING DISPARITIES

The location of the experimental sites is shown on a map in Appendix M. As can be seen from the tables in Appendix C in South Carolina, African-American families live very different lives than White families. This project will seek to reduce some of these disparities by reducing the disparities in computer access and educational achievement between African-Americans and

White students, thereby reducing the gap between White and African-American academic success. Parity in education should bring us closer in parity of economic outcomes. For example, in Aiken County, the per capita income of Whites is $14,938, while African-American per capita income is only $7,453. Blacks age 25 years and over are twice as likely as Whites to have completed less than a 9th grade education. Not only are these trends true in Aiken County, but this same education and economic disparity exists in Lower Richland and the Bamberg communities as well. By focusing on education and educational attainment, Benedict College hopes to have an impact on reducing the economic gap between African-Americans and Whites within underserved communities across the State of South Carolina.

7. DOCUMENTATION and DISSEMINATION

Documentation. This comprehensive educational effort is targeted towards students, parents, and community residents. All aspects of this effort will be well documented, and some of the information will be placed on the M.A.T.H.E. Web page. Three individuals will be obtaining and maintaining documentation on the project: project director, site coordinator, and evaluator. The site coordinator will maintain logs of who is using the facilities and for which program component. The site coordinator will also work with the project director to obtain student achievement data on each participant in the program. The project evaluator will maintain documentation for conducting the student outcome and process evaluation. The monitoring of project's operations and procedures will be accomplished through workshop sessions, Advisory Team meetings, and written monthly reports. Meetings with the teaching and other staff members will determine correctness of curriculum implementation. Feedback will be given to all staff members regarding their performance. Attendance, achievement, and participation of students in the program will be constantly monitored.

Dissemination Plan. One of the most significant components of the M.A.T.H.E. project is the dissemination of the project's results to public, state, and national officials.

The M.A.T.H.E. Project will adopt a newsletter format of dissemination. In addition to the newsletter, information regarding the status and progress of the project will also be listed on the project's Web page. Graphs and tables of overall performance by students, parents, and others and evaluation of the project's activities will be maintained. The cost effectiveness of the evaluation and dissemination plan can be realized in a number of ways. Pre- and post-tests that will be administered are already being used as assessment instruments by the school districts at no cost to the students who take these tests. The survey questionnaires to be used in assessing the effectiveness of this project will be easy and cost effective to generate and distribute. Volunteer workers, school counselors, and student assistants will be used to distribute, collect, and record the results of these surveys.

The goals of the project's dissemination plan will be to: (a) provide on-going information about the effectiveness of the project's goals in providing access to information through the use of technology; (b) provide information about the effectiveness of the project's goal of increasing the overall performance level of underserved minorities in math skills; (c) provide on-going information about the involvement of parents and other community members in the education and cultural enrichment of their children; and (d) provide on-going information about the students' change in attitude about career choices.