

*Dwight. D. Eisenhower Professional Development Program
P. L. 103-382: Title II, Part B*

**SIX-YEAR REPORT:
ALABAMA HIGHER EDUCATION
PROFESSIONAL DEVELOPMENT
MULTI-YEAR PROJECTS
FOR K-12 TEACHERS**

**Fiscal Years:
1995-1996 through 2000-2001**

Prepared for the
Alabama Commission on Higher Education
October 2001

**Alabama Commission on Higher Education
(A.C.H.E.)**

Charles H. Morris, III, Chairman
Selma

Roland Pugh, Vice Chairman
Northport

Ben F. Beard
Troy

Johnnie J. McDougald
Opelika

J. R. Brooks
Huntsville

Danny K. Patterson
Mobile

Bettye Fine Collins
Birmingham

Lee D. M. (Trip) Pittman III
Montrose

Fournier J. Gale, III
Birmingham

Roberta O. Watts
Gadsden

Joseph A. Lowman
Madison

William O. Blow, Interim Executive Director

October 10, 2001

MEMORANDUM

TO: ACHE Commissioners and other interested persons

FROM: William O. Blow, Interim Executive Director

SUBJECT: ACHE-Eisenhower program, FY1995-1996 through 2000-2001

The accompanying report describes the role and activities of the Alabama Commission on Higher Education (ACHE) in awarding grants authorized by the Dwight D. Eisenhower Education Act (DDEA) to Alabama institutions of higher education and non-profit agencies from 1995 through 2001.

The objective of the report is to inform ACHE members and other interested persons how these funds have been used, acknowledge the degree of success in achieving the program's goals, and recognize project directors and other key persons who contributed to the success of the program.

Inquiries about the content and operation of individual projects may be directed to the project directors. Information on the administrative policies and procedures for Alabama's higher education DDEA program may be obtained from ACHE's Office of Interagency Programs or the ACHE website: <http://www.ache.state.al.us>.

ACKNOWLEDGMENTS

Achieving Eisenhower program objectives is the result of collaboration among all sectors of the state's education community. A number of agencies, their very capable staffs, the higher education institutions, and certainly the teachers who participated all contributed directly to the productive, efficient realization of the grant's goals.

In particular, ACHE expresses its appreciation to--

- Congress for the vision to authorize and appropriate funding for this program;
- The Eisenhower program staff of the U. S. Department of Education for the effective national administration of this program;
- Officials of the Alabama State Department of Education who provided the guidance and background to make these projects practical, useful, and available to all teachers in the state;
- The participating institutions and their officers who provided facilities and resources;
- The project directors and coordinators who developed and administered the projects, their presenters, and their support staffs. The projects, their directors, supporting institutions, and amounts of grants awarded are listed in Appendix C;
- Officers of public and private corporations who provided guidance and resources in support of a number of projects;
- Local education agencies for supporting their teachers' participation, which assured the success of this program in meeting its overall objectives;
- Evaluators of project proposals submitted for ACHE Eisenhower grants without whose experience, knowledge, and judgement the program would not have succeeded.

ACHE EISENHOWER PROGRAM STAFF

Dr. Elizabeth C. French, Director
Office of Interagency Programs
[efrench@ache.state.al.us]

Dr. James H. Conely
Title II Staff Assistant
[jconely@ache.state.al.us]

**Six-Year Report:
Alabama Higher Education Professional Development
Multi-Year Projects for K-12 Teachers
Fiscal Years 1995-1996 through 2000-2001**

TABLE OF CONTENTS

MEMORANDUM	iii
ACKNOWLEDGMENTS	iv
ACHE EISENHOWER PROGRAM STAFF	v
EXECUTIVE SUMMARY	1
UNITED STATES DEPARTMENT OF EDUCATION (USDE) PROGRAM PURPOSE AND STATE GOALS	3
USDE Program Purpose	3
ACHE State Goals	5
FUNDING SOURCES	6
Federal Appropriations	6
External Support	6
IMPLEMENTATION OF THE ACHE EISENHOWER PROGRAM	8
Program Design	8
Grant Award Process	9
Description of Projects	9
SUMMARY OF PROGRAM ACCOMPLISHMENTS	21
Achievement of ACHE State Goals	21
National Recognition of ACHE Eisenhower Programs	24
DISSEMINATION OF PROGRAM INFORMATION	26
Principal Publications	26
Internet Websites	27
Conference Presentations	28

APPENDICES:

Appendix A: Eisenhower Program Background

Appendix B: Eisenhower Professional Development Program (EPDP) Funding

Appendix C: External Funding Agencies

Appendix D: Grants as a Percentage of Total Budgets

Appendix E: Evaluators of Project Proposals

Appendix F: Alabama Higher Education Professional Development
Multi-Year Projects for K-12 Teachers
Fiscal Years: 1995-1996 through 2000-2001

Appendix G: Maps of Statewide Access

EXECUTIVE SUMMARY

The U. S. Department of Education Dwight D. Eisenhower Professional Development Program is the largest Federal program that provides grants to states for the professional development of K-12 teachers. Emphasis is on the content areas of mathematics and science, but all core subjects are included. Of the appropriations awarded to each state, sixteen percent is allocated to agencies of higher education which in turn competitively award grants to institutions of higher education and non-profit agencies to deliver professional development activities for teachers.

With reduced funding under the current period of reauthorization, the Alabama Commission on Higher Education (ACHE) was faced with some unique challenges.* Was it possible to put in place an operational plan that would ensure long-term, sustained, high quality professional development for Alabama's K-12 teachers as required by the federal legislation? Would it be possible with limited funding to provide access to exemplary programs statewide, including teachers in high-poverty and at-risk schools? Would it be possible to establish effective collaborative networks of support that would enable Project Directors to offer high quality professional development as measured by national standards? And, what evidence could be gathered that would show that a difference had been made in classroom practice?

To address these issues, the ACHE awarded multi-year grants to one private college, four public universities and a non-profit agency. The projects funded were designed to offer teachers statewide access to exemplary programs, including teachers in high-poverty schools, to change classroom practice, to increase student performance, to foster collaboration among public and private sectors, and to impact pre-service curriculum. Individual grants ranged from \$7,000 to \$210,626, and each project was externally evaluated every year to determine its effectiveness in reaching stated objectives.

Collectively, more than 12,000 teachers representing all of Alabama's public school districts and twenty-eight private schools and systems participated, an average of 2,348 teachers each year. The internet web sites developed by most projects provided access to many more indirectly.

The total dollars spent on these projects in the fiscal years from 1995-1996 through 2000-2001 was more than \$14,000,000. The federal appropriation was \$4, 682,002, less than one-third of total costs. Project Directors not only established effective working relationships with Local Education Agencies that contributed financially to their efforts, but they were also successful in

* The authorization for this federal legislation appeared first in 1984 as Title II of the Education for Economic Security Act (EESA). Initially, appropriations to states under this legislation gave 70% of the funds to the State Education Agency (SEA) and 30% of the funds to the State Agency for Higher Education Agency (SAHE). With each successive authorization, the amount of funding to the SAHE was reduced. During the current period of authorization, the amount of funding allocated to the SAHEs was decreased to 16%.

soliciting an additional \$9,535,046 over and above the federal appropriation in external support from more than 80 partners representing private business, corporations, foundations, and government agencies.

All projects have dramatically changed the way teachers teach and students learn. Instructional practices presented in all projects were tied to national standards, and the majority received national recognition for their effectiveness by agencies such as the U. S. Department of Education, Department of Energy, National Science Foundation, and the President's Committee on the Arts and Humanities. Some programs were offered at sites outside of Alabama and the U. S. Others served as models that have been implemented in other states. Two projects offered opportunities for teachers to study internationally, and one project was incorporated into the pre-service curriculum of two universities.

Overtime it became apparent that to a great extent the effective collaboration between the Alabama State Department of Education and the ACHE was an important factor in ensuring the relevance and success of the individual projects. This report is intended to document the achievements of these long-term, sustained professional development programs; to describe the rich diversity of opportunities they offered; to give visibility to the strength of the collaborative partnerships between the public and private sectors; and to underscore the innovative classroom practices that have been implemented as a result of their availability. None of this would have been possible without the extraordinary leadership abilities and untiring efforts of the Project Directors to make these exemplary programs accessible to teachers in every part of the state.

UNITED STATES DEPARTMENT OF EDUCATION (USDE) PROGRAM PURPOSE AND STATE GOALS

The Dwight D. Eisenhower Professional Development Program (Title II of the Elementary and Secondary Education Act of 1965 (ESEA) as amended was enacted in 1994 as part of the Improving America's Schools Act (IASA), Public Law 103-382. The program expanded and modified its predecessor, the Eisenhower Mathematics and Science Education Program. Appendix A: "Eisenhower Program Background" gives a brief history of this legislation.

The Title II program is the largest Federal program that supports professional development activities to improve teaching and learning. Under this program funds are made available to state educational agencies (SEAs), local educational agencies (LEAs), state agencies for higher education (SAHEs), institutions of higher education (IHEs), and nonprofit organizations (NPOs) to support and help shape state and local professional development activities. A chart showing the allocation of federal funds to states for this program is in Appendix B: "Eisenhower Professional Development Funding."

USDE Program Purpose

The legislation is specific in its mandate to develop and provide "assistance to local educational agencies, and the teachers and staff of each such agency, for sustained, high-quality professional development activities" [P.L.103-382, Title II, Part B, Sec. 2211(a)(1) (b)] Therefore, the reauthorized Eisenhower Program had a direct relationship to systemic reform and student achievement. Its purpose was to provide access to professional development that—

- is tied to challenging State standards;
- reflects recent research on teaching and learning;
- includes strong academic content and pedagogical components;
- incorporates strategies for meeting the needs of diverse populations;
- is of sufficient intensity and duration to have an impact on teacher's performance;
- is part of everyday life and continuous improvement.

The federal charge to state agencies for higher education, including the Alabama Commission on Higher Education (ACHE), was to make grants to, or enter into contracts or cooperative agreements with, institutions of higher education and non-profit organizations of demonstrated effectiveness, including museums and educational partnership organizations, working in conjunction with a local educational agency, consortium of local educational agencies, or schools, for:

- (A) conducting professional development activities in the core academic subjects that contribute to the State plan for professional development;

- (B) developing and providing assistance to local educational agencies, and the teachers and staff of each such agency, for sustained, high-quality professional development activities; and
- (C) improving teacher education programs in order to promote further innovation in teacher education programs within an institution of higher education and to better meet the needs of the local educational agencies for well prepared teachers.

The purpose was further clarified in a USDE statement of mission and principles for professional development as follows:

USDE Mission. The mission of professional development is to prepare and support educators to help all students achieve to high standards of learning and development.

USDE Principles. Professional Development –

- Focuses on teachers as central to student learning, yet includes all other members of the school community;
- Focuses on individual, collegial, and organizational improvement;
- Respects and nurtures the intellectual and leadership capacity of teachers, principals, and others in the school community;
- Reflects best available research and practice in teaching, learning, and leadership;
- Enables teachers to develop further expertise in subject content, teaching strategies, uses of technologies, and other essential elements in teaching to high standards;
- Promotes continuous inquiry and improvement embedded in the daily life of schools;
- Is planned collaboratively by those who will participate in and facilitate that development;
- Requires substantial time and other resources;
- Is driven by a coherent long-term plan;
- Is evaluated ultimately on the basis of its impact on teacher effectiveness and student learning; and this assessment guides subsequent professional development efforts.

ACHE State Goals

Based on the legislation and the statement of mission and principles provided by the USDE, the Alabama Commission on Higher Education adopted and worked to achieve the following goals*:

1. Provide long-term, sustained, high-quality professional development for Alabama K-12 teachers.
2. Provide access to teachers statewide, including teachers in high-poverty schools.
3. Encourage participation of entry-level teachers in one or more ACHE Eisenhower programs, with an overall goal of at least 50% of ACHE Eisenhower participants as entry-level teachers. “Entry-level teacher” is defined as any one of the following:
 - Novice (entry-level from college)
 - Veteran (changing teaching discipline or new in school district)
 - Mid-career changer (becoming a teacher after a non-teaching professional career)
4. Result in change of teacher practice in the classroom that increases student performance in content areas addressed in the proposal. Projects to improve teaching methods should be designed to impact pre-service curriculum as well as provide in-service professional development.
5. Demonstrate a high level of teacher and/or superintendent endorsement.
6. Establish active partnerships between local school systems and project administrators.

*See Requests for Proposals under “Eisenhower Professional Development Program” on the ACHE website: <http://www.ache.state.al.us>.

FUNDING SOURCES

Federal Appropriations

Receiving Eisenhower Program appropriations was not automatic. Under both EESA and DDEA, each state was required to submit an application for approval by the U. S. Department of Education showing the plan for use of the funding and how the program's objectives were to be achieved. Regulations further required the plan to be prepared jointly by the state education and higher education agencies to foster collaboration among state agencies for planning and developing the projects.

Appropriations to ACHE during this six-year period totaled \$4,682,002 with 95% of this amount awarded to Alabama institutions of higher education and a non-profit organization to conduct professional development for K-12 teachers. The remaining 5% was used for technical assistance, project monitoring, and administrative expenses of the program as provided by law. The appropriation to ACHE gradually increased from \$665,428 in FY1995-96 to a high of \$834,879 in FY1999-2000 as shown in the table below:

<u>Fiscal Year</u>	<u>Federal Appropriation</u>
1995-1996	\$ 665,428
1996-1997	727,681
1997-1998	812,598
1998-1999	826,829
1999-2000	834,879
<u>2000-2001</u>	<u>814,587</u>
Total	\$4,682,002

External Support

In addition to the federal appropriations, ACHE strongly encouraged grant projects to leverage external funding from other sources. To allow flexibility, no requirement was made for a minimum amount of leveraged funds. However, the proportion of external support of funded projects was expected to be appreciably more than the ACHE grant. The result in total funding is shown in the table below:

Fiscal Year	Federal Appropriation	External Support*	TOTAL
1995-1996	\$665,428	\$1,118,908	\$1,784,336
1996-1997	\$727,681	\$1,671,993	\$2,399,674
1997-1998	\$812,598	\$1,487,812	\$2,300,410
1998-1999	\$826,829	\$1,823,049	\$2,681,049
1999-2000	\$834,879	\$1,761,697	\$2,596,576
2000-2001	\$814,587	\$1,671,587	\$2,486,174
TOTAL	\$4,682,002	\$9,535,046	\$14,252,594

*Reported by projects

The table above shows that external support from numerous private businesses, corporations, foundations, and government agencies was over twice the amount of the federal appropriations. Thus, the total amount of support for *higher education* professional development was over three times the amount of the federal appropriation alone. Appendix C lists the sources of this external support.

The proportion of all ACHE grants during this period compared with external support is shown in Appendix D: “Grants as a Percentage of Total Budgets.” As provided by law, in each fiscal year the federal appropriation was permitted to be expended over an 18-month period. Therefore, within that period ACHE grants could exceed each year’s federal appropriation by combining the balance of unspent funds from a previous year with the next year’s appropriation.

IMPLEMENTATION OF THE ACHE EISENHOWER PROGRAM

ACHE determined use of its funding through Requests for Proposal (RFP) distributed throughout the state to institutions of higher education, both public and private, and to non-profit organizations known to have established programs for K-12 teacher professional development. In all years of this program, ACHE staff and other professional evaluators made regular on-site visits to projects awarded grants to ensure that their objectives as well as those of the Eisenhower Professional Development Program were fulfilled. At the conclusion of each project, grant recipients filed detailed reports with ACHE. These reports and observations provided the primary information for reports ACHE submitted to the U. S. Department of Education and for the findings of this six-year report.

Program Design

The ACHE Eisenhower Program was designed to support long-term, statewide professional development projects for K-12 teachers in Alabama public and private schools. To achieve long-term results for teachers statewide, grants were awarded for projects designed to continue for two or more years and offered to teachers across the state.* A major objective was achieving high State content and student performance standards, with emphasis on meeting needs of students from historically under-represented groups. By law most awards were for projects in mathematics and science with limited funding for other core subjects.

In these projects, K-12 teachers received individual attention and hands-on training. Expenses for administering these projects and for providing project materials to teachers were covered by the ACHE Eisenhower Program along with support from the host institutions, local education agencies, private corporations, and/or other federal agencies such as the National Science Foundation and the National Aeronautics and Space Administration. Except for the independent scholarship program, travel and related expenses for participating teachers were provided by sources other than ACHE Eisenhower funds. The ACHE Eisenhower grant for teachers' independent study scholarships included all allowable expenses up to the limit of each scholarship.

All projects emphasized current technology and hands-on activities and included follow-up during the academic year after summer workshops to refresh, reinforce, and re-establish principles and techniques learned. The follow-up occurred in different ways for different projects but typically included mini-workshop sessions during the school year and on-site observation/assistance visits to teachers in their schools by project leaders. Continuing communication by E-mail, print material, and internet websites was also provided by most projects.

*An exception to the requirement for multi-year, statewide design occurred in FY2000-2001 when a grant was awarded to Spring Hill College for early grade mathematics in Baldwin and Mobile counties.

Most projects limited enrollment to twenty participating teachers in each workshop session to assure personal attention to participants and provide individual involvement in all project activities. The basic principal of all projects for teacher participants was discovery learning. In other words, rather than learn a theory or abstract concept, projects began with real-world problems for participants to solve by detailed observation in guided experiments and activities. This led to determining principles, theories, or processes to apply to other similar problems. In all cases, this was achieved by involving participants in hands-on activities and introducing them to the most recent developments in technology. Also in all cases, these activities were designed for replication in the teachers' classes, giving them practical teaching strategies, methods, and materials.

Grant Award Process

Requests for proposals were distributed to presidents of all public and private institutions of higher education in Alabama, deans of education, directors of inservice centers, heads of non-profit organizations known to provide professional development for K-12 teachers.

Applications accepted in these categories were reviewed by teams of consultants. Members of the teams included the presidents of the Alabama Science Teachers Association, the Alabama Council of Teachers of Mathematics, school district curriculum specialists, and master teachers in Alabama public schools who were recipients of the National Science Foundation (NSF) Presidential Awards in Science. Other reviewers were a school principal, the A+ Foundation president, faculty and deans of Alabama institutions of higher education and the director of Eisenhower Consortium for Math and Science of the Southeastern Regional Vision for Education (SERVE). Applications were also reviewed by curriculum specialists in the Alabama State Department of Education to assure relevance of the proposals to the state courses of study and appropriateness for meeting educational needs in Alabama schools. Appendix E lists the persons who served as proposal evaluators.

Based on these evaluations, ACHE awarded grants for projects of merit that were offered to teachers in all geographic areas of the state. Moreover, the range of these projects included both public and private institutions of higher education, a non-profit agency, and all grade levels from kindergarten to grade twelve.

Description of Projects

This section gives a brief description of the projects receiving grants in this period. "Objectives" shown with each project are related to the ACHE objective for multi-year project designs. The "Number of Teachers/Counties Served" shows the extent of meeting the objective for statewide coverage as reported by project directors. "National Significance" indicates that the projects were exemplary and have been recognized outside the state. "Project Content" summarizes the design, method of presentation, and subjects included in each project. Project directors and amounts awarded each project are listed in Appendix F in chronological order by fiscal year.

FY1995-1996 through 1996-1997

University of North Alabama: *Developmental Approaches in Science, Health and Technology (DASH)*

- Project Objectives:
- (1) Provide instructional materials and strategies that enable teachers to effectively teach science to heterogeneous groups of students,
 - (2) Provide instructional materials and strategies that support inquiry and problem solving by cooperative groups of students, and
 - (3) Promote changing approaches to teaching science in ways that focus on students' learning and increase the instructional time spent on science.

Number of Teachers/Counties Served:

67 teachers from schools in five north Alabama counties.

National Significance: DASH was based on a program developed by the Curriculum Research and Development Group at the University of Hawaii.

Project Content: In FY1996-1997 DASH completed the third year of a three-year program that began its first year in the previous legislative period. In these three years, DASH integrated science, health, and technology in grades K-4. Following a two-week summer institute, monthly one-day sessions were held during the school year to reinforce project objectives. DASH replaced the textbook with an integrated hands-on, inquiry program resulting in more instructional time spent on science, students involved actively in their own learning, and development of scientific literacy, responsibility, and critical thinking skills.

FY1995-1996 through 1999-2000

The University of Alabama: *2000-2001 Alabama Quantitative Literacy (QL) Workshops for K-12 Teachers*

Project Objective: Assist Alabama elementary and secondary teachers in implementing probability and statistics goals for grades K-12.

Number of Teachers/Counties Served:

275 teachers in 36 counties in all parts of the state.

National Significance: QL based its objectives on standards of the National Council of Teachers of Mathematics.

Project Content: Three concurrent workshops for grades K-4, 5-8, and 9-12 introduced teachers to teaching quantitative concepts in the context of solving meaningful problems. Math content was presented in reference to teaching strategies for participants to use when they returned to their classrooms. The program included a pre-workshop orientation, an intensive one-week training workshop, and two follow-up sessions. In the follow-up sessions, teachers described how they planned, taught, and assessed their own Quantitative Literacy units. They also presented examples of their students' projects.

FY1995-1996 through 2000-2001

[non-profit agency]: Alabama Institute for Education in the Arts (AIEA)

Project Objective: Improve the education of Alabama's schoolchildren through a comprehensive program of discipline-based arts education.

Number of Teachers/Counties Served: Over 700 administrators, classroom teachers, arts specialists, artists, and museum docents in eighteen counties.

National Significance: The Institute is a satellite program of the Southeast Center for Education in the Arts, a regional institute of the Getty Education Institute for the Arts in California, which has been training teachers in discipline-based arts education for over ten years. The President's Committee on the Arts and Humanities recognized AIEA as an exemplary arts education organization and profiled this program in the 1999 publication *Gaining the Arts Advantage*. AIEA received the Community Partnership Award from the Network of Performing Arts Schools presented at the 1999 national meeting in Denver.

Project Content: The AIEA objective was achieved through professional training, curriculum development and implementation, and arts education advocacy. Discipline-based arts education incorporates the integration of music, theater, visual arts, and dance across the curriculum through the structured disciplines

of history, criticism, aesthetics, and production. AIEA is supported by the Selma City Schools and Saint James School in Montgomery, the Alabama Shakespeare Festival, the Montgomery Museum of Fine Arts, and individuals, businesses, and corporations. The ACHE Eisenhower grant contributed to an intensive one-week summer session as well as fall followup and winter "Super Saturday" sessions during the school year.

AIEA influenced pre-service education in a Pre-service Redesign Project agreement in 1999 with the University of West Alabama, in which comprehensive arts education concepts were taught in basic methods courses. A similar approach for pre-service teachers was introduced in 2001 at Jacksonville State University. Both universities were represented by faculty participants in AIEA workshops.

The University of Alabama: *Improving Science in Academic Alert and Caution Schools Using Integrated Science (IS): Comprehensive Training for Middle School Science Teachers*

Project Objective: Prepare teachers to teach to challenging standards, improve student attitudes towards science, and increase knowledge and application of science by middle school students.

Number of Teachers/Counties Served: Over 200 Alabama middle grade science teachers in 46 counties.

National Significance: Created at the University of Alabama in 1991, this program now trains teachers in Louisiana, New York, Florida, and Quebec with training sessions conducted by request.

Project Content: Integrated Science is a topic-based curriculum for grades 6-8 with emphasis on teaching major concepts and science methodology rather than the rote memorization of facts and terminology. This program is fully compatible with the Alabama Course of Study: Science and the new national science standards. In Integrated Science, students examine a small group of topics from the combined perspectives of biology, earth/space science, chemistry, and physics. Major topics such as the universe, cells, matter, energy, and forces are returned to and expanded upon each year in a spiraled learning sequence. The program trained teachers in both the curriculum

content and advanced instructional strategies: hands-on activities, problem-based investigations, and integrated instruction. Teachers learned this curriculum in summer workshops and received a full year of curriculum materials with texts, videotapes, and science kits. During the school year, they had daily access to program staff by toll-free telephone and e-mail as well as regional workshops and staff on-site visits to teachers in their schools.

The University of Alabama at Birmingham: *Alabama Hands-On Activity Science Program (ALAHASP)*

Project Objectives: Provide professional development for teachers new to inquiry-centered, hands-on curriculum; support pre-service science education by providing materials and consultation for use in methods classes at Auburn University, the University of Alabama at Birmingham, and the University of South Alabama; assist all ALAHASP school system partners with long-range planning; and continue consultation and services previously developed.

Number of Teachers/Counties Served: ALAHASP provided professional development for over 5,000 teachers in thirty-five school systems across the state serving over 100,000 K-6 students, including the Alabama School for the Deaf. Auburn University, the University of Alabama in Huntsville, and the University of South Alabama also collaborated with this project.

National Significance: Project ALAHASP incorporated an exemplary science curriculum for grades K-6 using modules (kits) developed and tested nationally under funding from the National Science Foundation. The project's collaboration with national agencies has since included the SouthEast Regional Vision for Education and the National Sciences Resource Center, a Smithsonian Institute Academy.

Project Content: Teaching kits, or "modules," are self-contained units with all necessary information and materials for a teacher and class of 30 students to engage in eight weeks of inquiry-centered science. The curriculum consists of four modules for each K-6 grade, all based on learning science by hands-on activities focused on discovery, problem solving, and inquiry learning. ALAHASP also assists all of its school system partners with

long-range planning. The project provides critical leadership to schools by using the expertise of project personnel and by focusing on collaboration with school partners. Although it offers a carefully organized programmatic approach to K-6 science instruction, ALAHASP adapts to the needs of individual school systems.

University of Alabama in Huntsville: *Alabama Supercomputing Program to Inspire computational Research in Education (ASPIRE)*

Project Objective: Improve the teaching of mathematics, science, and core subjects by training teachers to use computers and the internet as tools in a problem solving process that encourages student directed investigation, develops problem solving skills, and provides technology familiarity.

Number of Teachers/Counties Served: Eight regional training centers (RTC) in schools across the state provide local sites for training, program expansion, and teacher support. The RTCs together with UAH have served all Alabama counties with training and support available to teachers in all school districts in the state.

National Significance: In 2000 ASPIRE was designated as a “promising program for increasing the interest and roles of women and minorities in scientific education” by the Gender Equity Expert Panel in Mathematics, Science and Technology of the U. S. Department of Education. Other recognition includes the program’s selection in 1996 as one of five Alabama projects invited to testify before the Basic Research Subcommittee of the House of Congress Committee on Science. In 1991 it was recognized as an exemplary program by the National Science Foundation study panel on the role of high performance computing in education.

Project Content: ASPIRE is a three-level, project oriented program for elementary, middle, and high school: Level 1 stresses Internet and computer use, data gathering, and collaborative problem solving. Level 2 teaches project development, use of software in problem solving, working with mentors, and writing up the project. Level 3 includes Level 2 material plus instruction on using high-level computer languages. ASPIRE provides

instructional materials, follow-up workshops, and technical assistance. In an annual statewide Computational Science EXPO, students exhibit their projects for judging. ASPIRE was established in 1989 as "Secondary Teaching Training in Supercomputing" with resources of the Alabama Supercomputer Network, cooperative assistance of Boeing Computer Services Corporation, and local education agencies. Alabama A&M served as fiscal agent in its inaugural year. In succeeding years the University of Alabama in Huntsville has served as fiscal agent and provides project leadership. Its designers observed that computational science, as an emerging field, is of key importance to the United States in maintaining world leadership in high technology. The project developed from laboratories and workshops to a network providing access to supercomputer resources for teachers across the state.

University of Alabama in Huntsville: *Teaching the Future: Space Exploration and the Improvement of Science and Mathematics Education in Alabama Schools*

Project Objective:

Assist Alabama teachers meet the objectives of the Alabama Courses of Study in science and mathematics, correlated with the Stanford 9 Achievement Test. Specifically –

1. Introduce important historical, theoretical, and practical implications of space exploration efforts for teaching science and mathematics.
2. Provide first-hand exposure to many of the research and operational space facilities of the United States, Russian, and Ukrainian space programs.
3. Facilitate interaction with educational, government, and corporate personnel who are or have been involved directly with space exploration and science education.
4. Provide workshops and other hands-on experiences for the classroom implementation of relevant concepts, constructivist pedagogies, and teaching materials.
5. Evaluate and follow-up with technical assistance, pedagogical advice, and discussion sessions throughout each academic year.

Number of Teachers/Counties Served:

Over 500 teachers in 41 counties in all parts of the state.

National Significance: In 1987 Level I of this program was designated an “exemplary demonstration project” by the U. S. Department of Education. In 1993 the international level was awarded first runner-up for new credit programming by Region VII of the Association of Continuing Higher Education. In addition to these awards, evidence of national recognition of the program is shown by teachers in states across the country applying for and being accepted as participants.

Project Content: The project consisted of three progressive levels. Level I, "Exploring Space: The Classroom Connection," introduced space exploration themes in sessions meeting in Huntsville. These themes were further developed in Level II, "Exploring Space: The Capital Connection," with sessions held in the Washington, D.C. area. Level III, "Exploring Space: the International Connection," applied these themes in Russia and Ukraine. The project provided workshops, laboratories, and other hands-on experiences for relevant concepts, teaching methods, and classroom materials. The project also provided on-site, first-hand exposure to selected research and operational space facilities in the United States, Russia, and Ukraine. These activities facilitated interaction with educational, government, and corporate personnel involved directly with space exploration and science education.

FY1997-1998 through 1998-1999

University of Alabama: *Energy Literacy: Teaching the Alabama Course of Study's Energy Theme*

Project Objective: Support development of scientific literacy by fostering partnerships among teachers, university teacher educators, and energy science researchers in Alabama.

Number of Teachers/Counties Served:
Ninety teachers in fifteen school systems.

National Significance: A partner with this project was the U. S. Department of Energy through its Experimental Program to Stimulate Competitive Research (EPSCoR), a supporter of Project Energy in competitively selected Alabama universities.

Project Content: Energy Literacy focused on the energy science education standards adopted by Alabama. It was especially concerned with increasing the involvement of underrepresented and underserved students in learning about opportunities of energy research. Participating lead teachers provided models for long-term development of science/energy education reform throughout the state with emphasis on technology. In turn, the lead teachers trained peer teachers in their schools and regions. Energy researchers at the forefront of energy science in the state worked closely with lead teachers as content mentors and as classroom “Adopt-a-Scientist” roles. Emphasis on partnership with schools, scientists, and businesses assisted lead teachers in translating energy content into accessible subject matter for effective classroom teaching.

University of Alabama at Birmingham: *Technology Across the Curriculum: Strengthening the Curriculum Through the Utilization of Technology*

Project Objective: Train teachers in middle schools to use technology, especially the Internet-based instructional resources and techniques and increase their teaching effectiveness and productivity.

Number of Teachers/Counties Served:
37 teachers in eight counties.

National Significance: None noted.

Project Content: Technology Across the Curriculum involved hands-on activities in the university’s computing and technology facilities and field trips to various university schools/departments. These activities gave participants an opportunity to learn to use and observe state-of-the-art technology applications in their subject areas to use in their schools. Also in the project design was distribution of some applicable software to participants. Initiated in Jefferson County in 1997, the project was intended to expand in future

years to other regions in the state using the ASPIRE Regional Training Centers. Although designed as a multi-year project, its duplication of ASPIRE objectives and limited Eisenhower Program funding resulted in the ACHE grant being awarded for only one year.

FY1998-1999 through 2000-2001

University of Alabama at Birmingham: *Alabama Reading Initiative (ARI) Evaluation*

Project Objective: Assess the ARI program of the Alabama State Department of Education and provide feedback to program administrators.

Number of Teachers/Counties Served: 256 schools were included in two years of ARI evaluation.

National Significance: ARI responded to former President Clinton's America Reads Challenge to have every student in the nation reading independently and well by the end of the third grade, a challenge adopted by the U. S. Department of Education as one of seven priorities.

The Alabama Reading Initiative continues to receive national attention. In Spring 2001, Florida launched a reading initiative patterned after Alabama's program and hired ARI's certified presenters to train their own presenters. The following summer, the ARI was featured in the most recent meeting of the National Conference of State Legislators. Additionally, staff from ARI have been invited to advise the U. S. Office of Education on statewide literacy reform, demonstrating that Alabama is in the forefront of literacy education in the United States.

Project Content: The Alabama Reading Initiative (ARI) is a program of the State Department of Education (SDE) designed to achieve literacy for all public school students in the state. The evaluation of this program addressed outcomes of students, teachers, sites, and pre-service teacher education determined from both quantitative and qualitative methods: student scores on standardized tests, written responses of teachers, interviews, and self-report data. It evaluated the success of implementing

ARI in 267 ARI schools, providing information to assist ARI staff in adjusting requirements, procedures, and professional development to reach its goal of expanding to all schools in the state.

The evaluation addressed four broad questions: (1) Which schools are making progress toward achieving 100% literacy and which are not? (2) What factors are related to school outcomes, and why are some schools making more progress than others? (3) To what extent are the ARI components reflected in pre-service teacher education programs? (4) What ARI factors are related to change in pre-service teacher education programs? The results of this evaluation are given in a separately bound report.

FY 1999-2000 through 2001-2002

University of Alabama in Huntsville: *The Alabama Classroom Enhancement (ACE) Project: The Independent Study Scholarship Program*

Project Objective: Provide meritorious Alabama teachers representing all grades K-12 with independent study opportunities to enhance their subject matter expertise and effectiveness in classroom teaching.

Number of Teachers/Counties Served: 48 teachers representing school districts in eight counties.

National Significance: Participating teachers conducted their independent study research in various states in the U. S. and five foreign countries.

Project Content: In conjunction with local superintendents, the ACE office made independent study available each year to at least ten carefully selected teachers from both public and private schools, including high poverty schools, who met minimum criteria of excellence. Their study was supported by scholarships of up to \$3,000 each. The ACE office developed committees to review applications to select teachers, identify mentors to be assigned to each teacher, and provide follow-up assistance throughout the academic year. All study programs

included mentoring by recognized authorities in each teacher's field of study. The scholarships were available in nine core subject areas: mathematics, science, English, civics and government, foreign languages, arts, geography, history, and

economics.

Response to the project was immediate and notable from the project's first year, when 18 teachers were selected from 138 nominations. Their diverse study included such subjects as "Learning and the Brain" at Harvard University, "Nuts and Bolts Symposium on Child Development" in Colorado, "Reaching the Tough to Teach" in Florida, and "Project LAVA: Learning About Volcanic Activity" in Hawaii. Similar quality, extent of study, and statewide representation continued in each subsequent year.

FY2001-2002

Spring Hill College: *Mathematics Excellence: Mentoring and Hands-On Learning*

In addition to the multi-year, statewide projects described above, Spring Hill College was selected in the last year of this six-year period for a grant on Mathematics Excellence to assist both veteran and entry level teachers in mastering hands-on mathematics instruction. It also assisted veteran teachers in mentoring entry level teachers in classroom management. This one-week course with followup during the school year introduced pairs of veteran and entry level teachers to materials necessary to use instructional strategies, computer resources, and mentoring practices in their schools. Teaching materials were also distributed to the teachers. Participants were second and third grade teachers in Baldwin and Mobile counties from both public and private schools.

SUMMARY OF PROGRAM ACCOMPLISHMENTS

With reduced funding under the current period of reauthorization, the Commission was faced with some unique challenges. Was it possible to put in place an operational plan that would ensure long-term, sustained, high quality professional development for Alabama's K-12 teachers as required by the federal legislation. Was it possible to provide access to exemplary programs statewide, including teachers in high-poverty and at-risk schools? Would it be possible to establish effective collaborative networks of support that would enable Project Directors to offer high quality professional development as measured by national standards? And, what evidence could be gathered that would show a difference had been made in classroom practice?

To address these concerns during the period of this report, the Alabama Commission on Higher Education (ACHE) awarded multi-year grants to one private college, four public universities and a non-profit agency to provide long-term, sustained, high-quality professional development for Alabama K-12 teachers. The projects funded were designed to offer teachers statewide access to exemplary programs, including teachers in high-poverty schools, to change classroom practice, to increase student performance, to foster collaboration among public and private sectors, and to impact pre-service curriculum. Individual grants ranged from \$7,000 to \$210,626, and each project was externally evaluated every year to determine its effectiveness in reaching stated objectives.

The benefits of this program over time became significant. The cooperative relationship between the Alabama State Department of Education and ACHE ensured the relevance and success of the projects. Innovative teaching methods and resources have been implemented, and in notable instances materials and aids were provided to teachers in schools with very limited resources. Renewed enthusiasm in teaching was fostered, and underserved students and geographic areas were reached. In general, this program was instrumental in moving toward improved learning of these critical subjects.

Achievement of ACHE State Goals

Goal 1: Provide long-term, sustained, high-quality professional development for Alabama K-12 teachers.

Sustained professional development for Alabama K-12 teachers occurred with careful selection of multi-year projects as described on pages 10 to 19 of this report and listed with the multiple years of their grants in Appendix F. Not only was there a commitment to fund these projects for several years, but all projects were required to provide activities throughout the academic year. That they were high quality was assured in the grant award process explained on page 9, including evaluation of proposals and end-of-year evaluation.

Goal 2: Provide access to teachers statewide, including teachers in high-poverty schools.

Only one project was offered to teachers in a limited region (Spring Hill College: “Math Mentoring”); all others were required to be available to teachers statewide, with emphasis on teachers in high-poverty schools. (See Appendix G: Maps of Statewide Access)

Goal 3: Encourage participation of entry-level teachers in one or more ACHE Eisenhower programs, with an overall goal of at least 50% of ACHE Eisenhower participants as entry-level teachers.

Except for one project (University of Alabama in Huntsville: “ACE”) which by design was available only to experienced teachers, all projects included entry-level as well as experienced teachers as documented in annual ACHE data collection reports and project director end-of-year reports.

Goal 4: Result in change of teacher practice in the classroom that increases student performance in content areas addressed in the proposal. Projects to improve teaching methods should be designed to impact pre-service curriculum as well as provide in-service professional development.

Project reports, external evaluation, and ACHE on-site staff visits show that teachers reported using different, improved strategies and materials in their classes as a result of their work in the various projects. Excerpts from external evaluation reports follow:

- The “majority reported feeling extremely positive about teaching IS [integrated science].” [Jae Kwon *et al.*, “IS New Teacher Post Inservice Survey Results Summer 2000,” p. 5].
- 99% of these teachers said they were “prepared to implement the IS program” after the summer workshop [Jae Kwon *et al.*, “IS New Teacher Post Inservice Survey Results Summer 2000,” p. 6].
- “Most of the workshop participants strongly agreed that the activities allowed them to practice new skills, integrate new information, and develop a better understanding of cooperative learning. The vast majority of teachers also agreed that they intended to use the science modules in the classrooms, use alternative methods of student assessment and teaching strategies.” [Judy Giesen, “Alabama Hands-on Activity Science Program (ALAHASP),” Final Evaluation Report, 1 February 2000 – 30 May 2001, p. 9].
- “Most teachers have changed their instructional practices” and “Teachers reported seeing improvement in test scores for students at all ability levels” [Judy Giesen, “Alabama Hands-on Activity Science Program (ALAHASP),” Final Evaluation Report, 1 February 2000 – 30 May 2001, p. 9].

- The project “achieved a change in beliefs and attitudes” toward teaching mathematics. [Nancy C. Fisher and Estelle Ryan Clavelli, “A Review: The University of Alabama 2000-2001 Quantitative Literacy Workshop,” p. 3].
- Participant comments: “Used group activities from the AQLW (Alabama Quantitative Literacy Workshop) in the classroom”; “Included new ideas and methods in my teaching”; “Employed assessment instruments developed in AQLW in my classroom” [Nancy C. Fisher and Estelle Ryan Clavelli, “A Review: The University of Alabama 2000-2001 Quantitative Literacy Workshop,” p. 7].

Impacting university pre-service curricula is shown by two Alabama universities that have modified pre-service methods courses resulting from the ACHE Eisenhower Program. In an agreement with the Dean of the School of Education at the University of West Alabama, professors “have incorporated comprehensive arts education into their basic methods courses and are requiring that preservice teachers incorporate the concepts in all of their classroom experiences” [Martha Lockett, “Project Director’s Report, 15 June 2001,” p. 9]. In addition, ALAHASP materials and teaching strategies have been incorporated in elementary science methods courses at the Auburn University, the University of Alabama at Birmingham, and the University of South Alabama.

Goal 5: Demonstrate a high level of teacher and/or superintendent endorsement;

– and –

Goal 6: Establish active partnerships between local school systems and project administrators.

All ACHE Eisenhower Program RFPs required applicants to provide documentation of endorsements and partnerships with schools. For example, “ACE (Alabama Classroom Enhancement Project)” offered by the University of Alabama in Huntsville required all of its independent study applicants to be nominated by superintendents [ref: grant application, 1 February 2001 – 31 January 2002, pp. 2-3]. Another example is “ASPIRE (Alabama Supercomputing Program to Inspire Computational Research in Education),” which has a network of nine Regional Training Centers (RTC) located in schools across the state, each of which serves a number of other schools within a multi-county region [ref: grant application, 1 February 2001 – 31 January 2002, Appendix A: “Maps of Active Schools, RTC Regions, ASPIRE Counties, Poverty Regions”].

The ACHE collaborated with the Alabama State Department of Education in developing the higher education program objectives and evaluating project proposals. This assured relevance and practicality of the grant projects to meet Alabama's most immediate needs for inservice training in core subjects, especially mathematics and science.

Ultimately, accomplishment of program objectives is best measured in student achievement in mathematics, science, and other core subjects. Although the legislation did not require measuring student achievement, two projects provide evidence of improvement. A letter from the principal of Delta Elementary School in Bay Minette states that in the first year of using AIEA (Alabama Institute for Education in the Arts) teaching “grades improved on the SAT scores.” The letter also reports “vast improvement in our Writing Assessment scores”; the school is “seeing a difference in our children as well as their test scores.” Substantial evidence of student achievement is provided in a ten-year report of ASPIRE (Alabama Supercomputing Program to Inspire Computational Research in Education), which includes documentation of significant student achievement.

National Recognition of ACHE Eisenhower Programs

Alabama Institute for Education in the Arts (AIEA): The President’s Committee on the Arts and Humanities recognized AIEA as an exemplary arts education organization and profiled this program in the 1999 publication *Gaining the Arts Advantage*. The caliber of training provided and the highly unusual partnership between a public school system and a private school were emphasized. In addition, this partnership and development of AIEA resulted in the Community Partnership Award from the Network of Performing Arts Schools presented at the 1999 national meeting in Denver.

Alabama Supercomputing Program to Inspire computational Research in Education (ASPIRE): In 1991 a National Science Foundation study panel recognized this program as an exemplary program. Then in summer 1992, the Department of Energy initiated a teacher training program based on ASPIRE at three of its National Laboratories: Oak Ridge National Laboratory in Tennessee, Sandia National Laboratories in New Mexico, and Ames Laboratory at Iowa State University. This program, titled "Adventures in Supercomputing," was modeled after Alabama's "High Performance Computational Methods in Mathematics and Science" (later "Computational Science" and ultimately named "ASPIRE--Alabama Supercomputing Program to Inspire Computational Research in Education").

National recognition of ASPIRE also includes the RCI (a research consortium of industry, academic, and government organizations with world headquarters in Minneapolis) High Performance Computing Industry Recognition Award for 1993. In 1994 the ASPIRE program was selected as an exemplary model of technology in pre-college education, with on-site visits by WESTAT Research Corporation of Rockville, Missouri.

ASPIRE was selected to demonstrate its approach at the February 1995 Secretary’s Conference on Educational Technology *Making it Happen*, in Washington, DC. Then, in 1996 ASPIRE was selected as one of five Alabama projects invited to testify before the Basic Research Subcommittee of the House Committee on Science, chaired by Rep. Steven Schiff (R-New Mexico). A former student, Keri Kolumbo, also gave additional testimony on the positive benefits of the program. ASPIRE was designated in 1998 as a “promising intervention” by the U.S. Department of Education’s “Expert Panel on Gender Equity in Mathematics and Science.” This designation indicates noteworthy achievement in the program’s ability to include female students and develop their interest and skill in scientific research and study.

Alabama Hands-on Activity Science Program (ALAHASP): In July 1999 the ALAHASP Co-Director for north Alabama, was on the faculty of a six-day Strategic Planning Institute at the Smithsonian Institute, sponsored by the National Science Resources Center. The ALAHASP Education Director, attended the Institute as a special observer sponsored by a grant from Hewlett-Packard Corporation. In addition, with added support from Hewlett-Packard and the SouthEastern Regional Vision for Education (SERVE), ALAHASP was a founding partner of the Alabama Partnership for Science Education and helped plan a 1999 conference on “Building a Vision for K-8 Science” directed by the National Science Resources Center.

Integrated Science (IS): Beginning with the 1996-97 school year, the state of Georgia began administering the science portion of the Iowa Test of Basic Skills to its eighth graders, thus allowing comparisons between IS and non-IS schools. The SouthEastern Regional Vision for Education matched twenty-four schools using the program with eighty other Georgia schools. The results revealed 58% of the IS schools were ranked in the top half of the state schools (based on percentile rank), compared to 46% of matched non-IS schools. Longitudinal data researched by the University of Alabama’s Institute for Communication Research further shows that test scores continue to improve the longer a school is enrolled in IS and continues to increase over non-IS schools the longer IS is implemented.

Teaching the Future: In 1987 Level I of this program was designated an “exemplary demonstration project” by the U.S. Department of Education. In 1993 Level III was awarded first runner-up for new credit programming by Region VII of the Association of Continuing Higher Education.

DISSEMINATION OF PROGRAM INFORMATION

Dissemination of information on, and publications produced by, the ACHE Eisenhower program was a continuing activity to assure the widest possible knowledge about the program and benefits of its results. Both general and technical information was made available to prospective applicants, teachers, administrators, and the general public in a number of ways, including electronic media as well as print publications. This section gives a brief description of the most important of these.

Principal Publications:

- Request for Proposal (RFP):* Application for an ACHE Eisenhower Program grant with explanation of the program, its background, objectives, and application requirements, instructions, and forms. RFPs were published annually and distributed to all Alabama higher education presidents/chancellors, deans/head of education, heads of non-profit organizations known to have established professional development programs for K-12 teachers, ACHE Eisenhower project directors, and others when requested.
- Project Directory:* List of all projects receiving ACHE Eisenhower grants each year with a brief description of each project, the names of project directors and key staff, their addresses, telephone numbers, and list of workshop dates and locations. Published annually and distributed to ACHE commissioners, ACHE Eisenhower proposal evaluators, project directors, coordinators of the higher education Eisenhower Program in all states, the Eisenhower Program office in the US Department of Education, and others by request.
- The Commission's Report:* Quarterly newsletter for information on ACHE actions and general interest distributed to the public. Published in 1999-2000. It included feature articles on exemplary projects supported by the ACHE Eisenhower Program to keep the general public informed of the program's achievements.

Internet Websites:

Alabama Commission on Higher Education:

Eisenhower Program

<http://www.ache.state.al.us> Included in this site is the ACHE “Eisenhower Professional Development Program.” A link from the homepage leads to a listing of current and past Eisenhower Program RFPs, project directories, Operational Guidelines, and Competitive Grant Projects.

ACHE Eisenhower Grant Projects:

*Alabama Institute for
Education in the Arts*

<http://www.artseducation.org> “Alabama's premier site for information on professional development in comprehensive discipline-based arts education. Comprehensive discipline-based arts education helps provide a curriculum framework that educators may use to integrate arts into any school, any grade, and with any age student.”

Integrated Science

<http://www.ccet.ua.edu> Homepage for the Center for Communication and Educational Technology at the University of Alabama with a link to its project on Integrated Science describing this approach to middle grade science curriculum and teaching.

*ALAHASP: Alabama Hands-on
Activity Science Program*

<http://www.uab.edu/hasp> This site describes the project and includes links to workshop schedules, services provided, staff, information on starting a HASP elementary science program, and related material.

*ASPIRE: Alabama Super-
computing Program to
Inspire computational
Research in Education*

<http://aspire.cs.uah.edu> This homepage introduces ASPIRE, a program designed to motivate students in the area of computational science promoting reasoning, learning, and understanding. Links include staff contacts, listing of Regional Training Centers across the state, and information on EXPO.

Teaching the Future

<http://www.coned.uah.edu/space.html> Listed here is information on graduate credit available from this program at the University of Alabama in Huntsville along with descriptions of each level of this program, including dates and location of study.

Conference Presentations:

ACHE Eisenhower Program Staff:

*Alabama Science Teachers Association (ASTA);
Alabama Council of Teachers of Mathematics (ACTM)*

ACHE staff participated in annual meetings of these two statewide professional associations of math and science teachers leading sessions and participating in panels on the ACHE Eisenhower Program.

ASME International Mechanical Engineering Congress & Exposition

The Alabama Eisenhower Program coordinator for higher education presented a paper on “State Supported Non-Traditional Programs in Science/Engineering at K-12 Level” explaining ACHE Eisenhower professional development for K-12 teachers at the ASME 1997 annual meeting in Dallas, Texas.

Sample Project Presentations:

*Georgia Science Teachers Association;
Mississippi Middle School Association;
South Carolina Middle School Association;
Michigan Science Teachers Association;
North Carolina Middle School Association*

Integrated Science project staff gave presentations on teaching middle grade science in these and a number of other professional association meetings.

*Alabama LASER (Leadership and Assistance for Science Education) Strategic Planning Institute;
National Science Teachers Association*

Staff of the ALAHASP (Alabama Hands-on Science Activity Program) led the LASER institute, presented its program to the National Science Teachers Association (NSTA), and gave numerous other presentations in meetings across Alabama.

*Basic Research Subcommittee Of the House Committee on Science;
Alabama Educational Technology Conference (AETC)*

ASPIRE (Alabama Supercomputing Program to Inspire computational Research in Education) was invited to present its program to a Congressional subcommittee and gave a number of other presentations to such organizations as AETC and annual national supercomputing conferences.

APPENDIX A:
EISENHOWER PROGRAM BACKGROUND

EISENHOWER PROGRAM BACKGROUND

Through legislation enacted by Congress, the Eisenhower Program provided funding to state education agencies and state agencies for higher education to improve teaching and learning through high-quality professional development for teachers in kindergarten through grade twelve. Available to teachers in both public and private schools, the program continued similar staff development authorized in previous legislation originating in 1984, the Education for Economic Security Act (EESA)*. That authorization appeared in Title II of EESA, resulting in the program often referred to as “Title II funds,” which has remained. Appropriations under this act ended with the 1988-89 school year, but the promise of continuing success led to refining and extending the program in new legislation and a new designation as the Dwight D. Eisenhower Education Act (DDEA).

As a result, when the Education for Economic Security Act (EESA)* expired in 1989, Congress elected to continue its objectives in the Augustus F. Hawkins-Robert T. Stafford Elementary and Secondary school Improvement legislation of 1988 (P. L. 100-297), an amendment to the Elementary and Secondary Education Act of 1965, as the Dwight D. Eisenhower Mathematics and Science Education Act. Known more commonly as the Eisenhower Program, it was authorized for appropriation in fiscal year 1989-90 and for each of the four succeeding fiscal years. Continuing legislation extended the program one additional year.

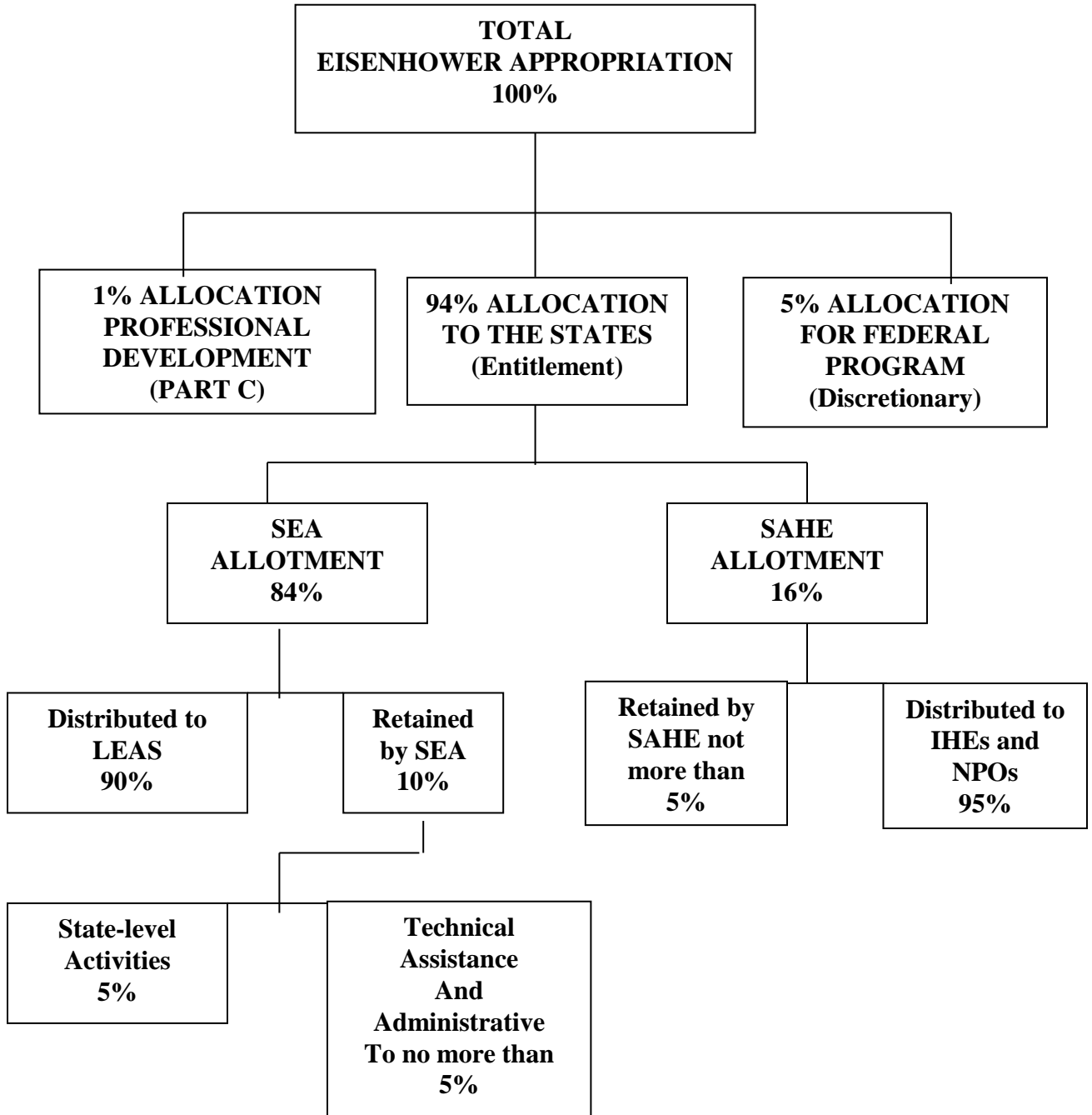
DDEA legislation expired on September 30, 1994 and was replaced by P. L. 103-382, "Improving America's Schools Act," which authorized the program for another five years, followed by continuing legislation for two additional years with funding authorized for expenditures to September 30, 2002. This legislation, still referred to as “DDEA,” maintained emphasis on mathematics and science but expanded the subject areas to include seven additional core subjects: English, civics and government, foreign languages, arts, geography, history, and economics. The new legislation also increased eligible applicants to include non-profit organizations serving teachers. With these changes, the program was renamed the “Dwight David Eisenhower Professional Development Program,” keeping “Eisenhower Program” as the short reference.

*In August 1984 Congress enacted legislation to address the need to improve learning of critical core subjects. Included in an omnibus education bill (P. L. 98-377), the program was specifically designed to strengthen instruction in mathematics, science, computer learning, and foreign languages at the elementary and secondary levels, thereby strengthening the economic security of the United States. Named therefore as the Education for Economic Security Act (EESA), it was one of only certain titles of the bill that were funded. Allocations to state departments of education and higher education agencies under EESA provided financial assistance for projects to improve the skills of teachers and increase the access of students to instruction in the designated subjects. Funds were allocated to the states based on K-12 students population with 70% administered by the state education agency and 30% by the agency for higher education in each state.

APPENDIX B:

**EISENHOWER PROFESSIONAL DEVELOPMENT
PROGRAM (EPDP) FUNDING**

EISENHOWER PROFESSIONAL DEVELOPMENT PROGRAM (EPDP) FUNDING



APPENDIX C:
EXTERNAL FUNDING AGENCIES

**Alabama Commission on Higher Education
Dwight D. Eisenhower Professional Development Program**

FY 1995-1996 THROUGH FY 2000-2001

**EXTERNAL FUNDING AGENCIES:
FINANCIAL SUPPORT AND IN-KIND SERVICES***

In addition to the institutions offering ACHE Eisenhower projects and to the school districts they serve, all of which provided significant support, the following agencies are gratefully acknowledged for providing financial support and in-kind services to individual projects of the ACHE Eisenhower Program during the period of this report:

Aaron Aronov Foundation
Adventures in Supercomputing – US Department of Education through the Krell Institute
Adventures in Supercomputing – US Department of Energy through Oak Ridge Laboratories
Alabama State Council on the Arts
Alabama Department for Economic and Community Affairs (ADECA)
Alabama Economics Education Center
Alabama Geological Survey
Alabama Humanities Foundation
Alabama Power Foundation
Alabama Public Television
Alabama Research and Education Network (AREN)
Alabama Shakespeare Festival
Alabama Space Grant Consortium
Alabama State Department of Education
Alabama Supercomputer Authority
Alliance for Minority Participation – National Science Foundation (NSF)
American Honda Foundation
Applied Physics Laboratory at The Johns Hopkins University
Autauga County Community Foundation
BellSouth
Birmingham Botanical Society
Blount Foundation
Boeing Corporation
Carolina Biological Supply Company
Casio Corporation
Central Alabama Community Foundation
Challenger Research, Training, and Development Center
Community Foundation of South Alabama
Department of Energy (DoE)
DeltaCom
Delta Education

*Reported by ACHE Eisenhower projects

**External Funding Agencies
FY 1995-96 Through FY 2000-01
Page Two**

Elmore County Community Foundation
Encyclopedia Britannica Educational Corporation – Full Option Science Services (FOSS)
Experimental Program to Stimulate Competitive Research (EPSCoR)
Explorations in Supercomputing – National Aeronautics and Space Administration (NASA)
 through the Marshall Space Flight Center
Exxon Corporation
Getty Education Institute for the Arts
Goddard Space Flight Center – National Aeronautics and Space Administration (NASA)
Hewlett-Packard Corporation
Hobbs Foundation through the Montgomery County Schools
Holbrook Foundation
Institute for Science Education at the University of Alabama in Huntsville
International Paper Foundation
Kodak, Inc.
Legacy – Partners in Environmental Education
Marshall Space Flight Center – National Aeronautics and Space Administration (NASA)
Mobile Area Freenet
Montgomery Business Committee on the Arts
Montgomery Museum of Fine Arts
National Aeronautics and Space Administration (NASA) Headquarters
National Center for Supercomputing Applications (NCSA)
National Endowment for the Arts (NEA)
National Institute for Global Environmental Change
National Science Foundation (NSF)
National Space Society
Partnership for an Advanced Computational Infrastructure (PACI)
 through the National Computational Science Alliance (NCSA)
Pickens Academy
Regional Inservice Centers:
 Auburn University
 The University of Alabama/University of West Alabama
 The University of Alabama at Birmingham
 The University of Montevallo
 The University of North Alabama
 The University of South Alabama
Regions Bank
Saint James School
Saint Paul's Episcopal School
Scholastic
South Alabama Regional Inservice Center
SouthEast Center for Education in the Arts
SouthEast Regional Vision for Education (SERVE)
Standards-based Teacher Education through Partnerships (STEP), University of Hawaii
Stockham Foundation
Subcommittee on Space and Aeronautics of the Committee on Science, United States House of
 Representatives

External Funding Agencies
FY 1995-96 Through FY 2000-01
Page Three

The Forum
UMS-Wright Preparatory School
University of North Alabama Center for Environmental, Energy, and Science Education
United States Naval Observatory
Water Works of Mobile
Wayne and Ida Bowman Foundation

APPENDIX D:
GRANTS AS A PERCENTAGE
OF TOTAL BUDGETS

Alabama Commission on Higher Education
Dwight D. Eisenhower Professional Development Program

**GRANTS AS A PERCENTAGE OF TOTAL BUDGETS
FY1995-1996 THROUGH FY2000-2001**

LEGEND

Institutions:

AIEA = Alabama Institute for Education in the Arts
SHC = Spring Hill College
UA = The University of Alabama
UAB = The University of Alabama at Birmingham
UAH = The University of Alabama in Huntsville
UNA = The University of North Alabama

Projects:

ACE = *Alabama Classroom Enhancement Project: Independent Study Scholarship Program*
AIEA = *Alabama Institute for Education in the Arts*
ALAHASP = *Alabama Hands-on Activity Science Program*
ALC = *Alabama Literacy Collaborative: Advanced Professional Development Program*
ARI Eval = *Alabama Reading Initiative Evaluation*
ASPIRE = *Alabama Supercomputing Program to Inspire computational Research in Education*
DASH = *Developmental Approaches in Science, Health and Technology*
Energy Lit. = *Energy Literacy: Teaching the Alabama Course of Study's Energy Theme*
IS = *Improving Science in Academic Alert and Caution Schools Using Integrated Science: Comprehensive Training for Middle School Science Teachers*
Math Excel = *Mathematics Excellence: Mentoring and Hands On Learning*
QL = *Quantitative Literacy Workshops for Alabama K-12 Teachers*
Space = *Teaching the Future: Space Exploration and the Improvement of Science and Mathematics Education in Alabama Schools*
Tech.-Curr. = *Technology Across the Curriculum: Strengthening the Curriculum through the Utilization of Technology*

Notes:

1. The following charts list grants by the fiscal years in which federal funds were appropriated, each of which precedes the school year in which the projects were conducted.
2. As provided by law, each fiscal year federal appropriation was permitted to be expended over an 18-month period. Therefore, within that period ACHE grants could exceed each year's federal appropriation by combining the balance of unspent funds from a previous year with the next year's appropriation.

Alabama Commission on Higher Education

Dwight D. Eisenhower Professional Development Program

GRANTS AS A PERCENTAGE OF TOTAL BUDGETS

<u>Fiscal Year</u>	<u>Project</u>	<u>ACHE Grant</u>	<u>External Funds*</u>	<u>Total Budget*</u>	<u>ACHE % of Total Budget</u>
1995-1996	AIEA	\$7,000	\$233,941	\$240,941	2.9
	UA: IS	\$100,000	\$241,533	\$341,533	29.3
	UA: QL	\$74,000	\$37,880	\$111,880	66.1
	UAB: ALAHASP	\$100,000	\$171,583	\$271,583	36.8
	UAH: ASPIRE	\$184,000	\$179,200	\$363,200	50.7
	UAH: Space	\$131,500	\$206,395	\$337,895	38.9
	UNA: DASH	\$99,844	\$48,376	\$148,220	67.5
	TOTAL	\$696,344	\$1,118,908	\$1,815,252	38.4
1996-1997	AIEA	\$10,000	\$460,050	\$470,050	2.1
	UA: IS	\$103,000	\$261,886	\$364,886	28.2
	UA: Energy Lit.	\$35,000	\$21,108	\$56,108	62.4
	UA:QL	\$108,000	\$67,092	\$175,092	61.7
	UAB: Tech.-Curr.	\$30,000	\$13,212	\$43,212	69.4
	UAB: ALAHASP	\$116,119	\$167,226	\$283,345	41.0
	UAH: ASPIRE	\$195,140	\$477,344	\$672,484	29.0
	UAH: Space	\$131,500	\$174,602	\$306,102	42.9
	UNA: DASH	\$95,000	\$29,473	\$124,473	76.3
TOTAL	\$823,759	\$1,671,993	\$2,495,752	33.0	
1997-1998	AIEA	\$7,480	\$355,628	\$363,108	2.1
	UA: IS	\$100,000	\$264,243	\$364,243	27.5
	UA: Energy Lit.	\$31,600	\$29,495	\$61,095	51.7
	UA: QL	\$114,174	\$118,849	\$233,023	45.1
	UAB: ALAHASP	\$120,204	\$154,263	\$274,467	43.8
	UAH: ASPIRE	\$208,206	\$395,557	\$603,763	34.5
	UAH: Space	\$140,000	\$169,777	\$309,777	45.2
	TOTAL	\$721,664	\$1,487,812	\$2,209,476	32.4
1998-1999	AIEA	\$15,000	\$364,867	\$379,867	3.9
	UA: IS	\$100,000	\$355,478	\$455,478	21.9
	UA: QL	\$112,000	\$145,970	\$257,970	43.4
	UAB: ALAHASP	\$128,000	\$206,230	\$334,230	38.3
	UAB: ARI Eval.	\$105,000	\$15,695	\$120,695	87.1
	UAH: ASPIRE	\$208,000	\$631,342	\$839,342	24.8
	UAH: ACE	\$50,000	\$14,147	\$64,147	22.1
	UAH: Space	\$140,000	\$89,320	\$229,320	61.1
TOTAL	\$858,000	\$1,823,049	\$2,681,049	32.0	

*Reported by projects

<u>Fiscal Year</u>	<u>Project</u>	<u>ACHE Grant</u>	<u>External Funds*</u>	<u>Total Budget*</u>	<u>ACHE % of Total Budget</u>
1999-2000	AIEA	\$22,000	\$364,242	\$386,242	5.7
	UA: IS	\$105,000	\$332,963	\$437,963	33.1
	UA: QL	\$113,000	\$82,460	\$195,460	57.8
	UAB: ALAHASP	\$140,000	\$220,685	\$360,685	38.8
	UAB: ARI Eval.	\$93,755	\$8,744	\$102,499	91.5
	UAH: ASPIRE	\$210,626	\$665,478	\$876,104	24.0
	UAH: ACE	\$60,000	\$17,000	\$77,000	77.9
	UAH: Space	\$145,000	\$70,125	\$215,125	67.4
	TOTAL		\$889,381	\$1,761,697	\$2,651,078
2000-2001	AIEA	\$30,800	\$365,907	\$396,707	4.9
	SHC: Math Excel	\$30,000	\$5,933	\$35,933	83.5
	UA: IS	\$100,000	\$271,218	\$371,218	26.9
	UAB: ALAHASP	\$145,000	\$229,780	\$374,780	38.7
	UAH: ASPIRE	\$210,000	\$641,753	\$851,753	24.7
	UAH: ACE	\$67,500	\$15,205	\$82,705	81.6
	UAH: Space	\$145,000	\$141,791	\$286,791	50.1
	TOTAL		\$728,300	\$1,671,587	\$2,399,887

SUMMARY

1995-1996	7 Grants	\$696,344	\$1,118,908	\$1,815,252	38.4
1996-1997	9 Grants	\$823,759	\$1,671,993	\$2,495,752	33.0
1997-1998	7 Grants	\$721,664	\$1,487,812	\$2,209,476	32.4
1998-1999	8 Grants	\$858,000	\$1,823,049	\$2,681,149	32.0
1999-2000	8 Grants	\$889,381	\$1,761,697	\$2,651,078	33.5
2000-2001	7 Grants	\$728,300	\$1,671,587	\$2,399,887	30.3
TOTAL	46 Grants	\$4,717,448	\$9,535,046	\$14,252,594	33.1

*Reported by projects

APPENDIX E:
EVALUATORS OF PROJECT PROPOSALS

EVALUATORS OF PROJECT PROPOSALS

<u>Evaluator</u>	<u>Agency / School</u>	<u>Years of Evaluation</u>
Kay Atchison-Warfield	Alabama State Department of Education	1998
Susanne Bray	Hoover School Board; Saint Paul Cathedral School, Birmingham	2000
Francena Cummings	Eisenhower Consortium for Math and Science, SouthEastern Regional Vision for Education	1999
Robert S. Davis	Alabama State Department of Education	2000
Elizabeth B. Evans	Mobile County School District	1996, 1997, 1998
Peg Griffin	Alabama State Department of Education	1999
Charlotte Hubbard	Oxford Elementary School	1999
Ann Jones	College of Education, University of West Alabama	1997; 1998
Eloise Kirk	Alabama State Department of Education (retired)	1997
Robert Lockwood	Alabama State Department of Education	1999
Dorothy Jean McIver	University of South Alabama	2000
Jayne Meyer	Alabama State Department of Education	1999
Mary Millman	Auburn University (retired)	1996, 1997, 1998
Katherine Mitchell	Alabama State Department of Education	1999; 2000
Edmund Moore	Alabama State Department of Education	1999
Caroline Novak	A+ Foundation	1999
Paul Wylie	Alabama State Department of Education	1996

Evaluators of Project Proposals
Page Two

Linda Ussery	President, Alabama Council of Teachers of Mathematics; Colbert County School District	1999; 2000
Nancy Vawter	President, Alabama Science Teachers Association; Alabama Science in Motion	1999; 2000
Darlene Wilmarth	Opelika City School District	1998
Charlotte Wright	Baldwin County School District	1999

APPENDIX F:

**ALABAMA HIGHER EDUCATION
PROFESSIONAL DEVELOPMENT
MULTI-YEAR PROJECTS
FOR K-12 TEACHERS**

Fiscal Years:

1995-1996 through 2000-2001

**ALABAMA HIGHER EDUCATION
PROFESSIONAL DEVELOPMENT MULTI-YEAR PROJECTS
FOR K-12 TEACHERS
Fiscal Years 1995-1996 through 2000-2001**

Alabama Institute for Education in the Arts (AIEA):

Saint James School

Directors:

Rebecca B. Taylor, 1996-1997

Ann Townley, 1997-1999

Martha Lockett, 1999-2001

Grants:

FY1995-1996: \$ 7,000

FY1996-1997: \$10,000

FY1997-1998: \$ 7,480

FY1998-1999: \$15,000

FY1999-2000: \$22,000

FY2000-2001: \$30,800

**Alabama Supercomputing Program
to Inspire computational Research in Education (ASPIRE)**

University of Alabama in Huntsville

Director: Carl Davis

Grants:

FY1995-1996: \$184,000

FY1996-1997: \$195,140

FY1997-1998: \$208,206

FY1998-1999: \$208,000

FY1999-2000: \$210,626

FY2000-2001: \$210,000

**Developmental Approaches
in Science, Health and Technology (DASH)**

University of North Alabama

Co-Directors: Earl Gardner, Mary Lou Meadows

Grants:

1995-1996: \$99,844

1996-1997: \$95,000

**Integrated Science: Comprehensive Training
for Middle School Science Teachers**

University of Alabama

Director: William L. Rainey

Grants:

FY1995-1996: \$100,000

FY1996-1997: \$103,000

FY1997-1998: \$100,000

FY1998-1999: \$100,000

FY1999-2000: \$105,000

FY2000-2001: \$100,000

**Quantitative Literacy Program
for Alabama K-12 Teachers**

University of Alabama

Director: Edward R. Mansfield

Grants:

FY1995-1996: \$ 74,000

FY1996-1997: \$108,000

FY1997-1998: \$114,174

FY1998-1999: \$112,000

FY1999-2000: \$113,000

**Project ALAHASP:
Alabama Hands-on Activity Science Program**

University of Alabama at Birmingham

Director: Stephen Underwood

Grants:

FY1995-1996: \$100,000

FY1996-1997: \$116,119

FY1997-1998: \$120,204

FY1998-1999: \$128,000

FY1999-2000: \$140,000

FY2000-2001: \$145,000

**Teaching the Future: Space Exploration
and the Improvement of Science and Mathematics Education
in Alabama Schools**

University of Alabama in Huntsville

Director: John R. Pottenger

Grants:

FY1995-1996: \$131,500

FY1996-1997: \$131,500

FY1997-1998: \$140,000

FY1998-1999: \$140,000

FY1999-2000: \$145,000

FY2000-2001: \$145,000

**Technology Across the Curriculum:
Strengthening the Curriculum
through the Utilization of Technology**

University of Alabama at Birmingham

Director: JoAnn Lan

Grant:

FY1996-1997:* \$30,000

*Although designed as a multi-year project, its duplication of ASPIRE objectives and limited Eisenhower Program funding resulted in the ACHE grant being awarded for only one year.

**Energy Literacy:
Teaching the Alabama Course of Study's
Energy Theme**

University of Alabama

Director: Dennis W. Sunal

Grants:

FY1995-1996: \$35,000

FY1996-1997: \$31,600

**Alabama Higher Education Professional Development
Multi-Year Projects for K-12 Teachers
Fiscal Years 1995-1996 through 2000-2001
Page Four**

Alabama Reading Initiative Evaluation

University of Alabama at Birmingham

Directors: Gypsy Abbott, 1998-1999

Marcia O'Neal, 1999-2000

Grants:

FY1998-1999: \$105,000

FY1999-2000: \$ 93,755

**The Alabama Classroom Enhancement (ACE) Project:
The Independent Study Scholarship Program**

University of Alabama in Huntsville

Director: John R. Pottenger

Grants:

FY1998-1999: \$50,000

FY1999-2000: \$60,000

FY2000-2001: \$67,500

**Mathematics Excellence:
Mentoring and Hands-On Learning**

Spring Hill College

Director: Lois Silvernail

Grant:

FY2000-2001:* \$30,000

*This project was awarded a grant in the last year of this six-year period and therefore is a multi-year exception.

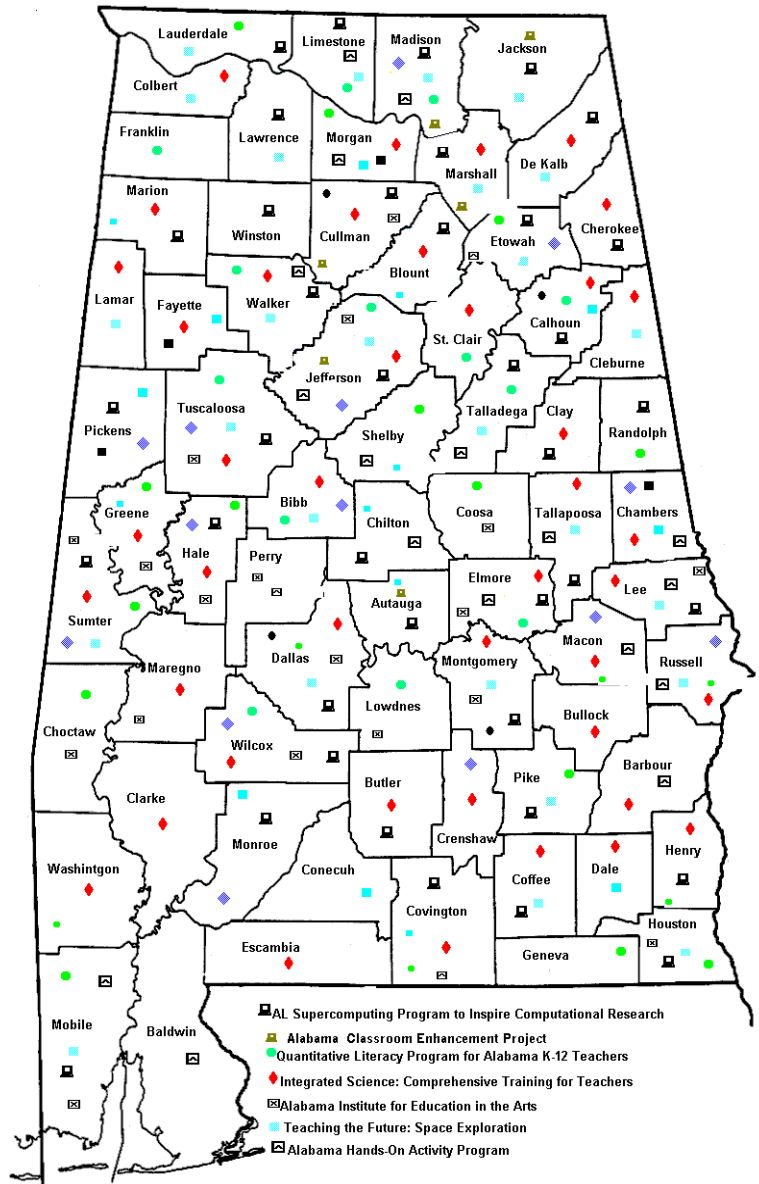
APPENDIX G:

MAPS OF STATEWIDE ACCESS

With the exception of DASH, Technology Across the Curriculum, and Mathematics Excellence, the maps in this appendix show the counties with teachers who participated in projects supported by the ACHE Eisenhower Program as reported by the projects. Maps for DASH (UAH) and Technology Across the Curriculum (UAB) are not included since they were funded only one year. Mathematics Excellence (Springhill College) is a new project for which data has not been reported.

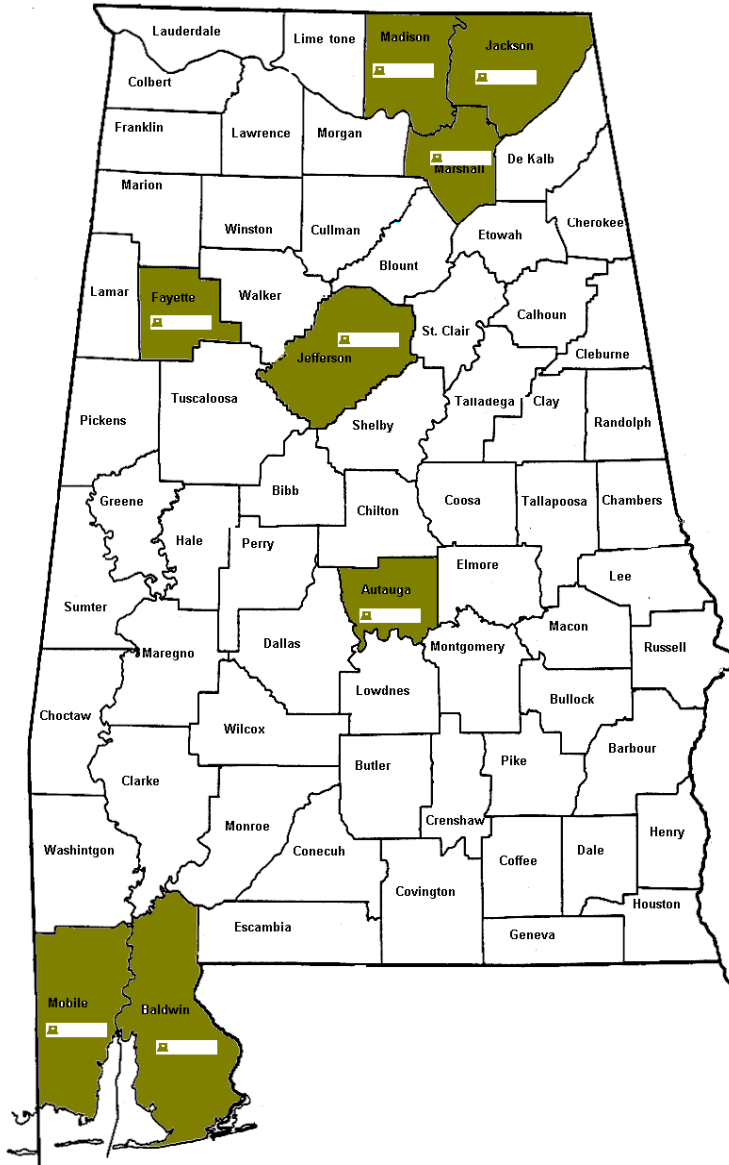
ALABAMA COMMISSION ON HIGHER EDUCATION
 Eisenhower Professional Development Program

CONSOLIDATED MAP OF ALL PROJECTS

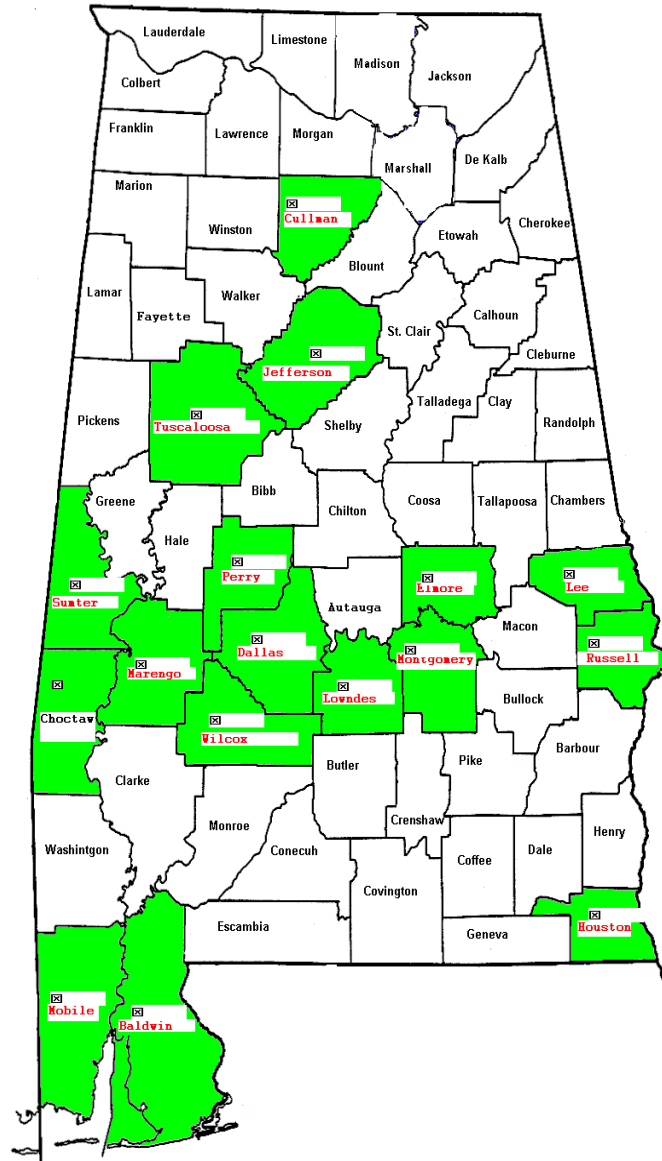


ALABAMA COMMISSION ON HIGHER EDUCATION
Eisenhower Professional Development Program

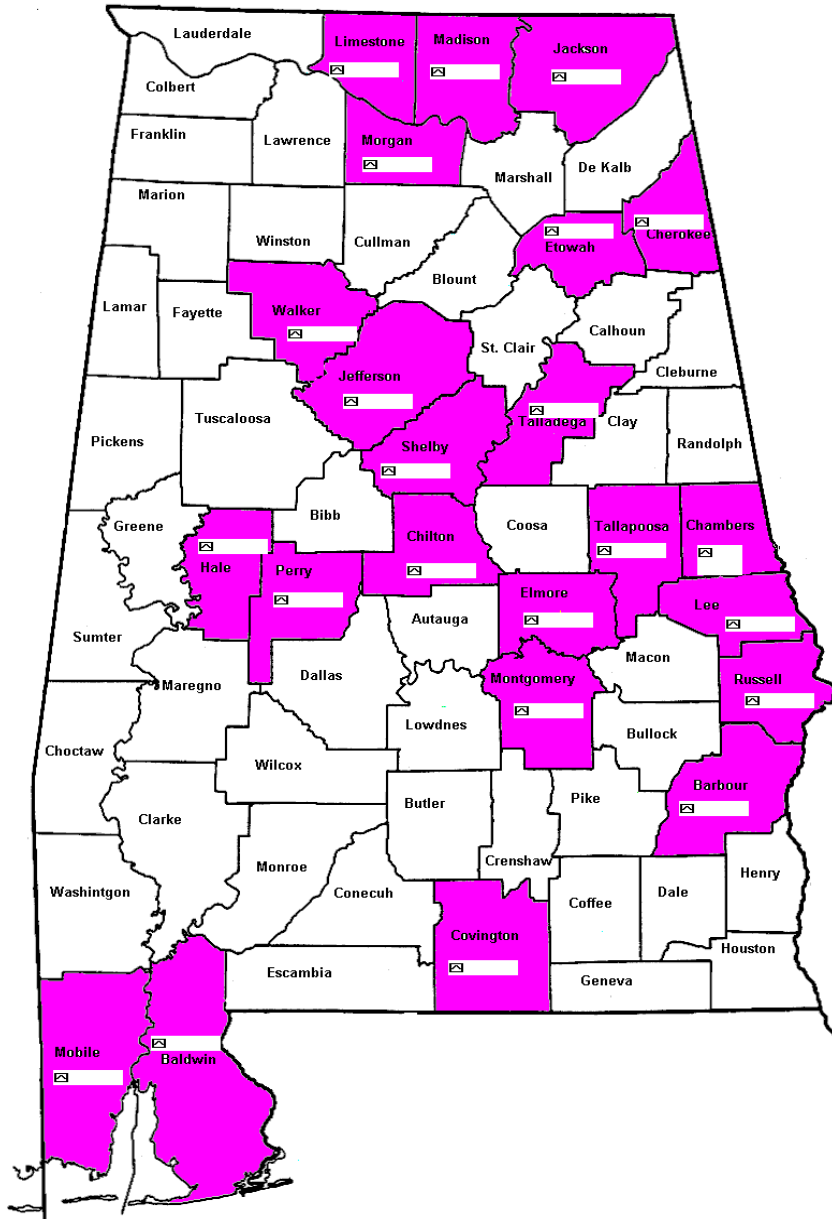
ALABAMA CLASSROOM ENHANCEMENT PROJECT



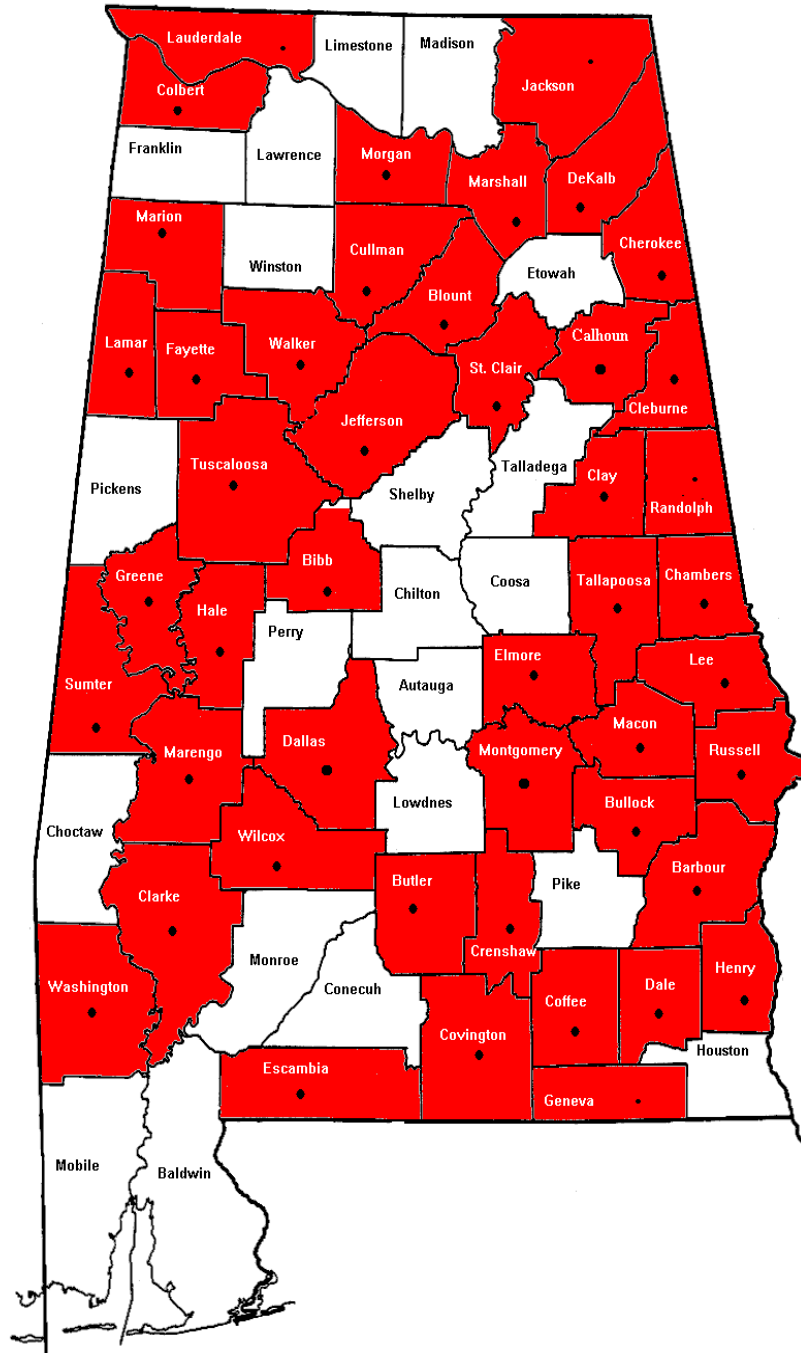
ALABAMA COMMISSION ON HIGHER EDUCATION
Eisenhower Professional Development Program
ALABAMA INSTITUTE FOR EDUCATION IN THE ARTS



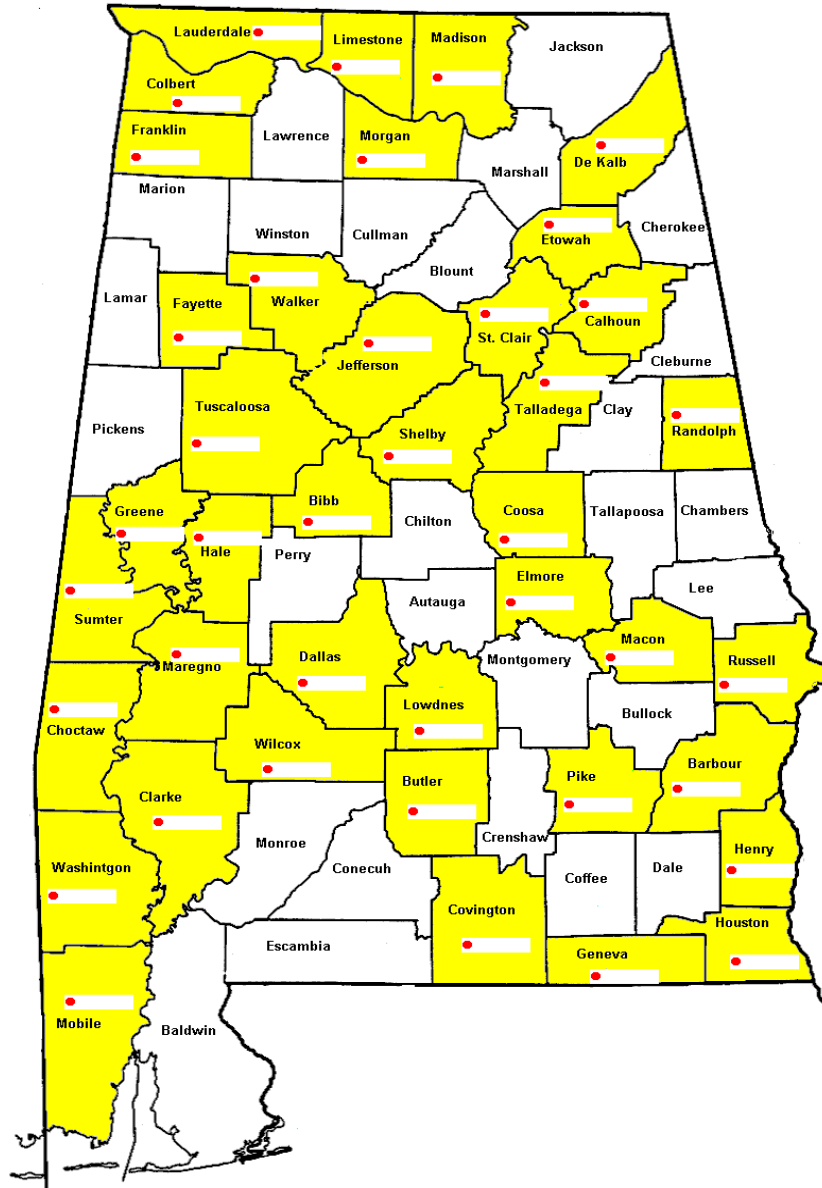
ALABAMA COMMISSION ON HIGHER EDUCATION
Eisenhower Professional Development Program
ALABAMA HANDS-ON ACTIVITY SCIENCE PROGRAM



ALABAMA COMMISSION ON HIGHER EDUCATION
Eisenhower Professional Development Program
IMPROVING MIDDLE SCHOOL SCIENCE IN ACADEMIC ALERT & CAUTION
SCHOOLS: A COMPREHENSIVE TRAINING PROGRAM
FOR MIDDLE SCHOOL SCIENCE TEACHERS

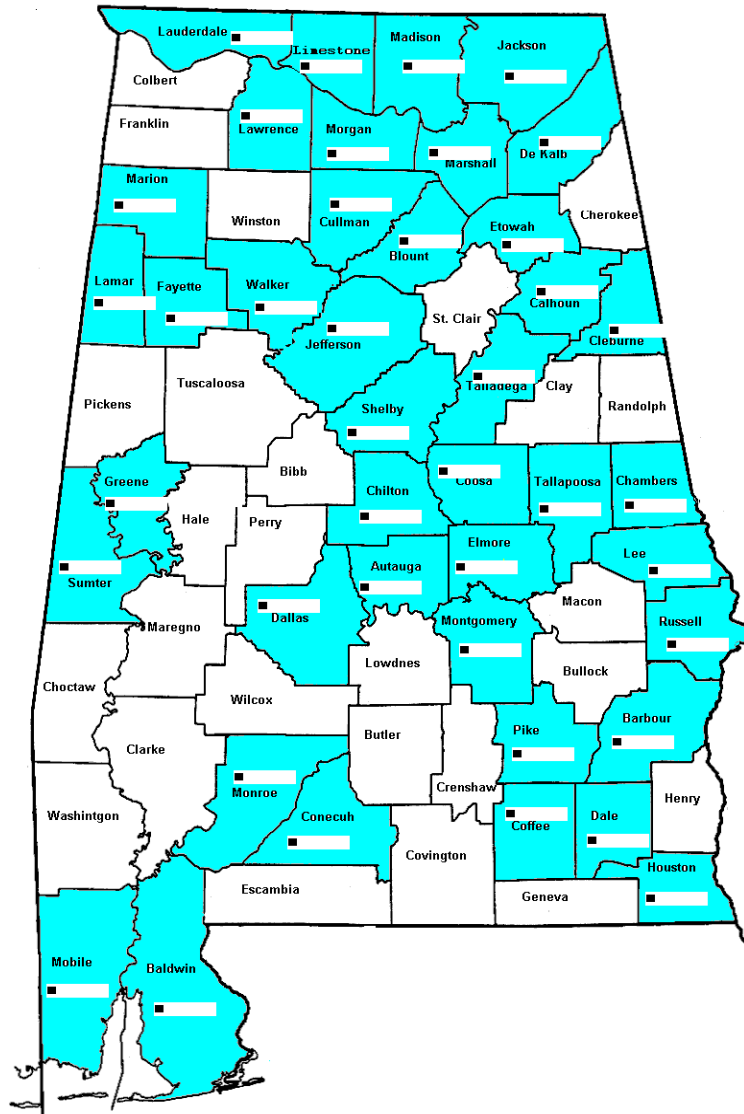


ALABAMA COMMISSION ON HIGHER EDUCATION
Eisenhower Professional Development Program
QUANTITATIVE LITERACY PROGRAM FOR ALABAMA K-12 TEACHERS



ALABAMA COMMISSION ON HIGHER EDUCATION
Eisenhower Professional Development Program

**TEACHING THE FUTURE: SPACE EXPLORATION AND THE
IMPROVEMENT OF SCIENCE AND MATHEMATICS EDUCATION
IN ALABAMA SCHOOLS**



ALABAMA COMMISSION ON HIGHER EDUCATION
Eisenhower Professional Development Program

**ENERGY LITERACY: TEACHING THE ALABAMA
COURSE OF STUDY'S ENERGY THEME**

