"VALUE ADDED" for INTER and INTRA-INSTITUTIONAL PROGRAMMING and COHERENCE

A. What courses or other program components have been developed at one collaborative member institution and replicated at other member institutions?

B. What physical, intellectual, or programmatic resources of one partner are used by other members of the collaborative?

C. What evidence is there that resources provided from NSF are used strategically? These resources should not be simply used to increase the budget of preexistent components.

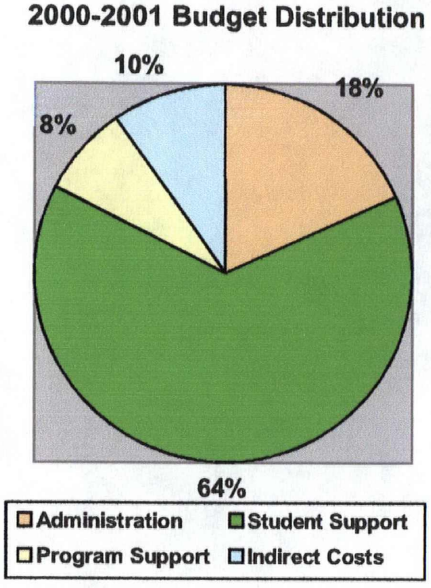
D. To what extent do members of partner departments in the sciences and education jointly plan, develop, and manage the program? Explicate this both within and across the collaborative.

The Alabama Louis Stokes Alliance has twelve member institutions, four majority institutions and eight HBCUs. Seven of the institutions have graduate programs while five are strictly undergraduate institutions. The institutions with graduate programs and graduate faculty share their resources with the undergraduate institutions. The Summer Research Internship program is the most efficient way in which these resources are shared. ALSAMP summer research programs are held at each of the four majority institutions; The University of Alabama, Auburn University, The University of Alabama in Huntsville, and The University of Alabama at Birmingham, as well as Alabama A&M University, an HBCU. The sharing of faculty and facilities has an advantage for all Alliance participants. The undergraduate institutions are having their students exposed to research experiences with research faculty while the research institutions are given the opportunity to work with and identify highly qualified minority students who may be attracted to their graduate school and assist them with preparation for graduate school.

The highly successful Drop-In Center concept was developed at a member institution and replicated at each of the remaining institutions. The ALSAMP Drop-In Center was developed at Talldega College from the tutorial lab concept for remedial mathematics students. Students and faculty staff the Centers full-time. LSAMP students are able to get help in any science course from the Center staff. In addition the Center is a place where LSAMP students meet for collaborative learning. As a condition of the LSAMP Scholarship, an LSAMP student must spend at least five hours in the Drop-In Center each week assisting other students with science course work. Many students spend a lot more than the required five hours in the Center. Faculty members refer students to the Center for special help and meet classes in the Center for study sessions.

The ALSAMP Budget Distribution in Tables 1 and 2 below is clear evidence that resources provided by NSF are used strategically. The majority of NSF funds are used by ALSAMP institutions for direct student support. Moreover, the fact that ALSAMP institutions

have an LSAMP award is a very good catalyst for attracting student support from the business community and other sources.



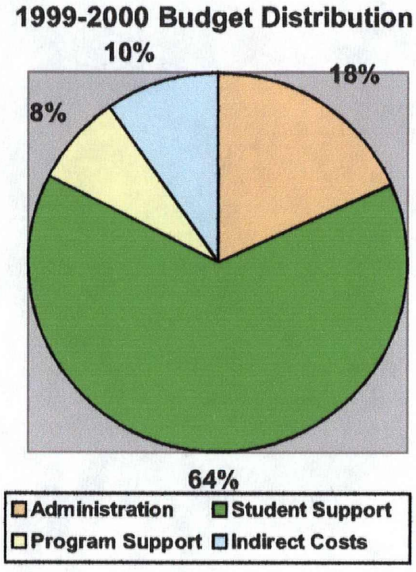


Table 1 **Table 2**

It is important to note that funds for direct student support have remained near 64% since the initial award. Student support combined with program support has remained near 75%.

A number of the majority institutions in the Alliance match the LSAMP funds given for student support on a one-to-one basis. LSAMP pays for half the scholarship and the institution pays half. This is a clear indication that the NSF funds are used strategically.

Technology has been infused into the LSAMP program through the Drop-In Centers. Each Drop-In Center is equipped with computer printers and calculators. Students use "MAPLE" and other software to study mathematics and science. The Drop-In Centers are open to all students during the course of their enrollment at ALSAMP institutions.

Technology is used during the summer programs to hold teleconferences with students participating in LSAMP programs at Alabama A&M University, Alabama State University, and The University of Alabama at Birmingham. These teleconferences allow students at these campuses to meet and discuss LSAMP activities in a cost-effective manner.

TEACHER PREPARATION

Where appropriate, explicate the teacher preparation component of the AMP program.

A. What differential strategies are used in dealing with students in the undergraduate school/industry-related and teacher preparation tracks?

The ALSAMP Teacher Preparation Program began in 1995 as an effort to increase the number of underrepresented minorities teaching mathematics and science in elementary and secondary schools. The program has two components, an academic year component and a summer component. The program is patterned after the successful LSAMP Scholars Program and Summer Internship Program and makes use of the regular LSAMP organization for its administration. The Principal Investigator on each campus serves as the Teacher Preparation Coordinator, and the LSAMP Governing Board serves as the Teacher Preparation Governing Board.

The solution to the problem of a shortage of minority students entering the mathematics and science teaching professions is found in the success of the LSAMP program. National attention is given to the problem and aggressive leadership is needed to bring together science and education schools and faculty to address the problem and find a solution. The LSAMP program is a model for success for the teacher preparation problem.

The ALSAMP solution begins with the high school senior, the junior college transfer, and the college graduate seeking to change careers. Selected entering freshman students or junior college transfer students majoring in mathematics or science education are recruited to receive scholarship support for four years to become certified to teach mathematics or science. Once in the program, TP students are assigned a faculty mentor and assist with faculty research and other projects. The research projects may be education or science related and may require collaboration between science and education faculty. The final projects are presented at a Teacher Preparation Conference at the end of the academic year. In addition, TP students must monitor their progress toward certification on computer, keep a portfolio of academic and other activities, and visit mathematics and science classes in the local schools.

These activities are designed to increase the quality and quantity of minority mathematics and science teachers. A by-product of these activities has been an increase in the collaboration of the science and education faculty at LSAMP institutions and within the Alliance.