DoD

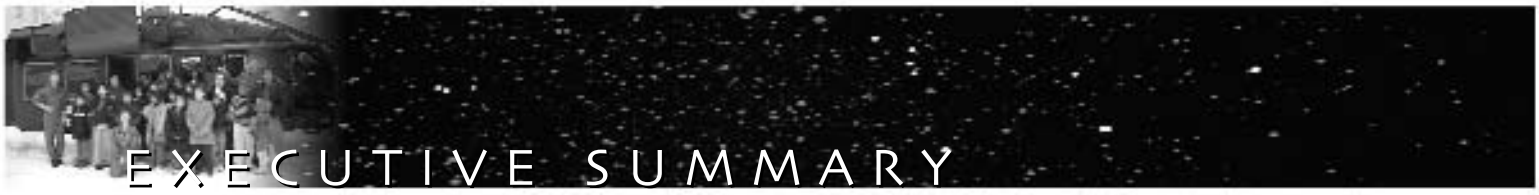
STARBASE

2004 Annual Report

The space station above was designed by a 5th grade student from Detroit, Michigan using a design and technology software program developed by PTC.

TABLE OF CONTENTS

THE DoD STARBASE MISSION:
TO RAISE THE INTEREST AND IMPROVE THE KNOWLEDGE AND SKILLS OF YOUTH IN THE AREAS OF MATH, SCIENCE, AND TECHNOLOGY



EXECUTIVE SUMMARY

United States graduate schools are experiencing diminished numbers of candidates for their applied math and science programs. As stated by Michael Crosby, National Science Board Executive Officer:

"The data trends…give strong concern… that the United States needs to address various issues surrounding the next generation of scientists and engineers."

Dr. Ronald M. Sega, Director of Defense Research & Engineering at DoD has noted the serious implication of this situation for our nation. He has said that with a retirement bubble poised to burst in the next few years, the downturn in America's science and engineering workforce has become "an issue of national security."

According to Bureau of Labor Statistics data, through 2010 there will be a 35 and 36 percent growth in the need for computer hardware and software engineers, respectively; and as much as a 20 percent increase in demand for chemists, materials scientists, and electronics, aerospace and mechanical engineers. As the single greatest user of math and science skills in the nation, the Department of Defense is facing a "real and sudden" danger if this situation goes unaddressed.

There is one program that is addressing this crisis head-on…the DoD STARBASE Program. The purpose of the DoD STARBASE program is to change the attitude and increase the knowledge and skills of "at-risk" youth in the areas of math, science, and technology. The Program is based on partnerships between the military, school districts and community. The STARBASE Program is unique in that it provides students a "hands-on" experiential approach to learning, with the guidance of trained and experienced teachers and military personnel who make learning fun, practical and relevant. The Program provides students with an environment that encourages self-esteem, personal growth, individual achievement, and strong character through the positive role models found on military bases and installations.

DoD STARBASE began in 1991 at Selfridge Air National Guard Base in Michigan and has grown rapidly in national prominence and acceptance, having served over 300,000 students since its inception. Currently, there are 49 programs operating in 30 States plus the District of Columbia and Puerto Rico. This number includes the new Academies installed last year at Maxwell Air Force Base (Alabama), Wright-Patterson Air Force Base (Ohio) and Fort Fisher (North Carolina). There are three STARBASE outreach programs exclusively dedicated to serving American Indian children in South Dakota, Oklahoma and Mississippi.

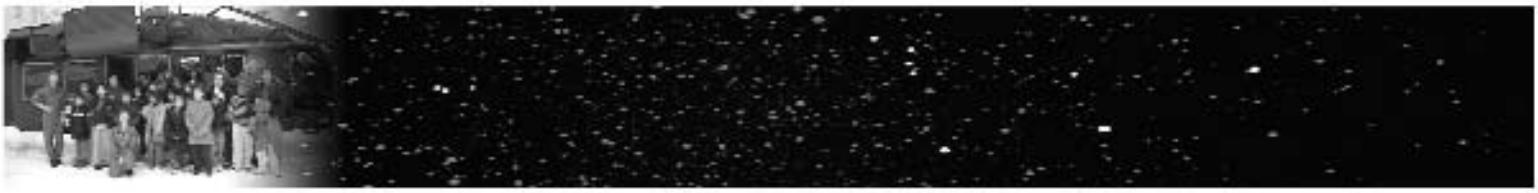
DoD STARBASE may serve youth from grades K-12 as legislatively authorized. However, fifth grade students are targeted to participate in the program because of a documented and persistent decline in national test scores at this grade level. The program primarily serves students who are: historically under-represented in math, science and technology; living in inner cities or rural locations; disabled; socio-economically disadvantaged; and low in academic performance.

DoD STARBASE is authorized under Section 2193b, Title 10, United States Code. The requirements for its implementation are contained in Department of Defense Instruction (DODI) 1025. 7. The authorizing legislation requires the Secretary of Defense to submit an annual report to Congress on the conduct of the program and on an evaluation of its effectiveness. This report is provided for the FY'04 program year.

For the FY'04 program year the assessment focuses on documenting the contributions of all program participants and their views on the efficacy of the program. These program participants encompass not only the military and school districts, the community and the students that they serve, but the people that commit their time, energy, and skills to make the STARBASE program operate successfully. These personnel include classroom teachers, base commanders, military and civilian volunteers and STARBASE Boards of Directors.

In FY'04, the program served over 45,000 students and 827 schools at an average cost per student of $292. The total cost of the program for the year was $13,351,000, or an average cost per Academy of $272,469. In FY'04 close to 105,000 hours were logged by more than 8,200 volunteers. The military volunteers were the highest contributors with 23% of them devoting 40 hours or more to the Program. Although those that contribute their time to the program are generally considered "givers," virtually without exception their responses to the Program assessment show that they also perceive themselves as "beneficiaries" of the program's activities.

Since 2000, the STARBASE Program has increased by more than 100 percent. The growth of the Program is a testament to its success. Experience shows that once an Academy is installed in a community and has demonstrated its efficacy, the demand for its expansion becomes axiomatic; with community members and the military community being the strongest advocates for increased services.



However, this growth is not without consequences, particularly for STARBASE Directors, managers, and program administrators. They must assess and balance available resources to respond to community interests for additional services without damaging program quality. Increase in demand also presents a challenge to the program administrators as additional support is needed to maintain integrity, utility and effectiveness of the program.

"STARBASE is an amazing program that allowed me to take the flame that was my fantasy of working in the aerospace industry and turn it into a fire by helping me find out what being an aerospace engineer could be all about. Now, at the Massachusetts Institute of Technology, I am turning that fire into an inferno."

Chris Mattenberger
(former STARBASE Kingsley attendee and current MIT student)

While DoD STARBASE has experienced dramatic growth as a result of its popularity, the more important achievement is its ability in producing positive student performance results in math and science along with developing positive attitudes about themselves and their ability to manage daily challenges. In the FY'04 assessment, students who participated in the Program demonstrated a significant and positive gain (5.2 points or 17%) between their pre and post achievement tests in knowledge and skills across almost all areas of the curriculum. Students' attitudes towards themselves, including their ability to manage daily challenges, also showed a positive gain.

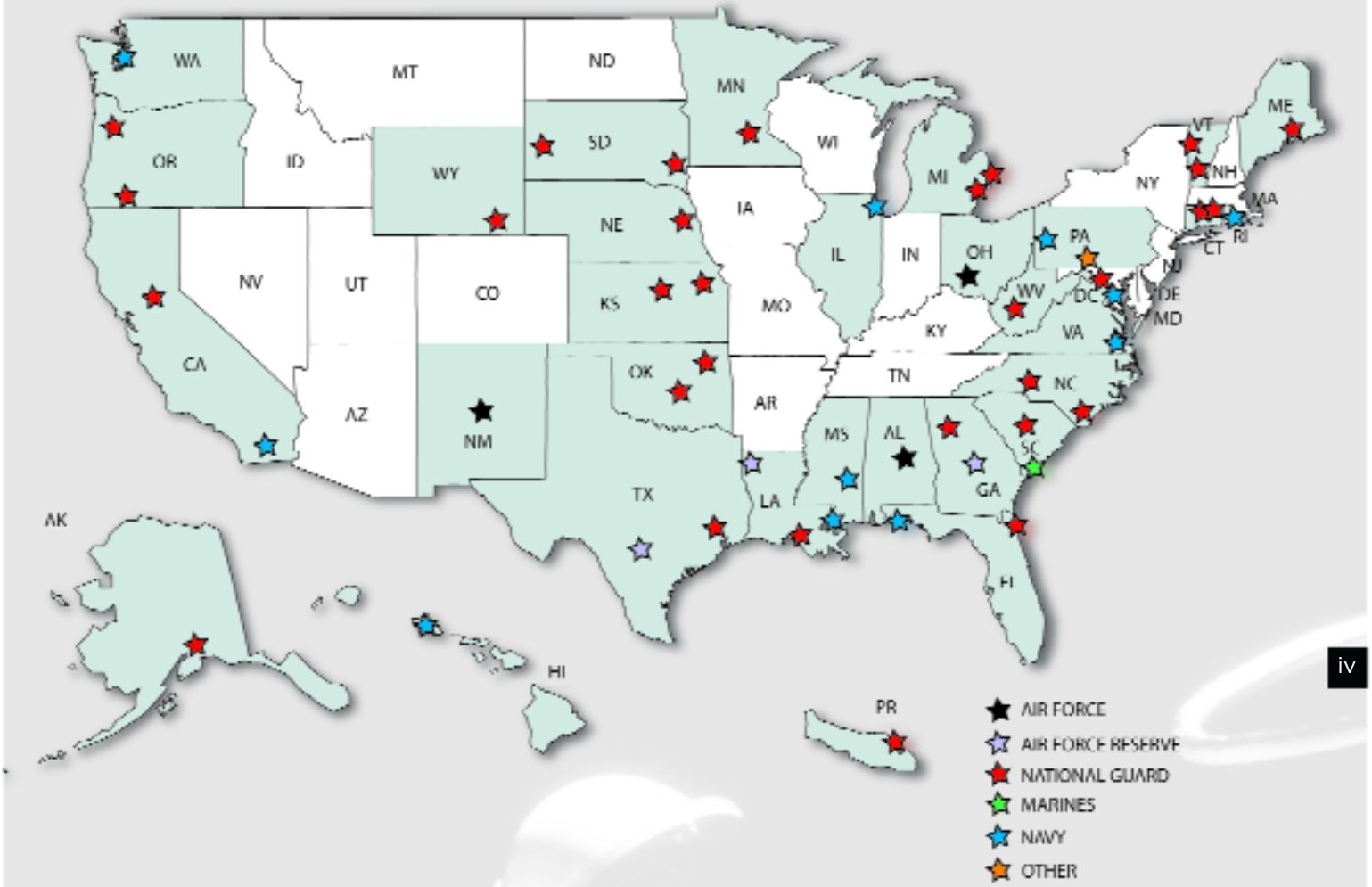
In FY'04, a number of new initiatives were implemented to provide additional support to the program. These included: (1) embarking on a longitudinal study to assess the STARBASE program's impact on students' downstream academic and social skills performance; (2) establishing steering committees to discuss, review and make recommendations for program development; and (3) establishing a website to facilitate information exchange and program operations. The FY'04 report suggestions are intended to build and improve upon the Academy-wide support systems and upgrade the quality of the STARBASE program and its delivery.

A trend reflected in the FY'04 assessment that bears attention is the gap between boys and girls in their expectations of the role education plays in their future success. Girls consistently gave a higher rating than did boys to education being essential to achieving life's goals. Research shows that gender differences matter in education. A recent study found that in 26 States 84% of the girls felt that it was important to continue education beyond high school, while 67% of the boys valued that goal. Given the disparity between male and female expectations on education as reflected in the STARBASE attitudinal assessment scores and by recent research, STARBASE administrators will need to be cognizant of this issue.

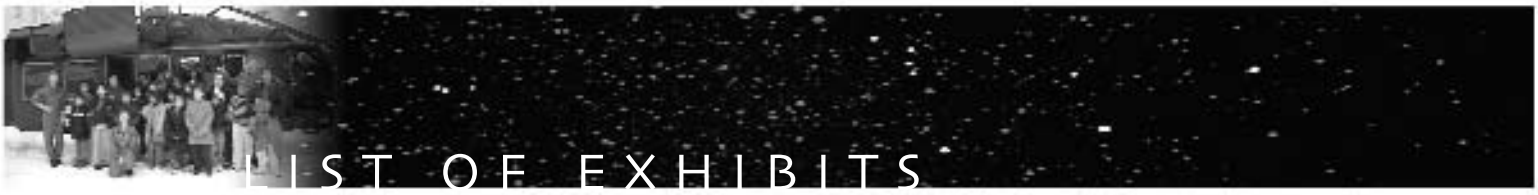
Other issues identified in the FY'04 report that need to be addressed include: (1) reviewing the installation process to help newly-installed Academies achieve more rapid and fully operational status; (2) identifying staff development training requirements and means for training replacement staff; (3) developing a tracking assessment tool on website utilization; (4) developing a compliance visitation feedback report; (5) providing guidance on the role of a not-for-profit organization; and (6) capturing downstream student data via use of parental waivers.

The DoD STARBASE Program has accomplished much over the past decade. It has developed from a nascent pilot program to a more mature program that now must address and manage the consequences of its success. Military backing has been exceptional in creating high demand for the Program and making it a success. The military base with its highly-skilled and devoted personnel is one of the few environments in which a program such as STARBASE can succeed. The physical resources, personnel commitment, skill levels and experiential exposure about how math and science are utilized on a daily basis through its mission and tasks, all combine to make this a unique environment in which the STARBASE program can flourish.

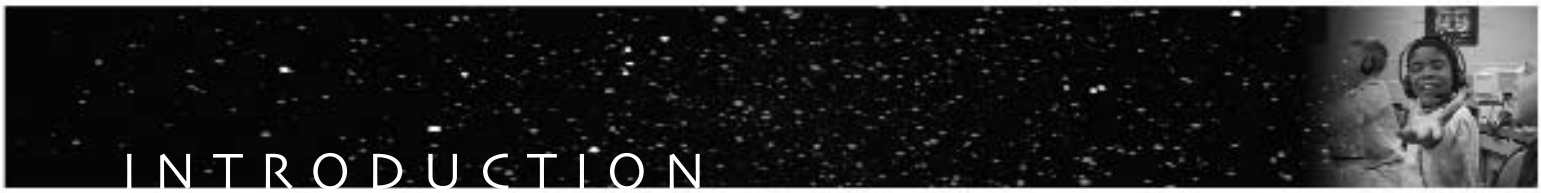
STARBASE AT-A-GLANCE



- 49 STARBASE Academies in 30 states plus the District of Columbia, and Puerto Rico
- 3 outreach programs to American Indians in MS, OK and SD
- Number of Students Since 1991: Over 300,000
- Number Students Per Year: 45,650
- Cost of Program: $13,351,000
- Average Cost Per Academy: $272,469
- Average Cost Per Student: $292



LIST OF EXHIBITS



INTRODUCTION

It has been recognized for over a decade that our nation's youth are falling short in math and science and that this shortfall has the potential for producing negative effects on our economy, future manpower requirements, and national security.[1] Moreover, the most recent national and international studies[2] in math and science achievement for fourth and eighth graders place U.S. students in the middle of the pack internationally. This condition is causing shortfalls in the manpower necessary to keep our nation competitive and secure in the future. Most startling it is occurring in one of the wealthiest nations in the world and in a country where the Defense Department is the largest user of scientifically-trained professionals and practitioners in the workforce.[3]

"… the downturn in America's science and engineering workforce has become "an issue of national security."

Dr. Ronald M. Sega,
Director of Defense Research & Engineering

Our Nation's academic community and government officials are strongly articulating concerns not only about the study results, but about how the current condition of the U.S. student translates into issues of national concern for the present and future. Currently, U.S. graduate schools are experiencing diminished numbers of domestic candidates to their applied math and science programs because U.S. students are less competitive for these openings than their foreign counterparts. The graduate schools are simultaneously loosing their pool of foreign students because of national security events and concerns about dependence on foreign nationals in our economy. National Science Board executive officer Michael Crosby has articulated that:

> *"The data trends…give strong concern… that the United States needs to address various issues surrounding the next generation of scientists and engineers."*

More pointedly, Dr. Ronald M. Sega, Director of Defense Research & Engineering at DoD has stated that "… the downturn in America's science and engineering workforce has become "an issue of national security."

DoD STARBASE is a program specifically designed to address the shortfalls in math and science achievement among our nation's youth, particularly those most "at-risk." The program was started as a pilot project 13 years ago with a grant from the Kellogg Foundation.[4] The first program received positive feedback and in 1993, DoD made funds available for the National Guard to start a school-year program. The funding by DoD marked a transition for the program – allowing it to grow from a nascent pilot project to a stable, growing and evolving program that now serves over 45,000 students a year.

Over the past decade, the STARBASE program has made substantial achievements. Target populations have been reached in the desired numbers. Students are demonstrating desired shifts in skills and abilities addressed in STARBASE instruction. Participants are positive in their views of the program's success and display changes to their own operations as a result of the program. The program is cost effective and is highly rated and validated by its popularity, community acceptance and support. And, military hosts are strong advocates of the program as the result of its effectiveness and extol its role in achieving community relations objectives.

DoD STARBASE is authorized under Section 2193b, Title 10, United States Code. The program is administered and overseen by the Office of the Assistant Secretary of Defense for Reserve Affairs (OASD/RA) and implemented in accordance with Department of Defense Instruction (DODI) 1025. 7. The authorizing legislation requires the Secretary of Defense to submit an annual report to Congress on the design and conduct of the program and on an evaluation of its effectiveness.

Last year's report to Congress addressed cost efficiencies and modalities and emphasized considerations for improving support systems to the Academies, including quality control actions, the technological transfer of lessons-learned and steps to improve operational efficiencies. The OASD/RA acted on and responded to these considerations by initiating a number of new actions that are described in this report.

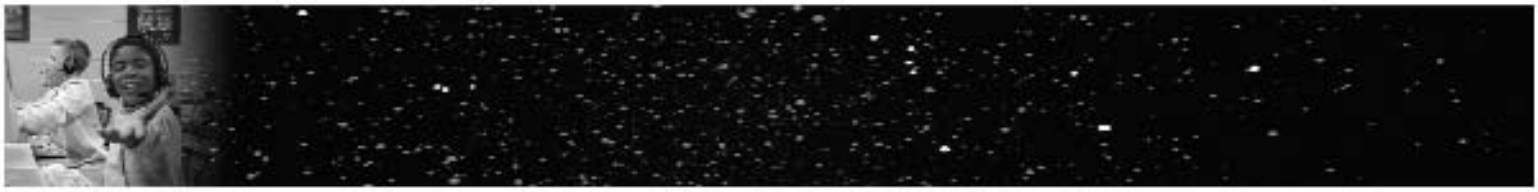
---

1 *U.S. 8th graders gain in math, science; 4th graders weak, Rankings points of the older pupils up in study of kids in 22 countries,* "USA Today," December 15, 2004, pg. D8.

2 *Condition of Education 2004*, National Center for Education Statistics, U.S. Department of Education, June 2004; and *Highlights from the Trends in International Mathematics and Science Study (TIMSS) 2003*, National Center for Education Statistics, TIMSS USA, U.S. Department of Education, December 2004.

3 According to the Bureau of Labor Statistics' *Occupational Outlook Handbook*, the military anticipates increasing demand for scientists and engineers. Through 2010, the greatest need will be for computer hardware and software engineers with an expected growth of 35% and 36%, respectively. Demand for chemists, materials scientists, and engineers (electronics, aerospace and mechanical) is expected to increase as much as 20%

4 A three-year grant was awarded for the purpose of developing and testing the efficacy of "Project STARS," a one-week summer program partnering local schools and the military. The program contained many of the basic concepts and curriculum approaches that presently operate in DoD STARBASE..



The challenge in this year's report to Congress is in presenting a balanced view in describing the STARBASE program's substantial achievements over the past decade while introducing challenges the program faces in managing growth, ensuring quality control, maximizing operational efficiencies and providing for staff development. This year's report not only addresses student results of program participation, but includes an expanded discussion of the program's impact on all program participants (e.g., Base Commanders, military volunteers, classroom teachers and community leaders) as there is increased awareness that they are not only contributors to the program, but are active promoters and beneficiaries of the program as well.

The report is structured so that each section provides an assessment of the program's progress in the designated area and also describes the unanticipated and unresolved issues that emerge in program operations. The report is organized as follows:

- **Program Overview:** Partners, key program elements, student demographics, Academy staffing, and not-for-profit organizations;
- **Program Assessment:** Analytical approach, research methodology, assessment instruments and their application, and key research results;
- **Program Growth:** Growth history, current growth data, growth issues and unforeseen world and natural events affecting the program;
- **Program Oversight:** Background on the DODI, compliance procedures and compliance considerations;
- **Fiscal Matters:** Program funding, Academy costs, funding issues;
- **Considerations for Program Management:** Program operations, curriculum & instruction, data collection & analysis, compliance and fiscal;
- **Conclusions:** Conclusions and considerations for program enhancements directed towards program planners, decision-makers and practitioners; and
- **Appendices:** Working documents including statistical formulas, tables and charts; research instruments; and general information, such as Academy locations, and contact personnel of the program participants; and
- **Glossary:** Alphabetical listing of research and other terms used in this study.

PROGRAM OVERVIEW

The purpose of the DOD STARBASE program is to change the attitude and increase the knowledge and skills of "at-risk" youth in the areas of math, science, and technology within the technology-rich environment of the military. The program is based on partnerships between the military installations, school districts, and the community. The STARBASE program is unique in that it provides students a "hands-on" experiential approach to learning with the guidance of trained teachers and experienced military personnel who make learning fun, practical, and relevant. The program provides students with environments that encourage self-esteem, personal growth, individual achievement, and strong character through the positive role models found on military bases and installations.

DoD STARBASE began in 1991 at Selfridge Air National Guard Base in Michigan and has grown rapidly in national prominence and acceptance, having served over 300,000 students since its inception. Currently, there are 49 Academies operating in 30 States, the District of Columbia and Puerto Rico. This number includes the new Academies installed last year at Maxwell Air Force Base (Alabama), Wright-Patterson Air Force Base (Ohio) and Fort Fisher (North Carolina). There are three STARBASE outreach programs exclusively dedicated to serving American Indian children in South Dakota, Oklahoma and Mississippi.

In FY'04, the program served over 45,000 students at 827 schools in 204 school districts for an average cost per student of $292. The total cost of the program was $13,351,000, or an average cost per Academy of $272,469.

THE PARTNERS

The military installation, school districts, and the community are all considered partners in the establishment of a STARBASE Academy. The DoD through OASD/RA provides funding for an Academy and the program as a whole, and is considered the program sponsor. However, it is the relationships between the local military installations, the local school districts, and the communities in which they reside that provide for the establishment of the Academies.

The local military installations and the school districts are prime contributors to the program through provision of ongoing services, facilities, and direct support to Academy operations. Their participation in and commitment to the program is formalized prior to the installation of an Academy through "memorandums of understanding" and "statements of participation" that specify the core support services to be provided. Communities also are important partners in the installation of an Academy as they are instrumental in the development of public-private partnerships that can support or enhance the value of the program's curriculum and operation. The participation by these institutions and their personnel is provided below.

"Having the STARBASE program has been a win/win situation."

Vice Air Commander, Martinsburg, WV

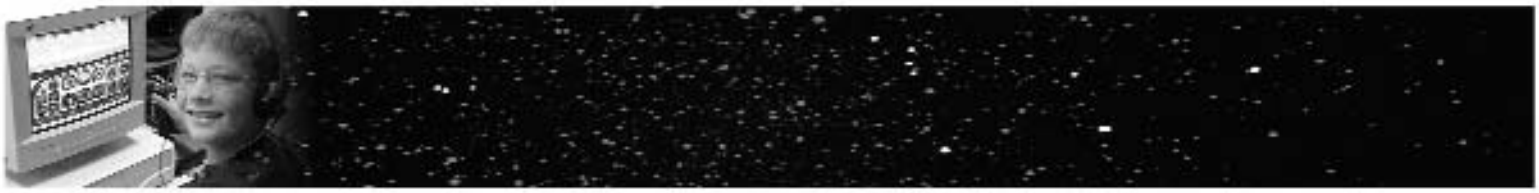
The Military Installation

The military installation is the primary facilities provider to the program. The Commander's sponsorship and participation is essential to the operation of the program. Commanders provide access to the resources and services of the base. This includes classroom space, utilities, custodial/maintenance services, security, computer access and occasional reproductive/printing capability. In addition, they encourage volunteer involvement of their personnel as mentors, teacher aides, tour guides, expert speakers, and in other support services.

Program Support by Military

Exhibit 1

Support Services Provided By Military Unit	Total %
Facilities	83%
All or some utilities	77%
Custodial/maintenance services	54%
Printing/reproduction	2%
LAN and computer support	9%
Administrative support	29%
Transportation	23%
Security	74%
Other	43%



The range and scope of military services and support is often a function of the size of the base and command interest in the program. Most sponsoring commands respond to Academy needs if the service is available. Exhibit 1 demonstrates the range and intensity of services that the military provides to STARBASE. All Academies are provided 100% of their classroom facilities. The 83% response rate on providing classroom facilities reflects a 17% space requirement provided by the sponsoring Commander through a military unit that is a tenant, but not under his/her command. Program start-up requires the most intense period of support because it often involves upgrades and minor construction to meet usability standards before student arrival.[5] The Academy Directors and the Commander and/or his representative usually meet regularly to review support requirements and engage in problem resolution.

Military installations are committed to maintaining good public relations with their surrounding communities and STARBASE on one level fulfills this requirement. The program provides an essential service, particularly to communities that do not have the resources to address "at-risk" youth in developing important life-chance skills. Results of the *STARBASE Commander's Questionnaire* show that many military personnel with program involvement believe that STARBASE serves the interests of both DoD and the country by creating an investment in our nation's future manpower skills.

The School District

In addition to providing access to students for a designated period of time, the school district traditionally provides transportation services, teachers as monitors, and student lunches. There are occasions where additional support involves minor reproduction services, supplies and media applications; however, these are generally episodic and non-recurring.

Program Support by School District

Exhibit 2

Support Service Provided By School District	2003 Total %	2004 Total %	Difference (+/- From FY'03-FY'04)
Transportation	79%	90%	+11%
Teachers as Monitors	88%	92%	+4%
Lunches	93%	100%	+7%
Printing/Reproduction	19%	7%	-11%
Supplies	7%	8%	+1 %
Graphics	0%	0%	0 %
Audio Visual1	2%	8%	-4%
Communications	12%	6%	-6%
Computers	5%	6%	+1%
Other	26%	19%	-7%

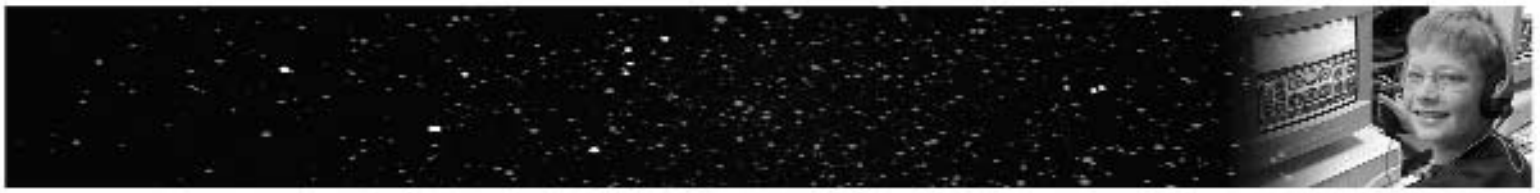
Exhibit 2 demonstrates the type, scope and breadth of support services provided by the school districts to the STARBASE Academies. The data was obtained from the *STARBASE Director's Questionnaire*. As the data suggests, the three major areas – transportation, teachers as monitors, and lunch programs -- are largely fulfilled by the schools as agreed upon by the participant memorandums of understanding (i.e. 90% to 100% coverage).[6] The data also show significant improvement in the three key service support areas over the past year.

Transportation remains the largest single allocation on the school's budget to the program. It does determine, in a limited number of cases, the ability of certain classes and schools to be part of the program. All other service activities, as indicated, are discretionary and are generally single-time services.

---

[5] Several military bases have provided construction and remodeling services for classroom facilities.

[6] A few schools require temporary DoD support for transportation, usually until annual budget allocations by the school district are made available.



The classroom teacher of the participant school attends each STARBASE class along with his/her students. Although curriculum instruction is the responsibility of the STARBASE instructor, classroom teachers may involve themselves in test administration and assist in lab experiments. Over time teachers become quite familiar with the curriculum, the methodologies utilized, and the results expected in each work unit. Over the life of the program, teachers have a "hands-on" understanding of program objectives, student expectations, and performance requirements. More importantly, teachers are key observers of the program's effectiveness on student performance and their input on the student assessment process is utilized in this report.

The Community

STARBASE Academies have a long history of working with communities to develop public-private partnerships that can support or enhance the value of the program's curriculum and operation. Community leaders contribute volunteer time to activities such as Board responsibilities, access to community facilities and financial support. STARBASE benefits communities by taking at-risk youth and providing them with the knowledge base and job skills necessary for gainful employment. The incorporation of personal goal setting and substance abuse reduction into the educational curriculum of STARBASE helps at-risk youth overcome societal hurdles to success.

THE PROGRAM ELEMENTS

The STARBASE staff works with local school administrators and community members in the selection of participant schools and selected classes. The program is mostly comprised of students who are:

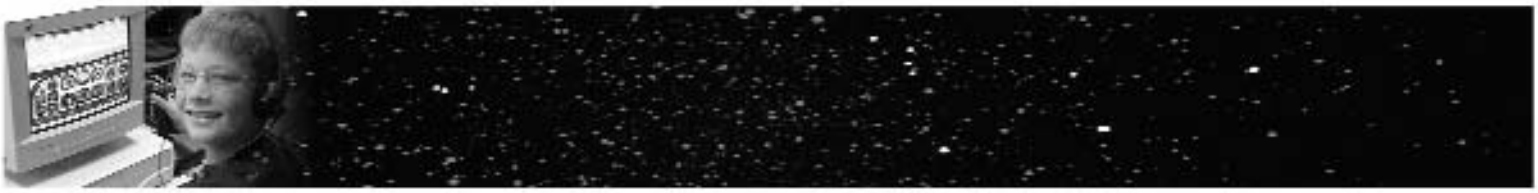
- Historically under-represented in math, science and technology;
- Living in inner cities or rural locations;
- Disabled;
- Socio-economically disadvantaged; and
- Low in academic performance.

The FY'04 STARBASE assessment showed that a strong majority of the students were in the free/reduced lunch program and approximately 11 percent had learning disabilities[7].

Grade Level Emphasis

The program serves youth from grades K-12 as legislatively mandated. However, fifth grade students are targeted to participate in the program because of a documented and persistent decline in national test scores at this level. Currently, all but two Academies have fifth grade programs. While all Academies work with elementary school children, 25 Academies also work with middle school children and seven with high school children after meeting the requirements of the DODI. Expanding the grade range of the program has consequences for curriculum expansion, materials, and staff development. Tracking the program's impact on subsequent grades is under consideration and exploration.

[7] 36 Academies have data on these factors.



Class Size

The DODI provides that class size may range from 20 to 35 pupils, with exceptions approved on a case-by-case basis. The rational for placing a limit on class size is critical to the STARBASE design, which focuses on experiential, "hands-on" applications and applying experiments and problem solving to real-life applications. These methodologies defy the use of large class size. In addition, they require close teacher supervision and monitoring for proper application and student understanding.

The class size requirement is an essential element in the guidance given to school districts in the selection of classes. The FY'04 average class size is 24, the same as last year. One Academy currently averages above the DODI class range at 36 students per class, while six Academies range just below the 20 student average.

Class size has remained relatively constant across the Academies with differences primarily related to site location. Some states try to limit the size of classes and continually lower the class-size ratio. Other states have had tax shortfalls resulting in some school districts increasing class size to reduce costs. In either case, the results continue to demonstrate fluctuations in class size on a case-by-case base.

The Academies are aware of fluctuations in class size and try to adjust by combining smaller classes or dividing larger ones. When class ratios go above or below the desired range, the Academies are required to notify OASD/RA in writing, and indicate whether corrective action is required. So far, the average class size is well within the DODI guidelines. Only a few Academies are experiencing the stress of the desired boundaries and these are usually at the smaller class-size level which, so far, has not challenged the total student and class numbers required by DODI standards.

The Directors and instructors are well-aware and supportive of the class-size requirement. They recognize that expanding the class size beyond the desired range renders the STARBASE methodologies less effective and less productive. The school districts are similarly aware and accept the standard. A clear statement of the requirement with the school districts at the point of program entry precludes any misunderstandings on class size.

Program Instruction Schedules

An entire class of a participating school attends either a 4 or 5-day STARBASE program. The program provides 20 or 25 hours of classroom instruction, respectively. Children from the school are transported each program day to the military base for STARBASE instruction that covers 13 core curriculum areas.

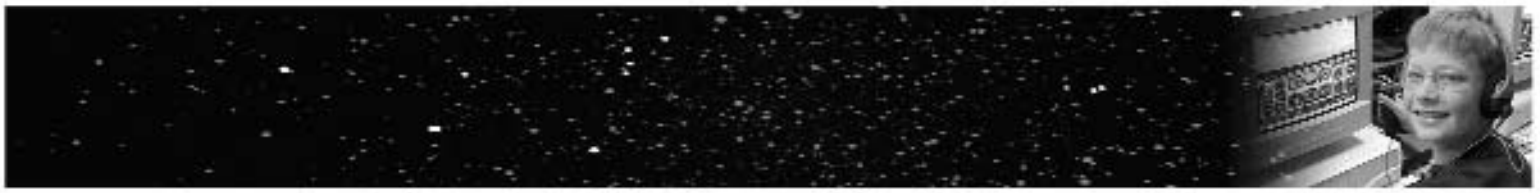
The 5-day program is the most popular because it allows more time to cover the basic and discretionary curriculum. The 4-day format is usually used by an Academy when its goal is to increase the number of classes it can schedule during the school year.

In FY'04, forty-six of the 49 Academies conducted or planned to conduct a 5-day program. These Academies served 699 schools and 38,378 students. Twelve of the 49 Academies conducted a 4-day program[8]. These Academies served 144 schools and 7,850 students.

Twenty-one Academies also conducted supplemental programs such as advanced STARBASE classes for alumni, Scout Camps, one-day outreach programs, video teleconferencing, and engineering camps. These supplemental programs reached over 9,555 students this reporting period.

---

[8] Alaska, Puerto Rico, and Wyoming conduct only a 4-day program. Columbia, SC; Martinsburg and Charleston, WV; Fort Fisher, NC; Charlotte NC; San Diego, CA; Bangor, ME; Norfolk, VA; and Silverdale, WA conduct both a 4-day and 5-day program. San Diego, Norfolk and Silverdale conduct the 4-day programs only in the summer.



Program Service Area

The logistics associated with Academy program service areas are a constant challenge for Academy staff. Most STARBASE Directors indicate that the greater the distance served, the greater the number of problems associated with maximizing classroom instructional time and transportation costs.

Program Service Area

Exhibit 3

Service Area	2002	2003	2004
20 Miles or Less	40%	31%	35%
20-50 Miles	31%	45%	47%
Statewide	20%	17%	16%
Other (100 miles or more)	9%	7%	2%

Minor shifts in program service area occurred this past year. The movement is towards greater consolidation as Exhibit 3 suggests. While the shift is not dramatic, 82% of the Academies service their students within a fifty mile radius from the military base. There has been a 10% shift in consolidation over the past three years.

Proximity to the program site is important because the transportation component directly impacts available class time. This is particularly true in areas where weather conditions are more problematic. The transportation cost for school districts also is a consideration and may be more so as energy prices escalate.

Rural programs are confronted with these issues more dramatically than other programs and, as a result, must be more creative. As indicated in previous reports, these school districts request additional site locations and outreach applications in an effort to overcome these hurdles. It is anticipated that this trend will continue. The rural logistical issue is compounded by the fact that class size is usually smaller and when combined with distance, some schools request “doubling up” classes to justify costs and minimum class size requirements. For the most part, the schools and the Academies develop a strategy to meet class size, class hours, and equipment availability requirements.

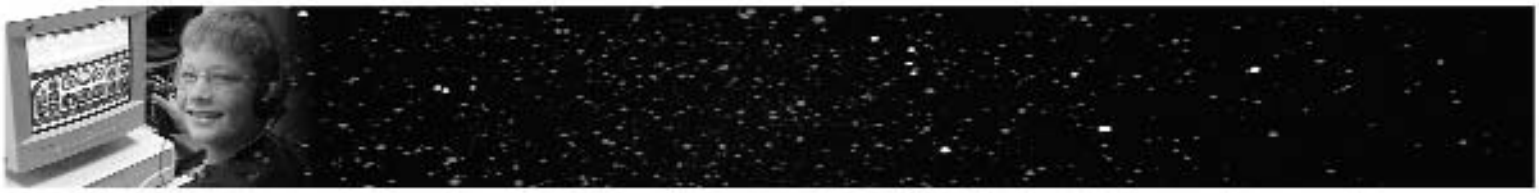
Ethnic Composition

There are slight changes in the STARBASE program’s ethnic composition this year as compared to previous years. (See Exhibit 4) The American Indian student population (now 2,500 in number) increased slightly as a result of opening three outreach programs exclusively to that student group. The majority of students in 2001 were Caucasians. Although they remained the dominant ethnic grouping in 2004, they comprised only 46.5%. The Hispanic population demonstrated the greatest gain over the four-year period with a four percent increase from 2001 to 2004. The African-American population declined by four percent over the last year, but remained the second most dominant grouping at 23%. Asians, American Indians and multiracial groups have increased their representation over the four-year period.

Ethnic Composition of Students 2001-2004

Exhibit 4

Student Ethnic Composition	2001	2002	2003	2004
African American	25%	27%	27%	23%
Asian	4%	5%	5%	4%
Caucasian	54%	47%	46%	46.5%
Hispanic	11%	14%	15%	15%
Multi-National	0%	1%	2%	3%
American Indian	3%	4%	4%	5.5%
Other	3%	2%	1%	3%



Gender Composition

Male and female student representation is relatively equal across Academies with 51 percent male and 49 percent female. This distribution has been constant over the past few years with only a few Academies showing minor differences.

ACADEMY STAFFING

The original prototypical staffing model proposed by DoD in installing and funding the Academies was organized around four full-time paid staff members: 1) Director; 2) Deputy Director/Instructor; 3) Program Instructor; and 4) Office Manager/Administrative Assistant. Over time this organizational structure has experienced some changes. Exhibit 5 provides the current profile of Academy staffing.

Academy Staffing Profile

Exhibit 5

Position	Number of Staff	Full-Time	Part-Time
Director	44[9]	43	1
Deputy Director/Instructor	33	30	3
Program Instructor	101	71	30
Administrative Assistant	40	31	9
Other (Ed Tech)	7	1	6
Non-DoD Funded Positions (Instructors, Interns, Maintenance)	12	6	6
TOTAL	238	183	55

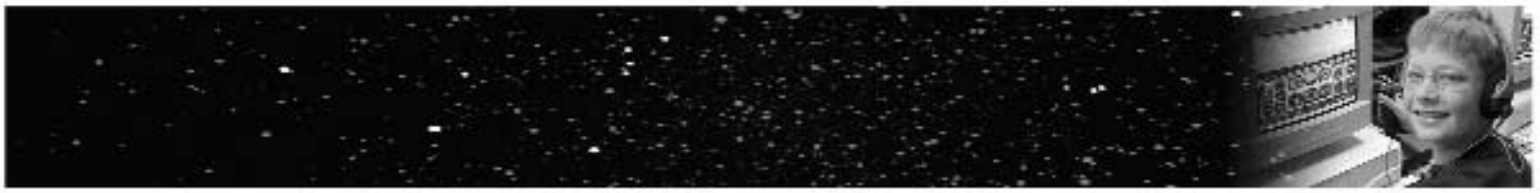
Newly established Academies generally follow the prototypical model. The DODI requirements outline delivery of service objectives in the number of classes, students, and instructional hours.

Funding of the program by DoD reflects the ability to deliver these objectives with the required staff complement.

Changes have occurred, however, in several currently operating programs due to increased costs of veteran staff, expansion of services, and regional differences in the cost of operation. Additionally, as programs mature, differences in operation and staffing responsibilities emerge. Some Academies have two sites in a state and when logistically feasible these sites share a Director. Some sites differ in applying the Deputy Director title and assign it to the instructor position.

Administrative Assistants are the positions most frequently adjusted. Academies either eliminate the position to add another part-time instructor and share administrative responsibilities with the remaining staff, or go to a part-time administrative assistant and add more instructor part-time assistance. Nine Academies have eliminated the Administrative Assistant position and two have delegated it to part-time status. In most cases, the adjustments focus on obtaining additional instructor time to increase the number of classes and students.

[9] Five Directors are shared with other Academies.



Another emerging staff characteristic is the increased use of part-time personnel as reflected in Exhibit 5. Of the total 238 STARBASE staff members, 55, or 23% of the total staffing complement are now part-time employees. Three sites have obtained additional staffing by receiving outside (non-DoD) funds[10] to increase their delivery capability in the form of an instructor to accommodate additional classes and outreach efforts. Space restrictions and transportation often limit this option for most Academies. A few share instructor positions to expand the instructor pool and therefore part-time positions increase in number. This latter option works when benefits and flexibility in personal schedules can accommodate this organizational arrangement.

In general, the prototypical organizational arrangement is the norm with minor adjustments. Two instructors still dominate the classroom with the Director as back-up when scheduling issues occur. The Director handles the administrative, managerial interface with its institutional partners along with scheduling, quality control, and other duties.

Instructors

Academies are urged to hire experienced, fully credentialed, highly-trained personnel in math-science. The DoD STARBASE Program methodology promotes the experiential and "hands-on" classroom applications where students are actively involved in simulations, lab applications, demonstrations, and practical problem-solving. This approach and methodology requires instructors to have several years of teaching experience, certification, content skills and an openness and desire to apply the techniques that are incorporated in the curriculum. Background checks, references, and interviewing are utilized in the hiring process. Almost without exception, the instructors meet these criteria and all are provided training in STARBASE applications through sister Academies or in-house training prior to classroom responsibilities.

Employment Relationships

DoD has provided guidance on equivalencies for employment relationships. The differences in relationships between Academies and their service components have rendered different and variable employment relationships. This has caused variances in salary administration, benefit coverage, and managerial oversight. These differences now influence budget management decisions, changes in organizational structure, and the rate of staff turnover.

Each state, school system and agency has personnel administrative practices that guide the employment relationships within their systems. Many challenges in personnel management by Academy Directors and their affiliations result from the differences in administration and the application of state and local requirements.

Employer Affiliations of Academies

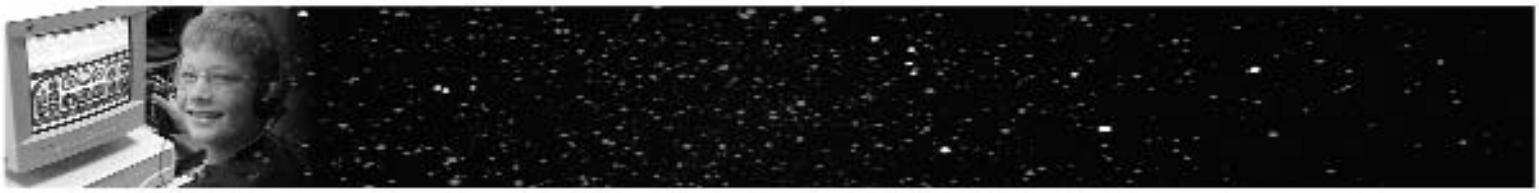
Exhibit 6

Organizational Affiliation	# of Academies
State Employees	16
Federal Employees	8
School District and State Contractors	7
Non-Profit Affiliation	11
Other (mix of State, School, Federal, NP)	7
Total	49

Exhibit 6 displays the employment relationships of STARBASE Academies. It shows that almost half of the Academies' affiliations are with state or federal agencies.[11]

[10] Local school districts or state grants have been the source of this funding.

[11] Federal employees are exclusively under the Navy Service umbrella.



Staff Turnover

Past reports and Director's comments reveal major concerns about staff turnover. Turnover, in any professional arena, is a challenge to programs that offer a unique and non-traditional approach to social intervention given the need for qualified, trained personnel. In previous years, turnover in STARBASE was not a frequent occurrence. In FY'03, the program experienced a 6% turnover rate. Ten out of 168 staff members left during that program year. This year, turnover rose dramatically at 13% with 30 out of 238 staff members leaving the program.[12] The opportunity for better pay and career advancement was the most frequent reason given.

Although this turnover rate is slightly less than the average yearly U.S. turnover rate of 13.2% in education, it is high compared to the 11 percent turnover rate in other professions. According to Richard M. Ingersoll, an associate professor of education and sociology at Philadelphia University who published these statistics in a recent study[13], the results show that educators need to spend less time recruiting and more time retaining current teachers. He states that:

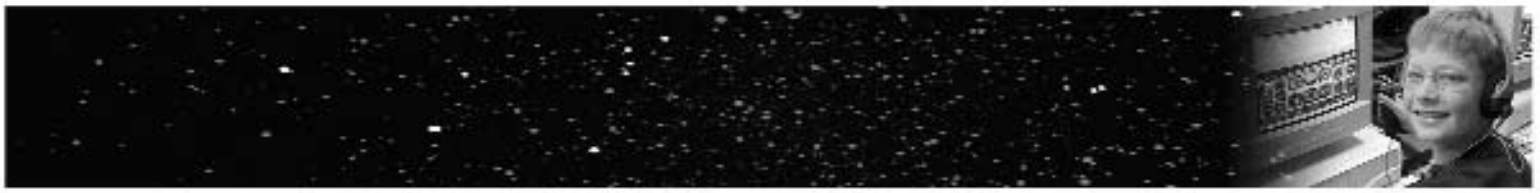
"Schools might have better luck meeting their demands for teachers….by making improvements in job conditions, such as increasing support for teachers, raising salaries, reducing student misbehavior, and giving faculty members more say in school decision making."

The DoD STARBASE employment structure is relatively fixed. As a result, career positions are not often an alternative. Several Academies are under school and state employment guidelines. Payrolls in these environments have been relatively stagnant in recent years. DoD STARBASE requires experienced personnel who have content area expertise. Replacement candidates are not easy to recruit. When turnover is as dramatic as this year, the costs of replacement, training, and speed in position becomes paramount. Steps in program consideration (i.e., staff training, recruiting, and review procedures) will need to be examined if this high rate of turnover persists. It is critical that STARBASE maintain the ability to retain and recruit highly qualified personnel.

---

[12] Twenty instructors, two Directors, two Deputy Directors, and six Administrative Assistants comprised the thirty staff departures.

[13] *Teachers Wanted: Attracting and Retaining Good Teachers*, By Daniel A. Heller, Association for Supervision and Curriculum Development, Alexandria, Virginia, August 1, 2004



NOT-FOR-PROFIT ORGANIZATIONS

Section 2193(b) subparagraph (f) authorizes the Secretary of Defense and the Secretaries of the military departments to accept financial and other support for the Program from not-for-profits and other organizations in the private sector. The establishment of not-for-profits amongst Academy sponsors varies. At present, 31 out of 49 Academies, or 63% have not-for-profits. The National Guard is the dominant user at 80%. The Air Force Reserve and the Marines, although smaller in Academy sponsorship than the National Guard, find the not-for-profit function useful and have established them. The Navy, with one not-for-profit, does not encourage their utilization. See Appendix A-1.1.

Not-for-profit function and utilization vary across the program. Most are active in marketing and fundraising as reflected in a 74% allocation to these functions. Close to half of the not-for-profits dedicate their services to grant writing/submissions and program/budget planning. Exhibit 7 shows the range of services provided by not-for-profit organizations as well as the percentage of Academies that provide those services.

Not-For-Profit Services

Exhibit 7

Service	% of Academies
Marketing/Fundraising	74%
Program Planning & Annual Review	55%
Budget Planning & Review	45%
Grant Writing/Submissions	45%
Review of Potential Staff	29%
Review of Subcontractor Relations*	29%
DODI Compliance Review	29%
School Selection	3%
Other	26%

Most Commanders have little issue with the formation of not-for-profit organizations, particularly since most limit their function to advisory and marketing (public relations) activities. For the most part, Commanders feel that not-for-profit organizations provide an additional venue for community relations. Most Directors view the not-for-profits as providing an important function in public relations and fundraising, but believe that the latter function has been underutilized. Directors continue to enquire about the function, composition, and organization of not-for-profits and have expressed a desire for further explanation on its effective uses. Training in this area is considered an important topic for future staff development.

PROGRAM ASSESSMENT

The assessment process has two primary objectives: 1) to determine whether the STARBASE program is meeting its programmatic goals, including operational efficiencies, as outlined in the DODI; and 2) to measure the impact of the STARBASE program on students and participants. To achieve these objectives, the assessment process focuses on garnering information via structured interviews, questionnaires, testing and attitude assessments from the following key participants:

- Students;
- Teachers;
- Commanders;
- Military Service Volunteers; and
- STARBASE Directors/Staff.

Test instruments were developed to measure student changes in knowledge/skills and attitude before entering and then after completing the DoD STARBASE program. An additional assessment instrument was designed to capture teachers' attitudes and observations of the program, the students, and of themselves. Both the student and teacher assessments, as provided in Appendix B-1, were developed by the STARBASE Assessment Staff, along with Pearson Reid London House, an internationally known and well-respected testing firm. The firm was commissioned to review, analyze, and refine the attitudinal assessments and ensure that the test instruments met acceptable and defensible standards within the expert community.

Questionnaires were developed for the purpose of ascertaining participant attitudes about the STARBASE program and its usefulness to and impact on them. The Commanders' Questionnaire is designed to elicit Commanders' perceptions on the program's efficacy on public and community relations and program performance. The Military Volunteer Questionnaire is designed to capture contributions made by military personnel to the program and its effect on them. The Directors' Questionnaire is designed to capture current operational activities and identify key issues, challenges, and future concerns from the Directors' perspective that potentially affect future program development and operations[14]. See Appendix B-2 for a copy of each of these questionnaires.

Many factors are associated with school success…those include student motivation and effort, the expectations of students, encouragement from others and learning opportunities…as well as student characteristics such as family income....

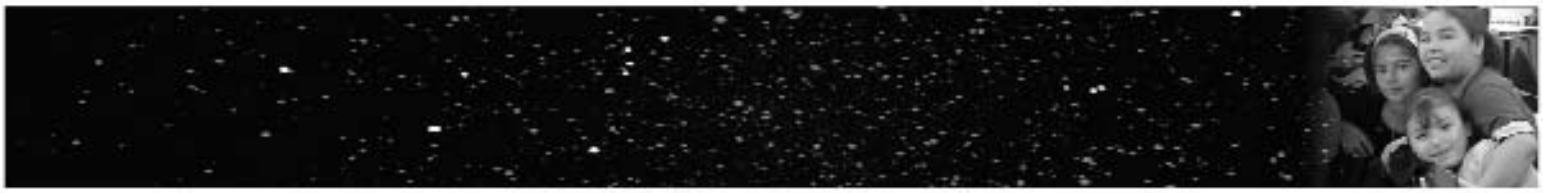
DOE Report "Condition of Education 2004"

STUDENT ASSESSMENT

The student test is designed to ascertain the students' participation, understanding and use of the knowledge, skills, and attitudes reflected in the core curriculum prescribed in the DoD STARBASE program. There are two instruments. One part focuses on knowledge and skills and the other on attitudinal dimensions. Students are given a pre-test prior to commencement of the STARBASE program and a post-test after their completion. The assessment process focuses on:

- The knowledge, skills and problem-solving items as presented in the core curriculum and basic concepts;
- Student attitudes toward math, science and technology;
- Student attitudes toward the military, military personnel, military command, and military locations (i.e., base);
- Community awareness, citizenship, and specific social attitudes;
- DoD STARBASE effectiveness; and
- DoD STARBASE impact.

[14] The Director's comments are interspersed throughout the report and not contained in a separate section.



Developing a single, standardized test for a wide range of abilities and skills for fourth through sixth grades across the United States and Puerto Rico presents a number of challenges. The breadth and scope of STARBASE Academy locations are particularly unique. Students at different locations and school districts enter the program with different fundamental knowledge and skills. This is re-enforced by school districts that have different resources, funding, curriculum, special needs, and community support. School districts operate differently in assigning students "at risk" or "special needs" to selected environments, while others have magnet schools or open enrollment policies.[15]

An additional challenge in using a single assessment instrument is related to the assumption that the core curriculum is presented to all the students in the same manner and with the same intensity. While the development of the knowledge and skill items for the current test is based on a set of standard core concepts embedded in the STARBASE curriculum, differences in lab applications, emphasis of concepts, student inquiries, and a number of other factors create disparities between programs. A key objective of the program is to maintain commonality in application and teaching of the curriculum across the program. Although this goal is emphasized to Academy directors and instructors each program year, there is a need for the STARBASE Professional Development and Program Operations Committee to focus on how the core curriculum can be presented by the instructors more uniformly from program to program.

The student pre/post test is developed for the middle grade level (fifth grade) of the population under study. Developing multiple assessment instruments for various grade levels is under consideration for future assessments. This objective is an evolving process that will add complexity to test administration.

Five years ago, two versions of the knowledge and attitude test were developed, piloted, and installed. Since then, several revisions and reduction in items have resulted in the design of one test which is in current operation. The knowledge/skills section of the test is formatted in true/false, multiple-choice, and matching terms/concepts to graphic images. The attitudinal or opinion section of the test is constructed on a seven-point scale from negative to positive. The knowledge/skills test items were developed from the core curriculum and include the following eleven curriculum areas:

- Teamwork;
- Properties and States of Matter;
- Properties of Air;
- Bernoulli's Principle;
- Aircraft Control Surfaces and Components;
- Four Forces of Flight;
- Newton's Laws of Motion;
- Space Exploration;
- Development, Innovation and Uses of Technology;
- Avoiding Substance Abuse; and
- Goal Setting.

The test construction does not present the use of mathematics as a separate topical area, but embeds it in each of the curriculum areas. In most cases, there is more than one test item for each curriculum area. Some items combine applications of more than one concept. Appendix B-3.1 identifies the relationship between curriculum concepts and the test items.

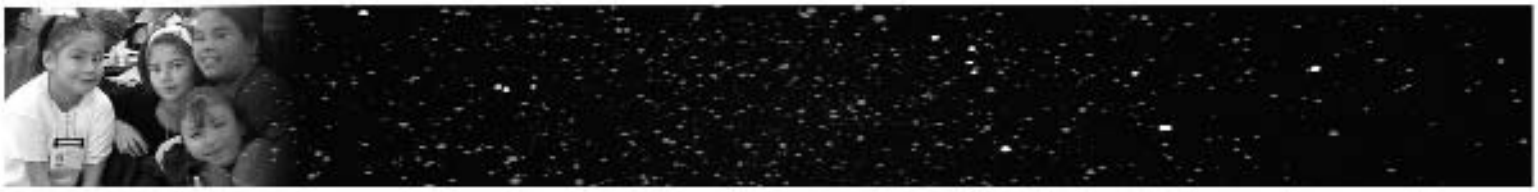
The assessment of student attitudes and perceptions are an important aspect of the testing process. The STARBASE curriculum emphasizes the theme of developing positive feelings about self, life chances, citizenship, social responsibility and the ability to master selective skills like math and problem-solving.

The attitudinal test for the students is designed to measure shifts in attitudes as a consequence of program participation. Items in the attitudinal include:

- Attitudes towards math, science, and technology;
- Attitudes towards the military, military personnel, the military environment, and military careers;
- Community awareness, citizenship, and social responsibility;
- STARBASE effectiveness; and
- STARBASE's impact on the students and others.

---

[15] These variances were documented and reported in previous reports.



Twenty-two attitudinal items were constructed for the pre-test. These items dealt with the effects of the program experience and included a control item for rating scales reliability (i.e., a negatively scaled item). The post-test was constructed by adding three items to the pre-test.

The standardized student test is scrutinized for reliability, style, current application, and validity on an annual basis. As in past years, the FY'04 assessment was slightly revised. The basic principles, methodologies, and content that have proven effective over the years, and are now emphasized in the DODI, drive changes to the assessment items. Academy staffs were asked to provide input on several knowledge and skill items and their administration. Students were matched in the pre-and post application of the test to provide a more powerful method for assessing attitudinal and knowledge shifts reflective of student participation in the program. New test items were developed from reviews of the core curriculum, past survey responses, locally-developed Academy tests and newly created items by the assessment team. An itemization of changes to the FY'04 student assessment is contained in Appendix B-3.2.

Student Testing Logistics

Student assessment tests were sent to all fully operating (43) STARBASE Academies in late 2003 and early 2004 with instructions for administering the test. Students are tested in a pre/post application (i.e., prior to the start of the program and at the completion of the program.). Several Academies have started to administer the pre-tests at the participant school just prior to the students' arrival at the Academy. This procedure is designed to maximize student time to cover the curriculum requirements. Upon completion of the tests, the Academies forward them to the assessment team for processing and analysis.

A sample population is tested each year. This format is designed to reduce the intrusiveness of the testing process and is in response to school year schedules, which help to increase the time available for instruction.

Analyzing the Results

The presentation of the student knowledge/skills analysis, which includes some comparisons over the past years of operation, is organized around an analytic approach that looks at:

- Pre- Versus Post-Program Comparisons;
- Gender Comparisons;
- Age and Grade Level Comparisons;
- Test Item Difficulty;
- Identification of Program Strengths;
- Identification of Program Development Needs; and
- Uncovering and Identifying Drivers of Preferred Outcomes.

Analysis of the attitudinal data included: the pre-and post-program experience; gender comparisons; and age and grade level comparisons. In addition, comparisons between prior experiences with the military, the location of the program and attitudinal clusters were utilized to demonstrate shifts and differences in these dimensions.

STUDENT ASSESSMENT RESULTS

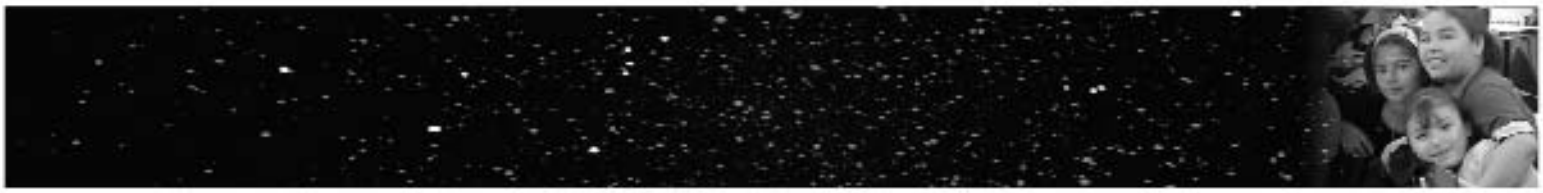
Responses were received from 43 STARBASE Academies. Of these, 35 Academies were able to capture matched pre-and post-program data for their students. A total of 4,556 student pre/post tests were returned of which 1,706 individual students[16] were matched for pre-and post-program data analysis (3, 412 of the 4, 556 responses were matched students)[17]. It is these matched pre/post students that are described in the following analysis.

The program is fairly well-known in the participant communities and with the target population. As one would expect around a military base, the majority (57%) of students had contact with military personnel prior to attending STARBASE. Two-thirds had knowledge about the STARBASE program and even a larger number knew other students who had attended the program.

---

16 The majority of students are from the program's target grade level, the fifth grade, with more than 60% of the student respondents (1, 047) in that category. See Appendix C-1.1 & C-1.2.

17 This year's data collection efforts resulted in almost double the data of FY'03 efforts. However, some loss of data was experienced because of start-up activities and scheduling issues.



The majority of students responded to most or all of the questions. The data suggests that there was a wide range of ability on the pre-test, indicating that for some students the STARBASE concepts were not novel. In most cases this was location-specific. The pre-program knowledge and skills assessment establishes a baseline of what the students knew before they attended STARBASE. The post-program assessment demonstrates the ranges and breadth of student knowledge and problem-solving in the curriculum subject area after they attended STARBASE.

Previous reports in the analysis of student data demonstrated that the greatest differences in ratings and test scores manifested themselves by Academy affiliation. While results are consistently positive across all Academies, differences between Academies produce the greatest shifts in scores and ratings. This suggests that the emphasis and intensity in the presentation of the core curriculum by the Academy Instructor contribute to the differences between Academies. Each Academy is encouraged to review individual scores over reporting periods for any trends that may support this observation.

Student Knowledge Test Results

Below is a discussion of the student test results on the knowledge/skills portion of the assessment. It highlights pre/post assessment comparisons, addresses gender differences, and compares test scores over the past four years.

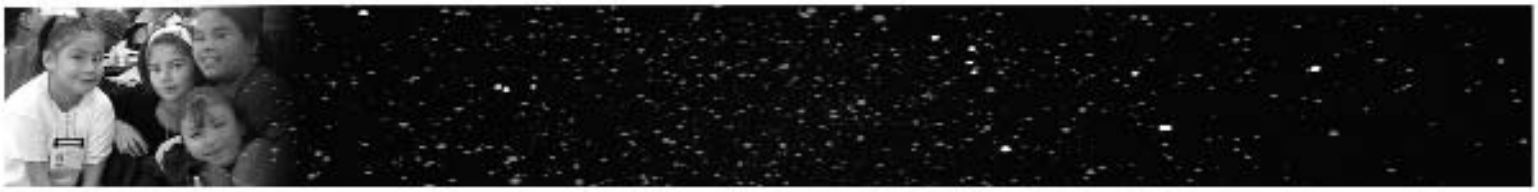
- ❖ Pre/Post Assessment Comparisons
  Exhibit 8 presents the pre/post average scores in the knowledge test over the past three years. This year, as in the past, the STARBASE students demonstrated a significant increase in knowledge and skills across almost all areas of the curriculum. The data shows that knowledge of concepts that were unknown at the pre-program stage increased significantly after the program. The mean scores for the pre-test were 19.09 (out of 30 items) whereas the post test scores were 24.25. This is a difference in the mean average score of 5.16. Last year's mean average score difference was 5.30, while in 2002 it was 4.23.

Pre/Post Test Mean Scores (FY 2002-FY 2004)

Exhibit 8

	2002 Mean	2003 Mean	2004 Mean
Pre-Test Mean Score	18.44	19.12	19.09
Post-Test Mean Score	22.67	24.42	24.25
Mean Increase	+4.23	+5.30	+5.16

An examination of the pre-test scores indicates that many of the students came into the program with a basic understanding of several concepts in the STARBASE curriculum. There were, however, a significant number of concepts that were completely new and unfamiliar to the students. For those areas where students had less familiarity, the post-test scores displayed significant increases as described in Exhibit 9. Site location exhibited significant variation in several scores both pre-and- post. The post-test scores indicate that even with variation across Academies, participant schools do not teach math and science concepts at the same depth as STARBASE.

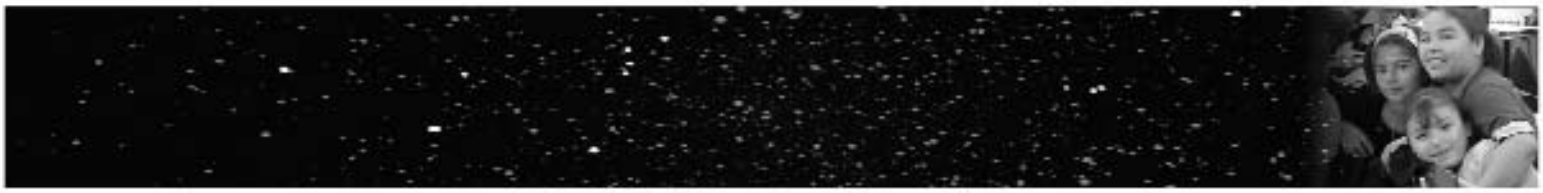


Pre/Post Test Average Score
Exhibit 9

Test Item	% of Pre-Test Correct	% of Post-Test Correct	+/- % of Improvement
A team works together.	99	99	+.00
Using teamwork results in ...	96	98	+2.0
Which of the following is not a team?	92	95	+3.0
Which of the following can destroy an individual's dreams?	91	95	+4.0
If you have something you want to do, or something you want to be in life you should…	91	95	+4.0
Negative actions may make it harder for you to reach your goals.	90	95	+3.0
Wing	89	95	+6.0
Which planet has 23 moons?	81	90	+9.0
Cockpit	81	96	+15.0
The Earth is the closest planet to the sun.	78	87	+9.0
Force that pulls an aircraft down.	77	88	+11.0
Forward movement produced by a propeller, jet, or rocket engine...	73	85	+12.0
Which planet do humans believe they could inhabit in the future?	73	89	+16.0
Matter does not take up space.	73	86	+13.0
Drinking alcohol may decrease our bodies' ability to do easy things.	71	81	+10.0
Elevator	67	82	+15.0
Rudder	65	82	+17.0
Slows the forward movement of an aircraft...	64	82	+18.0
Produced by air flow over the wings and the angle of the wing into the wind...	62	84	+22.0
If you threw two balls of different weight using the same amount of force...	60	82	+22.0
The development of something new, or improvement of something already existing is…	60	79	+19.0
Technology usually decreases in cost after many units are sold.	51	70	+19.0
To move an airplanes nose to the left, you would move the…	42	60	+18.0
Which of the following is NOT one of the states of matter?	40	66	+26.0
How thick is the earth's air?	40	68	+28.0
If you are landing an airplane in a city that is 5,000 feet above sea level what will your altimeter read when you are on the ground?	39	57	+18.0
One reason an airplane is able to gain lift is because the air moving across the top of the wing.	30	55	+25.0
The air is composed mostly of what element?	25	63	+38.0
What is Sir Isaac Newton's Law of Inertia?	24	66	+42.0
Air presses down 15 pounds on every inch of our bodies. The reason we don't feel this is…	23	67	+44.0

Teamwork and goal setting items[18] score high on entry into the program and are a good foundation for building comfort and knowledge for the student. The science, technology, and math items are less familiar and demonstrate greater areas of improvement as a consequence of STARBASE involvement. The range of improvement runs from 0% to + 44%.

[18] The teamwork and goal setting items will be changed this coming program year.



❖ Gender Differences on Knowledge Test

The results show that although boys enter the program with a slightly higher knowledge base than girls, the girls show greater improvement between their pre and post tests as a result of their STARBASE experience. See Exhibit 10.

Gender Differences on Knowledge Test [19]

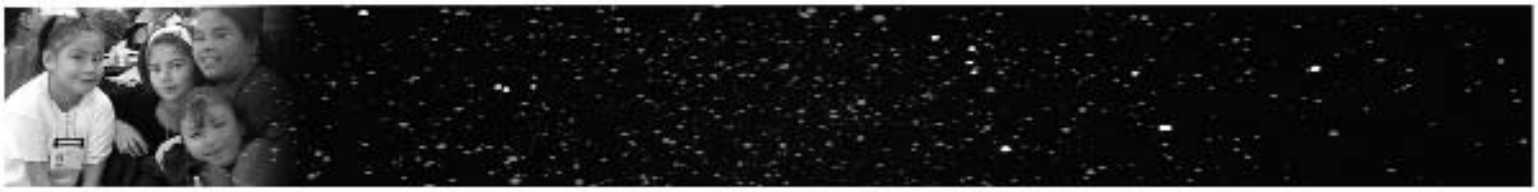
Exhibit 10

Gender	Pre-Test Score	Post-Test Score	Gap Score
Boys	19.45	24.53	+5.08
Girls	18.72	23.97	+5.25

❖ Post-Program Knowledge Test Scores Over Past Four Years

As shown in Exhibit 11, the percentage of correct scores in the past four years remains relatively constant on each of the tested items. Ten items had a significant jump over previous years. Overall, this year's average post-test scores were slightly lower than 2003, but still well above those in 2002 and 2001.

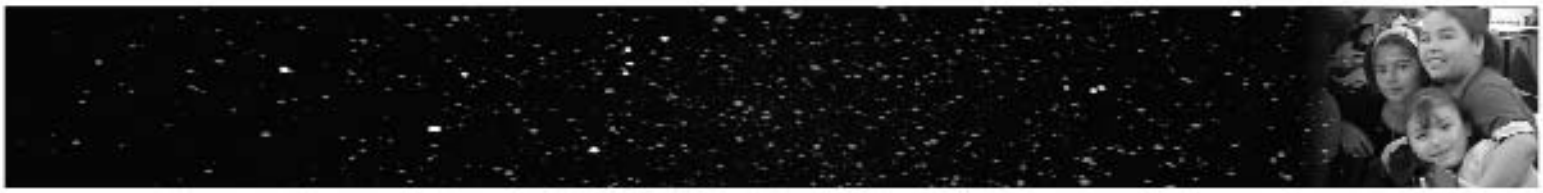
19 Scores are based on a 30 question test.



Average Post Program Knowledge Test Scores [20]
Exhibit 11

Post-Program Knowledge Item	2004 % Correct	2003 % Correct	2002 % Correct	2001 % Correct
A team works together to achieve a common goal.	99	99	98	97
Alcohol impairment is the affect alcohol has on our body as it decreases its ability to function properly.				79
Drinking alcohol may decrease our bodies' ability to do easy things.	81			
Drinking alcohol may decrease our bodies' ability to do simple tasks.		89	85	
Matter can change between liquid, solid, and gas states.				74
Matter can exist in a vacuum.				51
An atom is joining of two or more molecules.				25
Matter does not take up space.	86	85	82	
The Earth is the closest planet to the sun.	87	90	85	80
Negative actions take you further from your goal.				81
Negative actions may make it harder for you to reach your goals.	93	94	91	
Technology usually increases the size of something.				57
Technology usually decreases in cost after many units are sold.	70	70	63	
Using teamwork results in...	98	98	97	93
Which of the following in NOT a team?	95	96	93	89
Which of the following is NOT one of the (three) states of matter?	66	68	59	60
How thick is the earth's air?	68	60	58	48
Air presses down 15 pounds on every inch of our bodies. The reason we don't feel this is...	67	70	64	51
The air is composed mostly of what element?	63	56	53	46
Cockpit	96	97	94	91
Wing	95	94	93	91
Elevator	82	87	81	73
Rudder	82	86	78	72
If you are landing an airplane in a city that is 5,000 feet above sea level, what will your altimeter read when you are on the ground?	57	58	52	48
If you want to move an airplane's nose to the left what would you do?				45
To move an airplanes nose to the left, you would move the...	60	58	53	
When you increase speed of the air moving over a wing, the air pressure on that wing...				44
One reason an airplane is able to gain lift is because the air moving across the top of the wing...	55	51	44	
Produced by air flow over the wings and the angle of the wing into the wind	84	84	78	69
Force that pulls an aircraft down	88	84	84	80
Forward movement produced by a propeller, jet, or rocket engine	85	84	79	74
Slows the forward movement of an aircraft	82	80	76	71
What is Sir Isaac Newton's Law of Inertia?	66	70	60	49
If you threw two balls of different weight using the same amount of force...	82	84	77	67
Our Solar System consists of how many planets?		91	86	82
The component of the STS that provides the thrust against Earth's gravity to lift the STS is what?				55
Which planet is the smallest of all planets and the farthest away from the sun?		97	95	93
Which planet has 23 known moons and thousands of rings?	90			
Which planet do humans believe they could inhabit in the future?	89			
The development of something new, or improvement of something already existing is...	79	80	68	50
If you have something you want to do, or something you want to be in life, you should...	95	96	93	89
Which of the following can destroy an individual's dreams?	95	95	92	89
Post-test score	**24.25**	**24.42**	**22.78**	**22.78**

[20] Scores are based on a 30 question test.



Student Attitudinal Test Results

Most of the 1,706 students who responded to both the pre/post program attitude questionnaires expressed a very positive view when entering the program. The pre-program attitudes of "trying new things," "working with others," "STARBASE instructors are kind and helpful" and "Military people do lots of different things" are all highly rated. The students come to the program eager and open to a new adventure and with high expectations.

Student responses at the close of the program strongly indicated that STARBASE provided them with a lot of things that they could use, rating 6.53 out of 7. Pro-social attitudes provided the most positive responses along with a positive assessment of their futures. Their attitudes are similar to prior year assessments. Significant and positive shifts were found in innovative abilities, trying new things and their experiences with the military. Their overall experience at STARBASE was expressed as positive, exciting, experiential, and imbedded with self-confidence in what they can accomplish in the future. The overall scores were exceptionally high and moved upward in almost all items at the close of the program. As provided in Exhibit 12, the top-ranked predispositions in the pre-test demonstrated movement upward in the post assessment.

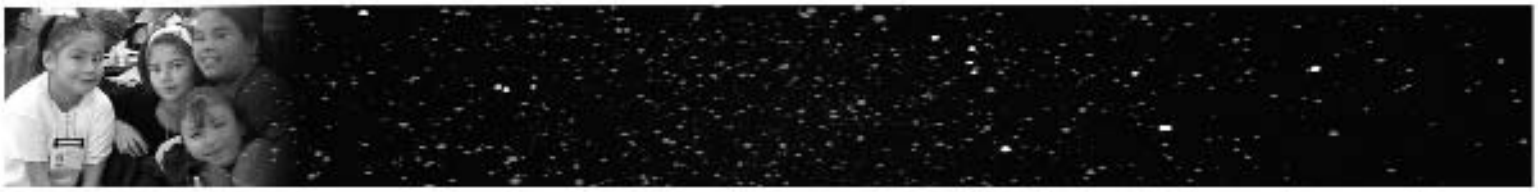
A Comparison of Highest Ranked Pre & Post Program Attitudes[21]

Exhibit 12

Item	Pre-Program Attitudes	Post Program Attitudes	Shift
	Mean	Mean	
You can learn a lot by trying things.	6.49	6.51	+.02
I think I can graduate from High School.	6.43	6.47	+.03
You can have fun working in a group.	6.34	6.34	.00
I think about what I want to be when I grow up.	6.32	6.38	+.06
STARBASE instructors are kind and helpful.	6.29	6.54	+.25
I like to make new things.	6.21	6.29	+.08
You can accomplish a lot in a group.	6.19	6.29	+.10
Military people do lots of different things.	6.13	6.29	+.16
Learning can be fun.	6.06	6.15	+.09
I like to think of new ways to use things.	6.06	6.17	+.11
I am enjoying coming to a military base.	6.05	6.36	+.30

The discussion below shows the rank order analyses of the test results and includes a discussion of the results as they pertain to gender differences, experience with the military, knowledge of STARBASE, age and grade impact, location of the Academies, regional configurations, and military service branches. A more detailed discussion is contained in Appendix C-1.3.

[21] Rated on a seven point scale.



❖ Rank Order Analysis

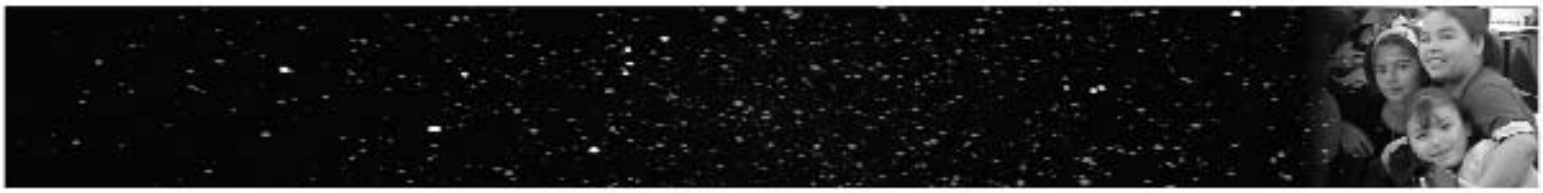
As shown in Exhibit 13 the rank order analysis demonstrated some minor differences from the pre-program assessment to the post-assessment rankings. Last year the items "I want to be like my STARBASE instructor" and "I think I could grow up to be a STARBASE instructor" were dropped as test items because of concerns by STARBASE staff that this was not a program objective. "STARBASE instructors are kind and helpful" was added as a replacement to these statements. These replaced items rated 23 and 24 last year. The new item was ranked number one in this years' post-program assessment. The items of "you can learn a lot by trying things" and "I think I can graduate from high school" remained high in the "post only." The first ten rated items almost mirror last year's ratings, while minor shifts occurred in the remaining items. Overall, the attitude items over the past five years have remained stable and positive.

When there are shifts in ranking and ratings, they are more prominent at the Academy location. This would suggest the usefulness of special reports to each Academy so that they can compare individual scores with the national norms. One observation in the post-program ranking is that personal desirability items like "I think I can…" rank higher than personal skills items such as "I make good decisions," "I am good at math," and I am good at science." The differences between "I think I can" and "I can" from "I am" still exist but in relative terms, since the ratings are high. The average mean rating across all the attitudinal items for the post-test was 5.97, significantly higher than the pre-test average of 5.78 on a seven point scale.

Ranking and Mean Scores of Student Attitudinal Responses[22]
Exhibit 13

Pre-rank	Post-rank	Item Stem	Pre-Mean Score	Post-Mean Score
5	1	STARBASE instructors are kind and helpful.	6.29	6.54
Post only	2	At STARBASE I learned a lot of things that I can use.	Post only	6.53
1	3	You can learn a lot by trying things.	6.49	6.51
2	4	I think I can graduate from High School.	6.43	6.47
4	5	I think about what I want to be when I grow up.	6.32	6.38
11	6	I am enjoying coming to a military base.	6.05	6.35
3	7	You can have fun working in a group.	6.34	6.34
7	8	You can accomplish a lot in a group.	6.19	6.29
8	9	Military people do lots of different things.	6.13	6.29
6	10	I like to make new things.	6.21	6.29
Post only	11	I would tell my friends to come to STARBASE.	Post only	6.21
13	12	I can make my dreams come true.	5.86	6.17
10	13	I like to think of new ways to use things.	6.06	6.17
9	14	Learning can be fun.	6.06	6.15
12	15	I set goals for myself.	5.91	6.07
15	16	Military bases are fun.	5.66	6.02
16	17	I make good decisions.	5.64	5.73
14	18	I am good at following directions.	5.70	5.70
17	19	I like science.	5.59	5.67
18	20	Learning is easy for me.	5.38	5.55
21	21	I am good at science.	5.22	5.43
19	22	The military is a good place to work.	5.25	5.40
20	23	I like math.	5.24	5.33
22	24	I am good at math.	5.11	5.27
Post only	25	STARBASE is boring.	Post only	1.56

[22] Rated on a seven point scale.



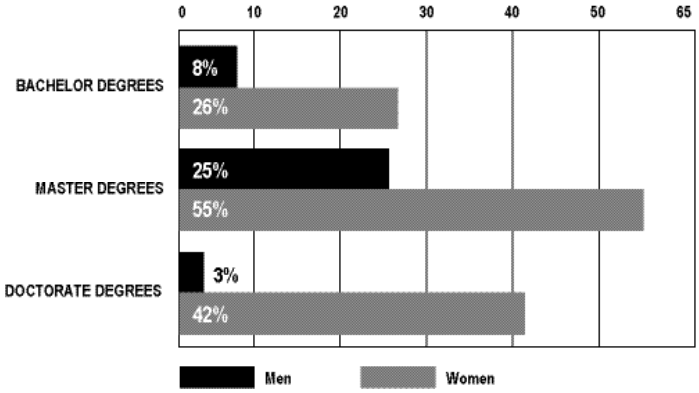
❖ Gender Comparisons on Attitudes

Research indicates that gender differences matter in education. Current Department of Education statistics and other studies indicate that girls have higher expectations that education is essential to achieving life's goals. In addition, they are not only closing the gap in performance scores, but they are increasingly filling higher educational positions at the University and college levels.

On the national level, girls have been steadily and dramatically pulling away from the boys. By the end of the 90's, 133 women to every 100 men received bachelor's degrees and by 2010, it is estimated this figure will rise to a ratio of 142 to 100. Girls, as the attitudinal data indicates, have a more pro-educational attitude. A recent Southern Regional Education Board study found that in 26 states, 84% of the girls felt that it was important to continue education beyond high school, while 67% of the boys[23] valued that goal. This gap in attitude was also demonstrated when asked whether school performance was essential to achieve life goals. Seventy percent of the girls judged school performance essential, while only 57% of the boys responded in the same manner. This gender gap is demonstrated by Exhibit 14, which shows the percentage increase in the number of women receiving college/university degrees compared to men from 1990 to 2000.

Percentage Increase in Degrees Awarded by Gender 1990-2000[24]

Exhibit 14



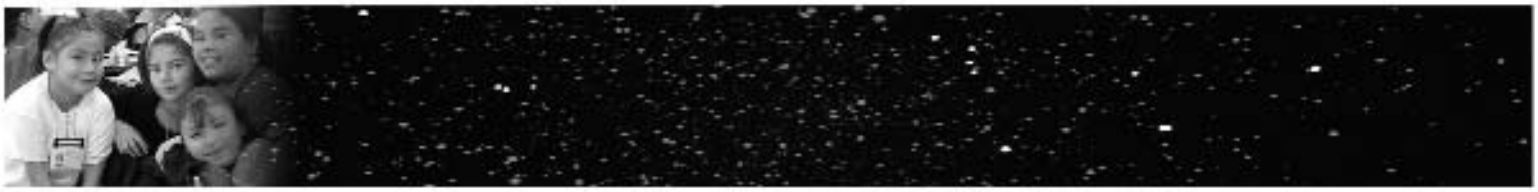
The FY'04 student assessment showed that STARBASE students reflect, to some degree, the gender differences in their attitudinal assessment scores, including their response on the utility of the STARBASE experience to achieving their personal goals. Given the gap between male and female expectations on education, some focus will need to be given to these differences in the attitudinal dimensions of the STARBASE curriculum.

The following presentation (see Exhibit 15) focuses on the differences and similarities in perceptions by the boys and girls about themselves, their STARBASE experiences, and their ability to actualize their skills and life chances. The girls differ from the boys in that they express more positive responses to interpersonal and pro-social values, while the boys rate math, science and the military as more important to their interests. The greatest gain, for girls and boys, was demonstrated with one of the STARBASE program's major themes, "I can make my dreams come true."

The highest rating for the girls was for their vision that "STARBASE instructors are kind and helpful," while their lowest rating focused on "I am good at math." The boys, on the other hand, rated "At STARBASE, I learned a lot of things that I can use" as their highest ranked view, and "I like math" as their lowest view. Girls tend to rate expressed attitudes higher than boys. These results are similar to last year's results and are relatively consistent with other gender assessments.

[23] The Southern Regional Board also found that 31% of the boys tested below the basic literacy level in verbal testing while girls had 20% in the below basic category.

[24] U.S. Department of Education, Business Roundtable.



Post Program Rank Order Attitudinal Differences by Gender
Exhibit 15

Expressed Attitude	**Girls**		**Boys**	
	Mean	Rank	Mean	Rank
STARBASE Instructors are kind and helpful.	6.63	1	6.45	2
You can learn a lot by trying things out.	6.59	2	6.43	3
I think I can graduate from high school.	6.58	3	6.37	5
At STARBASE, I learned a lot of things I can use.	6.56	4	6.49	1
I think about what I want to do when I grow up.	6.49	5	6.27	8
I am enjoy coming to a military base.	6.35	6	6.26	9
I like to make new things.	6.31	7	6.35	6
I would tell my friends to come to STARBASE.	6.30	8	6.13	10
You can have fun working in a group.	6.30	8	6.39	4
Military people do lots of different things.	6.28	9	6.20	7

❖ Prior Experience with Military Personnel on Attitudinal Preference

There were 978 students with pre-and post-responses that indicated prior experience with the military as compared to 710 students who claimed no military contact. The profiles on the pre-program assessment of those who had contact with the military showed in 17 out of 25 test items significant differences from those students with no contact. When the students were assessed at the close of the program, the number of items was reduced to nine. This suggests that the STARBASE experiences brought the two groups more in line with each other in the area of attitudinal perceptions.

❖ Prior Knowledge of STARBASE Program and Attitudes

Approximately two-thirds of the students had prior knowledge of STARBASE before going through the program. Neither student group, before the program experience nor at its completion, indicated any definable pattern on the attitudinal items. The ratings for "STARBASE knowledgeable" students as compared to the non-exposed student body produced no discernable difference.

❖ Age and Grade Impact on Attitudes

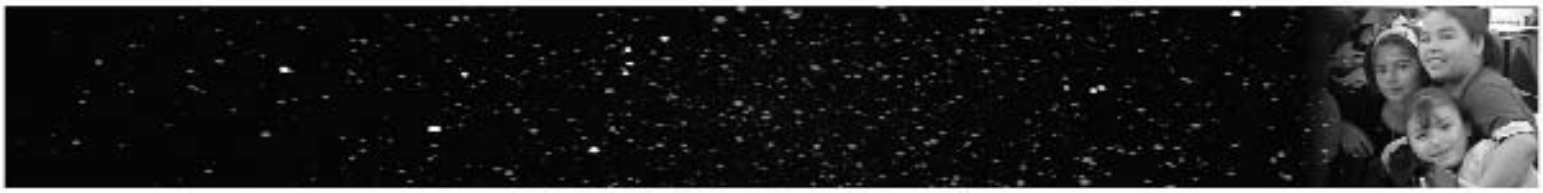
Correlations on age and grade have only minor effects on attitudinal ratings. The older students tended to be slightly less high in their ratings than the younger group on several indicators which suggests that the younger students were more enthusiastic in a number of items. The older students also had slightly higher scores in the knowledge test. These same relationships were found in earlier years of the assessment process.

❖ Location of Academies and Attitudes

The location of the Academies produced more variation than all other factors in perceptions and test scores. All but one of the attitudinal items had statistically significant variation across locations. There is more variation in questionnaire and test item indicators amongst the various Academies than there is common experience or perceptions. While all the programs received positive and progressive responses from teachers and students as well as increases in test scores, the data suggests that each Academy emphasizes the parts of the curriculum differently and at different depths of coverage. Initiatives such as the incorporation of staff development, committee review, sharing amongst other Academies, and feedback from the national assessment may result in pulling some of the commonalities closer together.

❖ Regional Configuration and Attitudes

When the location of Academies is aggregated into five regions, the differences between them cancel out suggesting that the differences are more location-specific than regionally specific. Regionality had little influence or significant differences on post-program knowledge test scores. Additionally, the data did not indicate a consistent trend across the rating of perceptions from one region to another.



❖ Military Service Branches and Attitudes

Aggregating Academies with military branch affiliates displayed little variation across attitudinal items which, again, suggest that differences are pulled by location-specific factors rather than branch of service affiliation. (See Appendix C-1.4) In contrast, post-test knowledge scores across military service branches were significantly different.

Summary: The student assessment analysis demonstrates that the DoD STARBASE program continues to show an increase in knowledge in the core content areas. The trends that have been demonstrated over the past five years in the knowledge and problem-solving test have been maintained as the student population and the number of Academies grows. Also as in previous years, the 2004 attitude assessment data indicates that students continue to exhibit positive social behaviors and attitudes toward STARBASE, themselves, and the military. However, the confidence level of mastery over skills to problem-solving is not as strongly rated; i.e. the students know they have the ability, "I can…", but they are not confident they have acquired the necessary skills to perform.

LOCALLY ADMINISTERED TESTING BY ACADEMIES

Although DoD has required for the last five years Academy-wide standardized testing on pre/post application of core curriculum, the majority of Academies still utilize their own performance testing. These locally designed tests are not common to other Academies and are not subjected to the same analysis as the DoD tests.

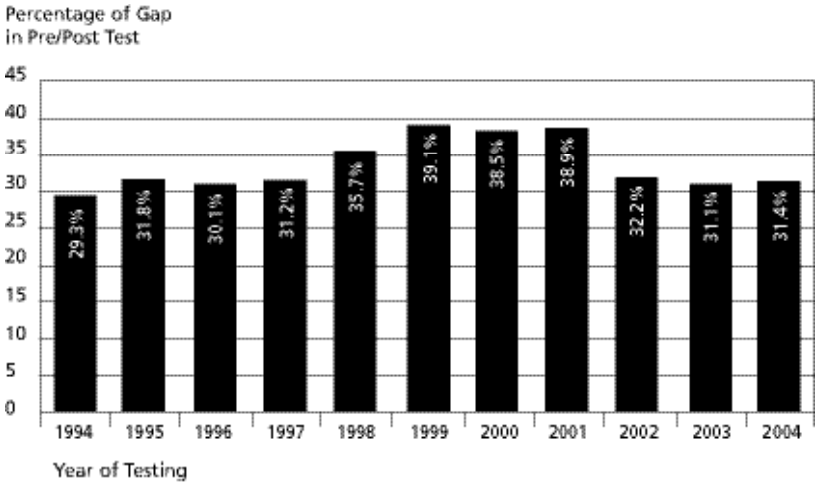
Locally administered Academy-based tests grew out of the absence of testing and a systematic evaluation process in the earlier days of the STARBASE program. Directors wanted some measure of student performance and, therefore, each Academy developed its own testing program. The locally administered tests also are used by some Academies because in addition to the STARBASE core curriculum, they have individualized, unique, site-specific curriculum on which they want to assess effectiveness.

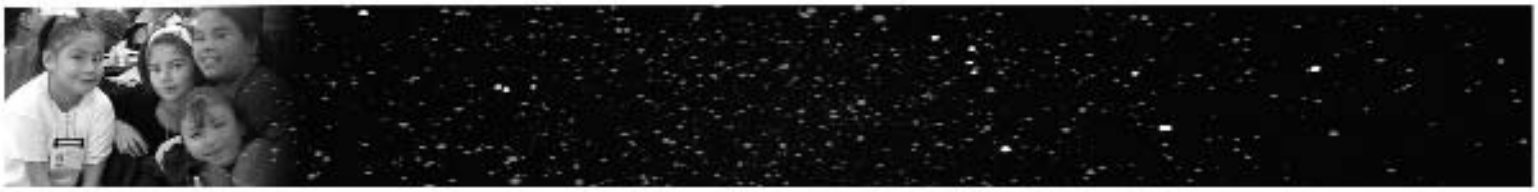
The DoD standard test assesses common curriculum items across all Academies, while the local tests focus on elements attributable to the specific Academy. Both tests have utility for the Academies in program design, curriculum review, and program delivery. The local tests tend to reflect an Academy's diversity in curriculum application, whereas the DoD test emphasizes the importance of adherence to key elements in the core curriculum. The DoD test is indifferent to diversity in local curriculum content and reinforces the concepts outlined in the DODI.

The following exhibit (Exhibit 16) displays the gap difference between the pre-and-post scores from 1994 to the present for local Academy-designed tests. As in previous years, 2004 displayed a greater than 30% gap increase in the pre and post tests.

Academy-Designed Pre/Post Assessment Increases

Exhibit 16





TEACHER ASSESSMENT

From the perspective of the assessment process, teachers serve as an expert panel of observers. Teachers are professional educators who are knowledgeable about the STARBASE methods and practices. They become increasingly important to the process as they enroll their classes into the STARBASE program each year. Teachers are the only participants that observe the behaviors, attitudes, and skills of students during all of the three phases of STARBASE – prior to program entry, during the program, and after the STARBASE experience. As a result, they can identify changes in classroom culture and student performance when students return to their normal routine. They also can observe downstream results in testing, both standardized and classroom-specific. In some cases, teachers utilize materials and methodologies introduced in the STARBASE curriculum in their own classrooms. They can document the effect that the program has had on themselves and the use of the program approach in their own applications. They can express and describe events that cannot be captured by any other participants in the program.

The assessed teacher population in FY'04 was experienced, as reflected in their average tenured commitment to education of 16 years or more. The vast majority were 5th grade teachers – the preferred target population – and the remainder taught in grades contiguous to the 5th grade (i.e., 4th and 6th grades). The majority of the teachers had prior experience and contact with the military before the STARBASE commitment.

In FY'04, the questions in the Teachers' Assessment focused on teachers' judgment of the program's effect on student behaviors, academic performance, post program classroom performance, and student attitudes towards themselves, the program and their ability to succeed. In addition, teachers were asked questions about the program's impact on their attitudes towards teaching, the use of STARBASE materials in their classroom presentations, and the changes in their approach to math and science instruction upon their return to their regular classroom assignments.

TEACHER ASSESSMENT RESULTS

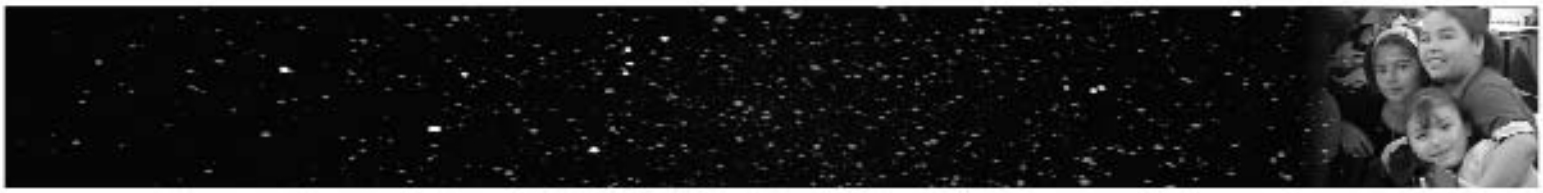
The following assessments and observations of the teacher ratings have particular merit because of the teacher's unique role in and range of observation of the STARBASE experience and student participants.

"The program was very valuable to my students since it integrates many content areas. I have extended my math lessons by including topics and concepts taught at STARBASE."

Iriana Acevedo, Math Teacher, Puerto Rico

One hundred and forty-five teachers responded to this year's assessment. Overall the teachers rated the DoD STARBASE experience positively for themselves, their students and the student families. In particular, they notice improvements in student attitudes about themselves and the educational process. The majority of teachers indicate that they use the STARBASE materials in their own curriculum and find the program useful well beyond the STARBASE experience.

These positive assessments are similar to previous years with some improvements over last year. Nineteen ratings out of the 31 items were above the 6.00 level on a seven point scale, as compared to 16 items that reached that level in FY' 03. The average rating in FY' 04 is 6.15 compared to 6.10 in FY' 03 – a modest, but overall increase. The highest five ratings for this year are the highest five ratings for the past four years. (See Exhibit 17) Each of these items was exceptionally high given the seven-point rating scale.



Five Highest Teacher Ratings Over a Four-Year Period[25]

Exhibit 17

Teacher Ratings on STARBASE'S Impact on Students and School Performance	2004	2003	2002	2001
STARBASE Curriculum supports state standards.	6.75	6.75	6.66	6.76
STARBASE Instructors are good role models for students.	6.75	6.82	6.73	6.77
The children enjoy sharing their STARBASE experience with others.	6.74	6.70	6.77	6.81
Students enjoy being on a military base.	6.70	6.61	6.69	6.50
STARBASE reinforces many behaviors I try to teach my students.	6.71	6.68	6.72	6.81

The results of the teacher assessment also cover pro-social attitudes, science and math interest and attitudes, and perceptions about the military. Each of these findings is discussed below.

Teacher and Student Assessment of Student Pro-Social Attitudes[26]

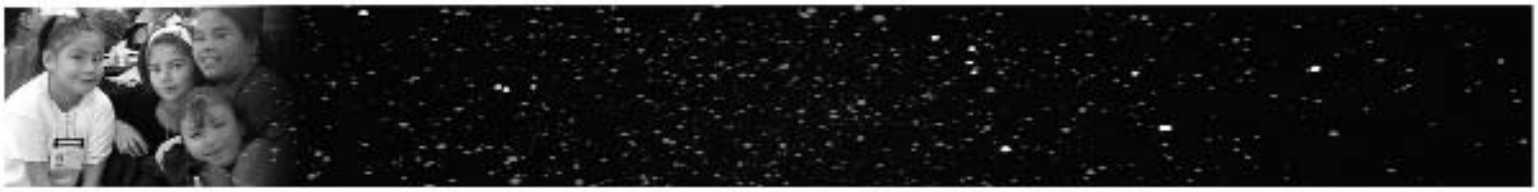
Exhibit 18

TEACHERS		STUDENTS	
Statement	**Score**	**Statement**	**Score**
More confident about what they can accomplish	6.01	I set goals for myself.	6.07
More goal oriented	5.74	I can make my dream come true.	6.17
More excited about their futures	5.95	I think about what I want to be when I grow up.	6.38
More willing to cooperate with each other	6.03	I think I can graduate from high school.	6.47
Better at working in groups	5.97	You can have fun working in a group.	6.34
More likely to encourage each other	5.96	You can accomplish a lot in a group.	6.29

Teacher perceptions support student perceptions about the STARBASE experience, but there are differences in degree. As shown in Exhibit 18, although the ratings on building and maintaining self-esteem, pro-social and a "can do" attitudes are high with both groups (above the 6.00 level), the student ratings are consistently higher. In contrast, teacher ratings (6.00 + level) are higher than student ratings with regard to student enthusiasm about their STARBASE experience.

25 Rated on a seven point scale.

26 Rated on a seven point scale.



Teacher and Student Assessment of Student Science & Math Interest & Attitudes[27]

Exhibit 19

TEACHERS		STUDENTS		
Statement	**Score**	**Statement**	**Pre Score**	**Post Score**
(Students) are interested in science.	6.44	I like science.	5.59	5.67
(STARBASE) improves the students understanding of science.	6.49	I am good at science.	5.22	5.43
(Students) are more interested in learning about math.	5.58	I like math.	5.24	5.33
(Students) improve in their appreciation of how math can be applied in a number of situations.	5.85	I am good at math.	5.11	5.27
(Students) better at following directions.	5.65	I am good at following directions.	5.70	5.70
More excited about learning.	6.10	Learning can be fun.	6.06	6.15
More comfortable about making decisions.	5.60	I make good decisions.	5.64	5.73

As shown in Exhibit 19, teacher assessments of student attitudes (student interests and understanding) toward science are appreciably higher than those of the students while math attitude ratings are similar between teachers and students. Students' interest and comfort in the topic of science remains higher than math and has been relatively constant over a four year period. (See Appendix C-1.5 and C-1.6 for a full rank order listing of teacher and student attitudes.)

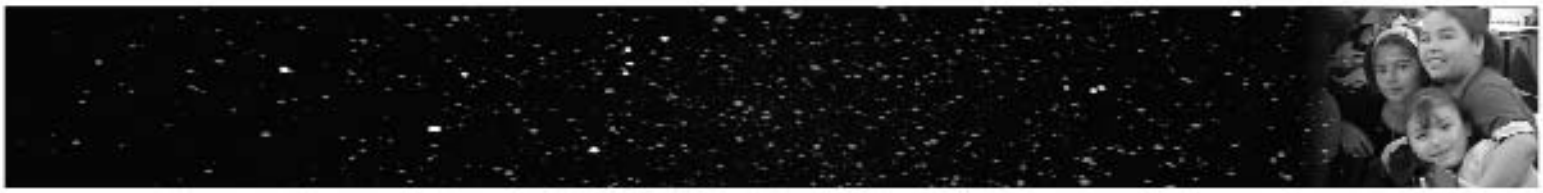
Teacher and Student Assessment of Student Perceptions About the Military[28]

Exhibit 20

TEACHERS		STUDENTS	
Statement	**Score**	**Statement**	**Score**
(Students) are comfortable with military personnel.	6.05	Military people do lots of different things.	6.29
Students enjoy being on a military base.	6.70	I enjoy coming to a military base.	6.35
Students admire their STARBASE instructor.	6.59	Military bases are fun.	6.02
STARBASE instructors are good role models for students.	6.75	STARBASE instructors are kind and helpful.	6.54
		The military is a good place to work.	5.40

[27] Rated on a seven point scale.

[28] Rated on a seven point scale.



Perceptions about the military, as shown in Exhibit 20, demonstrate some differences between students and teachers. Both groups rate the military environment very high as a result of the program with almost all the ratings in the 6.00+ range. Teachers, however, are slightly more positive about the impact.

Summary: Teachers value the STARBASE program for its ability to make a number of differences: 1) in their students; 2) in their own behaviors and attitudes; and 3) in the program's support of State standards in math, science and technology. They gave high ratings in almost all factors related to curriculum, educational methodology, positive attitudinal reinforcement, and instilling student confidence[29]. As critical observers and assessors of students prior to, during, and post program, their ratings were consistently high. As program advocates, they continue to enroll their students in STARBASE each year[30]. As one of the key agents of advocacy in the participant population and also one of the key expert observers of the program's effectiveness in predicting student changes and performance results, teacher assessments will remain a key element in the overall assessment of the program.

COMMANDER RESULTS

Thirty-five Commanders responded to this year's request. They reported on how the STARBASE program impacted their operation, contributed to the base, was responded to by the community, and provided benefits, if any, to the military volunteers under their command. Without exception, the Commanders are strong advocates of the program as reflected in such comments as: *"greatly improved our public image…obtained participation from folks that previously did not know or want to know what we do…a great community outreach program."*

The Commanders articulate these benefits by indicating that the program provides returns to the military base in:

- positive community relations;
- an increased public awareness of the role of the military in community services and affairs;
- the building of a network of valuable relationships between the military and community leaders, teachers and parents; and
- providing a valuable resource for military personnel to volunteer their personal time to activities that enhance their personal skills and self-worth while contributing to an important and useful activity.

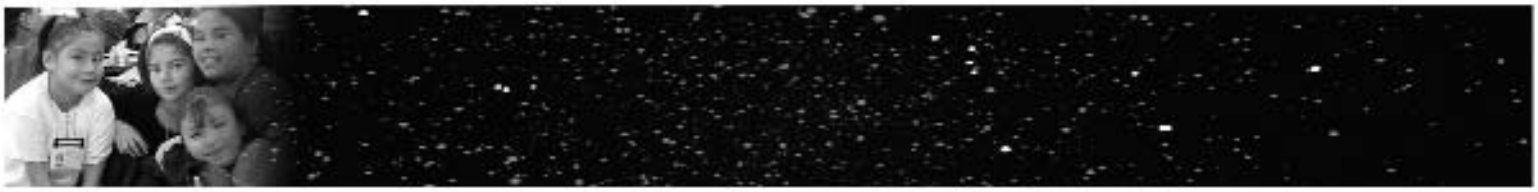
Commanders' View of STARBASE on Military-Community Relations

Exhibit 21

Public/Community Relationship with Military	**2003**	**2004**
Promoted a positive view of the military to the community	94%	97%
Increased public awareness of the role of the military in community services/affairs	86%	97%
Provided a foundation for involving parents, teachers, and community leaders with the military	80%	100%
Increased the number of articles, public affairs promotions and media attention to the military's contribution to the students/commuity	69%	74%

[29] Teachers with more teaching experience reported that their students are more positive about themselves, their ability to make decisions and more confident about what they can accomplish.

[30] Some Academies rotate schools and classes to be equitable in their availability.



The Commanders' perception of the program's impact on public and community relations, as provided in Exhibit 21, shows that relationships in this year's assessment results were higher than in previous years. The Commanders indicated that the program's ability to promote a positive view of the military to the community is the most important factor in contributing to military-community relations. The program's role in providing a mechanism for involving community leaders, teachers, and parents with military personnel and the military base was ranked second.

Commanders, almost without exception, indicated that they have received positive feedback and comments from members of the community. Much of this feedback reaches the media where one Commander indicated that *"STARBASE has been featured on local TV, radio, and numerous newspaper articles, all of which are extremely favorable and brought positive recognition to the Airlift Wing."*

Commanders' View of Program Benefits To Military Volunteers

Exhibit 22

Benefits to Military Volunteers	2003	2004
Opportunity to support a worthy cause	78%	94%
Outlet for community service	80%	89%
Additional experience in teaching and instruction	42%	57%
Opportunity for dependents to attend the program	69%	57%

When the Commanders were asked about the benefits to their military personnel as volunteers, the results were higher than last year's assessment, (Exhibit 22). The one area in which the rating was lower was a function of the Academy being unable to offer a dependent program.

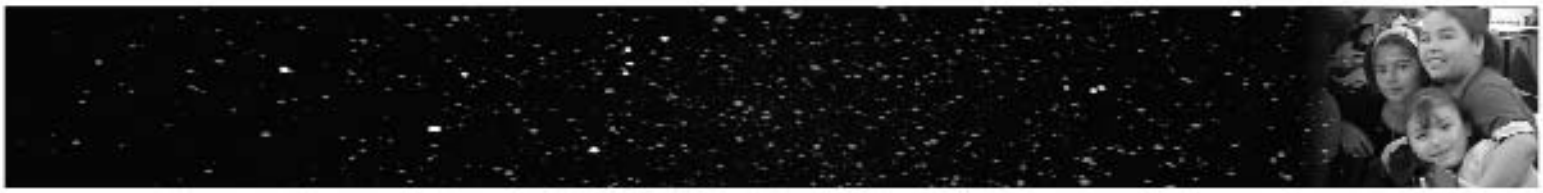
Summary: Overall the program's benefits, as stated by the Commanders, are well-worth the decision to be a sponsoring STARBASE participant. Many of the Commanders take an active interest in the operation of the program by their periodic visitations, speaking at graduations and to community groups, obtaining directors' briefings on the program's progress, and as expert presenters in the curriculum.

MILITARY VOLUNTEER RESULTS

The Military and civilian volunteers provide essential support to the program. They serve as tour guides, assist in providing briefings and demonstrations and provide assistance to instructors in experiential set-ups and occasionally in administrative tasks. They serve as mentors and provide real-life examples of how math, science, technology and personnel skills are used in their daily work assignments, problem solving, and the performance of essential tasks.

A sample of 131 volunteers from a full cross-section of Academies provided input to this assessment. The volunteers were asked questions on the amount of time committed to the program year; the perceived value of the program to them personally and to the community's perception of the military; the impact of STARBASE on the community; feedback received from the community, students, and other military personnel; their willingness to continue their volunteer work; and any extemporaneous comments they wished to make.

In this year's assessment, the number of volunteers and the hours contributed by military personnel, teachers, parents, Board members and other community representatives was documented. The results reflect an extensive commitment by both military and community members. Close to 105,000 hours were logged by more than 8,200 volunteers with an average of nearly eight hours per individual. The military volunteers were the highest contributors with an average of twelve hours per volunteer with 23% of them contributing 40 hours or more during the program year.



A military volunteer's role as both military and task manager is practical and applicable as an experiential model. One such comment by a military volunteer expresses this application by stating:

> ***"…it not only gave the participants a good view of what is accomplished at the unit, but showed the students the technical knowledge that is required to maintain the military" and "the children get to see, in a practical application, how science and math work together to create tools we use to protect our country…in addition the children leave knowing it takes work to get where most of these folks are today."***

With the events of the past two years – 9/11, the IRAQ war and Homeland Security initiatives – there was an expectation that the available military personnel would have a diminished capability to contribute time to the program, but to the contrary those that were available gave generously of their time and also indicated their willingness to volunteer in the future.

Summary: Without exception, the military volunteers responded favorably, enthusiastically and positively on the STARBASE experience for themselves, the students, the military, and the community.

PROGRAM DEMAND & GROWTH

The increasing demand for the establishment of DoD STARBASE Academies is a testament to the program's success. With the addition of three new Academies in FY'04, the number of Academies has now grown to 49 sites in 30 states, the District of Columbia and Puerto Rico. Forty-three of these locations are fully-operating, while the remainder are newly installed or just short of being fully operative. In addition, three Academies conduct outreach programs that are exclusively dedicated to serving American Indian children in South Dakota, Oklahoma and Mississippi.

"The DoD STARBASE program continues to grow and expand its delivery of the program to its target population."

Over 300,000 students have matriculated through DoD STARBASE since its inception. Supplemental and outreach efforts[31] boost the program participation figure to over a half-million students across the U.S. and Puerto Rico. The Academies served 45,650 students this program year – a nine percent increase over last year. The average number of students served per Academy is 932.

The number of classes conducted in FY'04 was one shy of 1900. This amounted to an average of 43.16 classes per fully operating Academy, an increase over last year's 41.5 per site. (See Exhibit 23.) Supplemental programs accounted for an additional 156 classes and 9,445 students.

Average Number of Classes per Academy

Exhibit 23

Program Year	2002	2003	2004
Average Number of Classes per Academy	36.0	41.5	43.16

Considering that several Academies experienced the loss of staff and volunteers because of mobilization activities, the program still maintained its profile as a growth program. Each program experienced high demand by its participant school district and the contiguous communities around the area. As the newly established Academies attain full operating status, these numbers will continue to increase.

Most of the DoD STARBASE programs now operate on a year-round basis and not simply as a reflection of local school calendars. Summer sessions (e.g., for children of military personnel, children with disabilities, and special interest groups such as Girl/Boy Scouts) and outreach efforts continue to increase as do programs that reach students outside the targeted school districts.

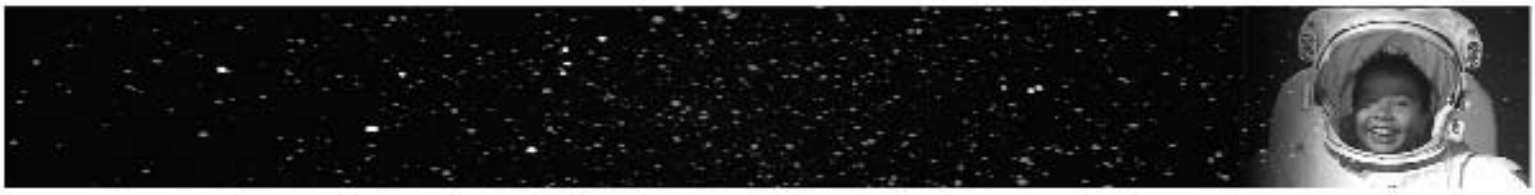
Demand for expanding the program persists. An approach that programs are taking to meet this demand is to request additional sites within their state jurisdictions[32]. At present, there are seventeen states that have dual Academies. (A list of STARBASE Academies can be found in Appendix D.)

In addition to the DODI requirements, some Academies have expanded their programs with supplemental efforts such as one-day "Best of STARBASE" programs, video teleconferencing, or the installation of a pre-packaged "STARBASE-In-A-Box" program where curriculum and materials are sent directly to schools for administration by STARBASE certified classroom teachers. These initiatives are not officially considered part of the standardized DoD STARBASE program (i.e. they don't fit several conditions of DODI delivery requirements). However, they are ways in which the Academies respond to community and school district demands. These efforts often require additional staff hours and financial support from the community. These and other innovations emerge largely in response to the popularity and overwhelming demand by the communities in which STARBASE operates.

---

[31] Supplemental and outreach programs are not officially counted in this report because they don't comply with DODI standards.

[32] To meet increased demand for the program, a provision was inserted into the Defense Authorization Act for FY'05 (Sec. 519) to allow the Secretary of Defense to waive the two Academy per state limit included in the original authorizing legislation. The proviso is that such additional Academies may only be established and operated with appropriated funds expressly available for that purpose.



Once a program is installed in a community and demonstrates its efficacy, the demand for expansion becomes axiomatic. Military personnel who get reassigned to another base, and who have had past involvement in the program, have been known to become initiators in new installations. Teachers, school administrators, community leaders, parents, and others have also become active promoters, advocates, and marketers of STARBASE.

The dynamics of demand and growth presents a dilemma for STARBASE administrators, managers, and directors. They must assess and balance available resources, including funds and staff availability, to respond to community interests for additional services without damaging existing program quality and overburdening program commitments. Managing and being responsive to demand becomes a challenge. Quality control must be maintained, core concepts standardized, and "lessons learned" captured. New products and services must be installed and accepted on an Academy-wide basis. And, economies of scale must be garnered. DoD is aware of these issues as well as the need to develop additional and enhance existing support systems as the program grows.

CRITICAL EVENTS

Last year, many of the Academies reported that the events precipitating from 9/11 had an effect on the operation of their programs. The reduction in student numbers and class time, cancellation of tours, interruptions in scheduling, accessibility to base resources and disruption in instructor/volunteer availability were some of the consequences of domestic and international tensions. While the impacts of this year's events were less intense, 57% of the Academies reported effects from the war in Iraq, Homeland Security initiatives, and natural disasters.

Availability and access to military personnel, facilities, and resources were particularly impacted. While inconvenient, the programs did reach required numbers in students, classes, and performance objectives. Military personnel, STARBASE staff and volunteers found ways to adjust to events that effected their program operation. The vast majority regained a normal routine over the calendar year. Paradoxically, these unintended consequences heightened student and community awareness of the military's role in times of crisis as demonstrated by participant responses.

PROGRAM OVERSIGHT

OASD/RA has oversight responsibility for the STARBASE program within the Department of Defense. This office assesses the DODI component plans for installing and implementing each Academy's program by: (1) managing the funding allocation process; (2) developing and implementing the regulatory guidelines; (3) monitoring each program's compliance with the regulations; (4) assessing the program's performance and effectiveness in achieving program goals; (5) assessing the development and publication of the Annual Report; and (6) providing administrative oversight as deemed necessary.

BACKGROUND

In the fall of 2000, OASD/RA distributed a set of instructions and guidelines regulating the DoD STARBASE program under DODI 1025.7. These instructions were designed to obtain consistency in program objectives, policy, and procedure across all of the DoD STARBASE Academies. Factors that the DODI focused on were core elements in the content, delivery, methodology, and operational integrity of the program. Key considerations were placed on such factors as class size, core curriculum, number of classroom hours, participant eligibility, military base delivery and several other administrative and operational procedures. Most of these factors were proven methodologies and concepts of STARBASE from past pilot programs combined with time-proven educational practices.

Academies were given maximum flexibility to enhance their programs in both content and approach as long as they met the base requirements. The DODI was initially distributed to Academies for review and self-compliance. Academies were instructed to document any exceptions or deviations to the instruction, note whether the conditions were temporary or permanent and provide the documentation to the OASD/RA office for further guidance or exemption. The Academies also were instructed to develop and suggest corrective actions and/or a plan of action to bring the conditions back to standard. The expectation, if no exceptions were given, was that compliance would be obtained in a scheduled, detailed action plan approved by OASD/RA office.

In the earliest phases of the program, each Academy operated in relative independence. Differences in program emphasis, operational procedures, and program delivery started to emerge even though they shared basic curriculum and core applications. Variances in program activity crept into the program as local resources were exploited in the form of program delivery. Academies were, in fact, encouraged to take advantage of local capabilities and resources that were available on base and in the community. The inventiveness of the staff created a number of very unique and innovative curricula and methodologies.

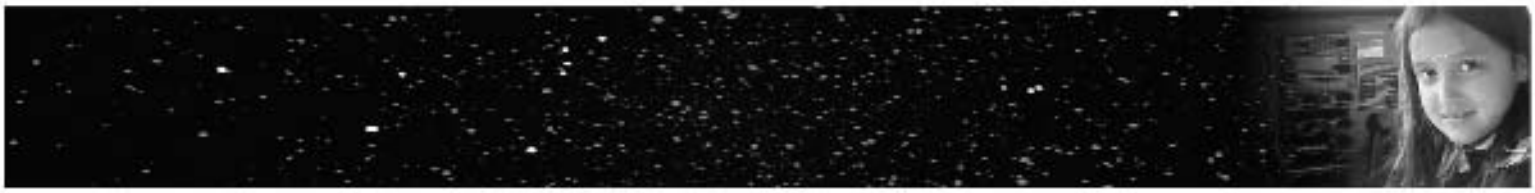
While sharing across Academies occurred, it was not collectively approved. Differences across the Academies started to emerge in program design and procedures. Classroom hours, emphasis on core curriculum, program location and new methodologies were introduced across program sites. These differences in program design and operational procedures had a leveling effect on the Academies' ability to transport and accept best practices and new approaches. Change or its consideration were not reviewed or tested for Academy-wide utilization. OASD/RA became aware of the difficulties in the dissolution of key concepts, best practices and proven methodologies that were originally piloted and tested as successful elements of the program. While OASD/RA understood the value and advantages that local resources provided the program, they also recognized the need to blend those attributes with the core elements of DoD STARBASE. The DODI was designed to reflect the balance of supporting local diversity along with the protection of standardizing key practices and core curriculum.

COMPLIANCE PROCEDURES

After the distribution of the DODI to the Academies, the OASD/RA designed a compliance program. This involved: 1) orientation sessions with newly installed Academies; 2) compliance visitations to conduct on-site desk audits of operating sites; and 3) an annual reporting requirement on Academy compliance.

Compliance visitations are scheduled on a rotating basis. The Assessment Team reviews documents, validates annual report claims, observes program activities and operations and interviews Academy staff on compliance requirements. Each Academy is visited at least once every three years. If there is turnover in the Director's position, an orientation visitation is scheduled during the individual's first year of responsibility to review compliance requirements. Additional assistance that would help the Director in his/her new responsibilities is also provided.

Compliance visitations include property audits if the sponsoring agency, military base or a consulting firm has not conducted one within a three-year period. The Assessment Team encourages each Academy to contact the base and/or sponsoring agency to provide the auditing service. Most Academies currently conduct annual or semi-annual property audits. Fiscal audits are usually conducted during the same period. Only a few Academies have had to be encouraged to schedule the audit.



COMPLIANCE CONSIDERATIONS

Most of the Academies are in full compliance with the DODI as of this reporting period. There were a few minor technical violations. This included a few Academies that had not conducted an audit, some without property listings, and a few Academies that went over the class size thresholds. Corrective action was then developed and designed for completion by the end of the program year. There are occasions when class sizes go beyond the threshold guidelines and situations when classes are conducted outside the military base because of some incident. The Academies consider these occurrences temporary or unlikely to be repeated; and documentation and notification to OASD/RA, as required by the DODI, is not obtained. Directors are instructed that proper written notification and documentation is important in that it provides a mechanism for future consideration for exceptions, the need for consideration of policy review, and an understanding for developing guidance to other Academies in the future. The importance of this issue has been raised during visitations to each Academy and re-emphasized at the annual Directors' Conference.

Another compliance issue is the timely response to the data collection assessment process, especially in the annual reporting of the Academies' operations and testing requirements. Each of these activities is identified as a required response in the DODI. However, there are occasional delays in response and incomplete responses to selected items. While call backs and notifications are made by the Assessment Team to complete the requirement, there is need for timely and reliable response from the Academies so that the annual report and other deliverables may be generated and submitted to OASD/RA within their scheduled time frame. Attention will be directed toward full compliance on these activities this coming year. Considering the number of Academies and the range of activity that is covered in this area, the overall compliance performance by most of the Academies is very positive. Most managers and Directors are positive and supportive about the need for compliance and its role in protecting the basic concepts, approach, and integrity of STARBASE.

Last year, class size was identified as an area that could prove problematic for several Academies. The lack of tax revenues at selected states inhibited the construction of new schools, the hiring of teachers, and the availability of support services in the local school districts. These actions tended to increase class size. While there were a few instances this year where the thresholds were challenged, it did not occur as frequently or in the numbers anticipated. Class size remains an important consideration in STARBASE, which promotes experiential and "hands-on" applications. Large class size has proven to be an impediment to this approach. While class size in selected Academies is of concern, the issue at this time is not of sufficient magnitude for action other than close monitoring.

Compliance in such key areas as the core curriculum and methodology allows for the development of a standardized testing instrument across all Academies. This is important to providing an overall assessment of the program's ability to effect student performance and changes in personal skills. Standardization in selected areas of program operation also allows each Academy a platform to accept and transport materials and lessons-learned.

The compliance issues discussed in this section are focused on supporting quality control; the protection of basic educational concepts and proven methodologies; and the promotion of selective standardization of key activities that permit the transportability of best practices, "lessons-learned," testing reliability, and the integrity of STARBASE concepts.

The visitation procedures, combined with the annual data collection process provide an effective instrument for obtaining compliance with the DODI and for identifying potential areas of concern. In addition, the newly established committee structure of the STARBASE staff, which will become fully operative in FY '05, will play a critical role in identifying issues and corrective action in such areas as changes in curriculum, methodology, and operational considerations that cut across all of the Academies.

DoD is the primary funding agency for the Academies. For most, it is the only funding source. The total funding allocation for Academy operations in the FY'04 program year was slightly over $13 million ($13,351,000) for 49 Academy sites. As shown in Exhibit 24 the average cost of an Academy operation is $272,469. This is slightly higher than last year's average annual cost of $269,706. Although six of the Academies are not in full operation[33], the average cost per student is $292.35. This is slightly higher than last year's figure which ran about $262.83 per student. As installations become fully operative, the true costs will become clearer and the cost per pupil should decrease.

FY'04 Average Annual Costs

Exhibit 24

Average Annual Cost Per Academy	Average Number of Students Per Academy	Average Cost Per Student
$272,469	932	$292.35

Cost modalities are only a rough measure of true operational costs. There are many factors that affect the operation of each Academy. Site and geographical variances alone produce appreciable differences[34]. In-kind support by the military bases, supplemental funding by outside sources[35], and salary administration under different agency affiliations also produce highly differentiated budget management profiles. These differences make comparability across Academies a challenge in fiscal budgeting and allocation, but every effort is made by OASD/RA to establish each Academy at an equitable level and in the distribution of ongoing funding.

The DoD budgeting process for each Academy follows the same basic operational funding plan. An Academy presents its budget request through its command system prior to budget allocation[36]. DoD requests an Academy to document any variations in its proposed budget from previous budget submissions. It is at this point in the process that variations in funding among the Academies may occur. The budgets are designed to cover basic operating costs such as salaries/benefits, transportation, supplies, equipment, communications, furnishings/facilities and contract services. For those Academies that are to be newly installed, there are additional funds to aid in upgrading facilities, and purchasing computers and equipment. Once an Academy is installed and fully operating, the annual budget process commences. Given this planning budget process, the operating budgets are generally similar across the Academies and any differences are based on the prior considerations of multi-site operations, geographic locations, and breadth of function. Exhibit 25 shows the similarity in budget allocations of each sponsoring service.

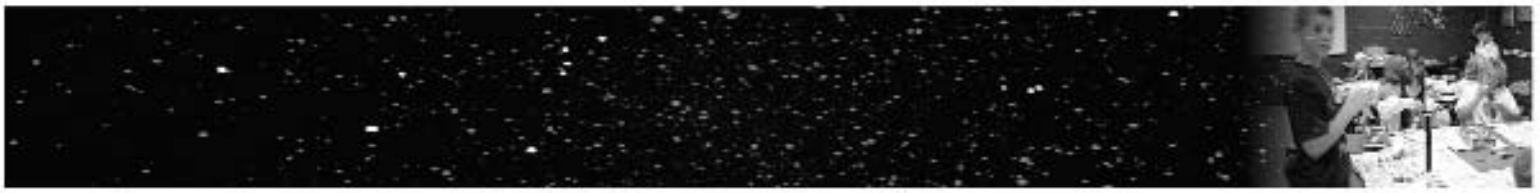
---

33 A few Academies are in the installation process.

34 Regional and urban cost of living differences, job market considerations, competitive hiring, and labor pools are all factors that result in different Academy costs at the local level.

35 These supplemental efforts are usually episodic, temporary, and often applied after the program has been made operational and not as a condition of installation.

36 All Academies operate under the federal fiscal year calendar.



Budget Allocations by Service Component

Exhibit 25

Service Component	Number of Academies	Average Cost Per Academy
National Guard	30	$264,200
Navy	10	$294,500
Air Force Reserve	3	$269,333
Air Force	3	$278,667
Marine Corps	2	$276,000
Navy Reserve	1	$284,000
Academy Average	49	$272,469

Operating costs are generally covered by the DoD funds. Pressure is placed on operating costs as programs mature, equipment upgrades and replacement requirements emerge, salary increases occur, cost of living adjustments emerge, and unanticipated events occur. Some managers restructure their organizational commitments while others seek additional sources of funding to cover these additional costs. Overall, about 75% of the costs of operation are dedicated to salary and benefits and the remainder allocated to other costs such as supplies, travel, equipment, communication, and staff development. Supplies (expendables) comprise less than 8% of budget so discretionary items are minimal.

Most Academies indicate that they can operate within existing DoD funding, but as they become more visible within their communities, the demand for expanded services and broader outreach puts pressure on their budgeting capabilities. Once committed, the ongoing responsibilities usually require supplemental funds to cover these additional activities. Last year, the amount for outside funding on an Academy-wide basis was close to a half-million dollars. This figure was lower than in previous years due to the competition for public funding in an environment in which most states are experiencing tax shortfalls. It is anticipated that this trend will continue in the near term, thus curbing many new ventures for expansion, other than through private source funds.

CONSIDERATIONS FOR PROGRAM MANAGEMENT

Last year the annual report suggested several considerations for improving the quality and operational delivery of the program and for upgrading the program's content and methodological approaches. The program's managers, including OASD/RA, reviewed the merits of these suggestions and decided to support a number of activities and services to reach these objectives.
This included:

- *Establishing a Website:* DoD established an Academy-wide website to facilitate information exchange and serve as a resource tool in program operations on a day-to-day basis. The website was designed to: 1) facilitate the sharing and exchanging of best practices and "lessons-learned;" 2) improve the speed and reliability of data collection; 3) provide a resource center for training and educational materials and other operational tools; and 4) facilitate information exchange by posting reference materials (e.g., schedules, directories, and announcements).

- *Establishing Steering Committees:* In May 2004, DoD established five Steering Committees comprised of Academy Directors and mangers to discuss, develop and review the DoD STARBASE Program[37]. The specific committees and their tasks include: 1) Partnership - identify, review, and establish partnerships with local/national organizations to enhance program resources; 2) Professional development- identify, review, and promote professional development programs/activities for the DoD STARBASE instructors; 3) Middle School Component – identify, develop, and review instruction materials to standardize and strengthen the middle school component of the DoD STARBASE Program; 4) Mentoring Initiative - identify and review mentoring programs that would be effective in continuing the improvement of student achievement in mathematics and science; and 5) Program Operations - review and update current program management and training manuals.
  An organizational meeting of the committees was held in Fall 2004 and they are expected to meet again in Spring 2005.

- *Initiating a Longitudinal Study:* A longitudinal study to empirically assess the STARBASE program's impact on students' downstream academic and social skill performance in years following their participation in the program was initiated. The study is based on a time slice sample of downstream classes, the intent of which is to reflect school tract decisions, extra-curricular activities and the maturity of variables such as attendance, truancy, school performance indicators, testing, teacher assessments, and administrative referrals. It will take into account such factors as grade level, geographic representation, military service component, and rural/urban characteristics.STARBASE Academies selected for the study must have been in operation for at least three years.

The FY'04 report considerations are a continuation of this focus – to build and improve upon the Academy-wide support systems and upgrade the quality of the STARBASE program and its delivery. These considerations, which are grouped by topic below, are a distillation of recommendations from program participants, Academy staff and sponsors.

Program Operations

Staff Turnover

Timely training of staff replacements should be considered to keep existing program commitments intact and to maintain the high quality of instruction. The form of delivery as well as the type of materials to accomplish this task needs committee review and input. Operational issues, such as staff-time availability, visitations and central delivery, should also factor into any discussions on this topic.

Website

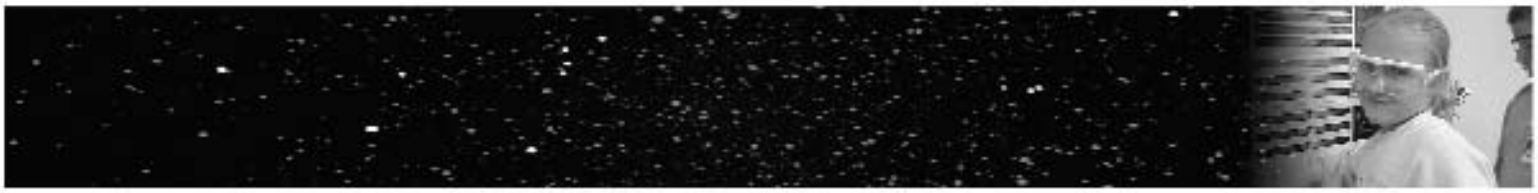
A tracking assessment tool on the utilization of the website by Academy staff should be developed to determine the website's effectiveness in transporting best practices, data collection, and information and materials distribution. Visitations should include an assessment of the website's use and also any assistance in its application.

Orientation Program

A site visit orientation program for new Academy Directors should be conducted within one month of their appointment. The program should address DODI requirements, data collection practices and schedules, a review of basic resources/services and appropriate best practices.

---

[37] See Office of the Assistant Secretary of Defense memorandum to Secretaries of Navy and Air Force dated May 25, 2004, referencing DODI 1025.7.



Directors' Conference

The Directors' Conference should be expanded to include: 1) staff development activities that would upgrade their skills and understanding of new applications such as mentoring approaches, higher level learning and experiential training approaches, and imbedded math applications in science instruction; 2) technology issues, such as uses and applications of website techniques in staff training; and 3) operational considerations, such as the role and function of of not-for-profit organizations and Director issues such as scheduling, fundraising, not-for-profit management and cost analysis of program operation.

Not-For-Profit Organizations

The confusion on the installation, structure, and function of not-for-profit organizations should be addressed either at the Director's Conference or as a staff training program. Topics should include the composition, utility, and rotation of Board members with the sharing of Board experiences by a select representation of Academy personnel who have examples of pitfalls in not-for-profit usage as well as their successful application. The discussion should provide Directors with the information necessary to consider installation of not-for-profit organizations in their programs.

Curriculum & Instruction

Staff Development

Staff development training requirements should be identified. The focus of the requirements should be on those that would upgrade classroom presentation techniques to maximize experiential learning applications and problem-solving, higher-level learning applications, and student interaction. The sharing of best practices and "lessons learned" should be maximized via various venues (e.g., Director's Conference sessions, website, teleconferencing and special training sessions/materials).

Curriculum Presentation

The STARBASE Committee should focus on the issue of how instructors can present the core curriculum more uniformly from program to program. Vehicles that could be explored include greater sharing of information between Academies, committee review and incorporation of staff development suggestions.

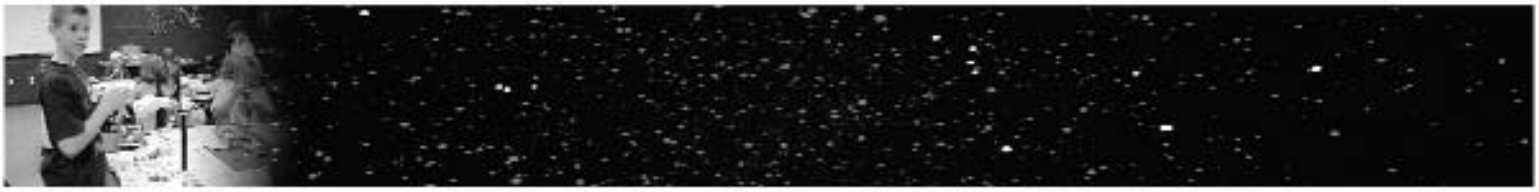
Class Size

Class size should continue to be closely monitored.

Data Collection & Analysis

Student Data

To facilitate downstream assessments in the future, a parental waiver form (at point of entry) should be considered for gaining access to the student's data in subsequent school years. Family background data also should be considered as desirable information at this entry point to coordinate with Department of Education initiatives in expanding the "children at risk" indicators (e.g., English as a second language; mother's highest educational attainment, etc.).



Gender Gap

The STARBASE attitudinal results regarding male and female expectations of education's relationship to achieving life's goals reflect a gap similar to that indicated in recent education studies. As a result, some focus should be given to these differences in the attitudinal dimension of the STARBASE curriculum and also at the Director's Conference.

Attitudinal Rank Order Analysis

It would be useful (because of shifts in attitudinal rankings and ratings being more observable by location) to issue special reports to each Academy so that they can compare individual scores with the national norms.

Compliance

Feedback Report

A compliance visitation feedback report on the results of the visit should be developed for the Academy Director within a four week period after the assessment team's completion of the visitation. The report should include a general assessment of the Academy's condition on compliance, corrective action, if any, and suggestions provided by Academy staff and assessment team for future initiatives. This report should be reviewed by the Project Manager at OASD/RA prior to distribution to the Academy Director.

Documentation

Emphasis should continue to be placed on Academies of the importance in documenting issues of non-compliance and providing written notification of them to OASD/RA as required by the DODI.

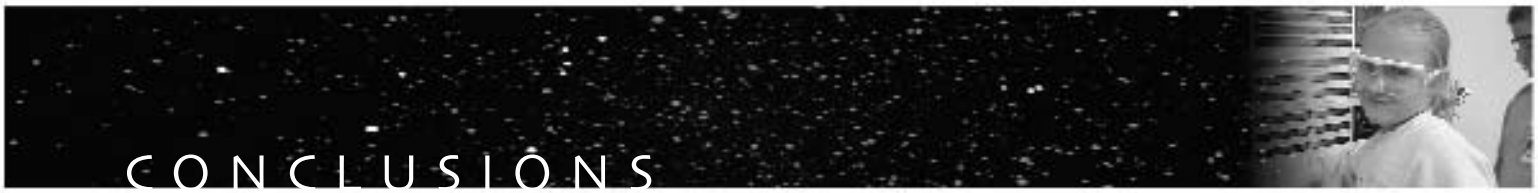
Data Calls

To maintain the integrity of the STARBASE program and its management, timely response by Academies to data collection efforts must continue to be encouraged with the goal of full compliance for the next program year.

Fiscal Matters

Academy Installation Process

A careful review of the selection and installation process of new Academies should be conducted to identify materials, procedures, technical aides, staff training and orientation techniques that would provide for more rapid and effective (i.e., cost efficient) start-up of the installation and its transition to full-operational status.



CONCLUSIONS

The DoD STARBASE program has enjoyed exceptional acceptance and support by the communities it serves as well as from military and civilian participants who extol not only the program, but the personal benefits they have gained from it. As a result of its popularity, DoD STARBASE has witnessed dramatic growth. Since its implementation in 1991, 49 Academies have been installed in 30 states, the District of Columbia and Puerto Rico. In FY'04 the Academies served over 45,000 students bringing the total number of students reached to over 300,000.

Most importantly, the program has achieved its basic objectives: 1) producing positive student performance results in math and science; and 2) helping students develop pro-social attitudes about themselves, including belief in their ability to manage daily challenges. FY'04 student assessment results showed that STARBASE students continue to demonstrate a significant increase in knowledge and skills between their pre and post tests (17% gap increase). In addition, student attitudes continue to move upward exhibiting positive social behaviors and attitudes toward STARBASE, themselves, and the military.

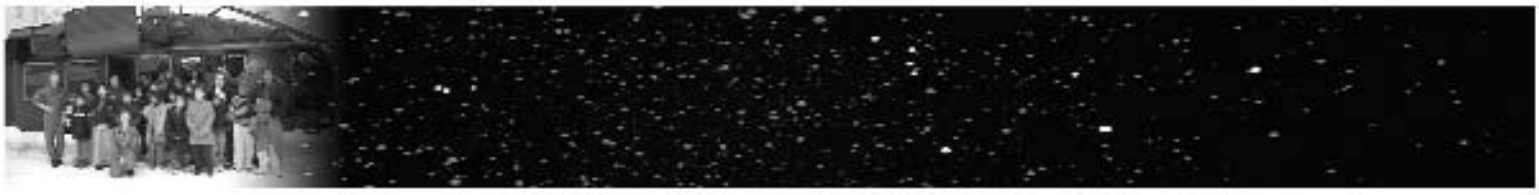
Demand by educational and community leaders to expand the number of Academies and their outreach continues to be an agenda item for STARBASE administrators, managers, and directors. Military commanders support this demand as they see the contributions the program makes to community relationships. Responding to this increased demand requires a measured and reasoned response at the local level, and an understanding of the sources of available funding to support such an increase. Careful management is necessary so that expectations do not outstrip available support.

Although growth and installation efforts remain a key objective, the program's rapid expansion to 49 sites requires that attention be paid to growth management. Growth of the Academies must be managed in a systematic and equitable fashion, particularly in regards to funding, budget management, quality control, and efficiency in operation.

Other key areas identified in the FY'04 report that need to be addressed include: 1) staff retention and training; 2) gender issues in education; 3) Academy installation process; 4) role of the not-for-profit organization; and 5) use of the website in the assessment process.

In conclusion, military backing has been exceptional in making this program a success. The military base with its highly-skilled and devoted personnel is one of the few environments in which a program such as STARBASE can succeed. The physical resources, personnel commitment, skill levels, and experiential exposure about how math and science are utilized on a daily basis, all combine to make the military base a unique environment in which this program can flourish. As the single greatest user of math and science skills in the nation, DoD has a vested interest in nurturing the STARBASE program.

APPENDICIES



APPENDIX A

Not-For-Profits by Service Component

(A-1.1)

Component	Not-For-Profits	Boards As Percentage Of Total Academies
National Guard	24	80%
Air Force Reserve	3	100%
Marines	2	100%
Air Force	1	33%
Navy[1]	1	9%

[1] Pittsburgh Academy uses Navy League members to assist in reviewing school participants for selection and recommendation to reach target populations. Board is limited to that function.

Pre-Flight and Post-Flight Questionnaire

ASSIGNED STUDENT NUMBER

My school grade is: 1 2 3 4 5 6 7 8 9

My age is: 0 0 / 1 1 2 3 4 5 6 7 8 9

I am a: ○ Boy ○ Girl

I have met military people before coming to STARBASE. (N) No (Y) Yes

I heard about STARBASE before I knew I was coming here. (N) No (Y) Yes

I know someone that went through STARBASE before me. (N) No (Y) Yes

APPENDIX B-1.1 Student Assessment

For each statement, fill in True if you agree or fill in False if you disagree.

True	False	
(T)	(F)	**1.** A team works together to achieve a common goal.
(T)	(F)	**2.** Drinking alcohol may decrease our bodies' ability to do easy things.
(T)	(F)	**3.** Matter does not take up space.
(T)	(F)	**4.** The Earth is the closest planet to the sun.
(T)	(F)	**5.** Negative actions may make it hard for you to reach your goals.
(T)	(F)	**6.** Technology usually decreases in cost after many units are sold.

7. Using teamwork results in ....
- (A) sharing of work among the team.
- (B) one person doing all of the work.
- (C) a lot of wasted effort by team members.
- (D) poor quality of work being done.

8. Which of the following is NOT a team?
- (A) Fire Department
- (B) Police Force
- (C) McDonald's employees
- (D) Wal Mart customers

9. Which of the following is NOT one of the states of matter?
- (A) air
- (B) gas
- (C) liquid
- (D) solid

Wait for your instructor to read the directions and questions.

PLEASE DO NOT WRITE IN THIS AREA

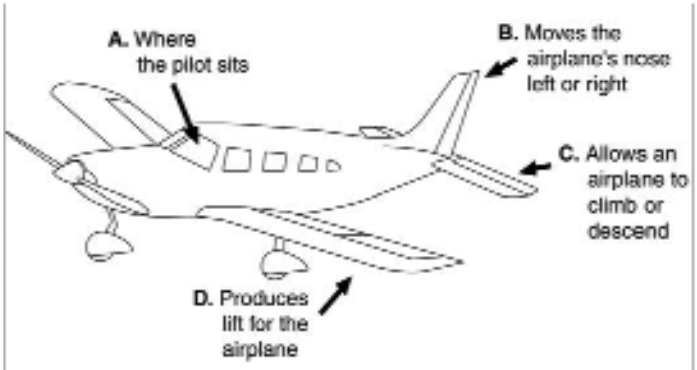
[SERIAL]

10. How thick is the earth's atmosphere?
    - Ⓐ 10 miles
    - Ⓑ 50 miles
    - Ⓒ 100 miles
    - Ⓓ 200 miles

11. Air presses down 15 pounds on every inch of our bodies. The reason we don't feel this pressure is....
    - Ⓐ The atmosphere cushions the weight of the air.
    - Ⓑ Our bodies push out 15 pounds on every inch to equalize the pressure.
    - Ⓒ We are inside a building, so we don't feel it.
    - Ⓓ The air is thinner closer to the ground than up in space.

12. The air is composed mostly of what element?
    - Ⓐ hydrogen
    - Ⓑ helium
    - Ⓒ chlorine
    - Ⓓ nitrogen

Match each airplane component with the letters from the diagram below.



A	B	C	D		
Ⓐ	Ⓑ	Ⓒ	Ⓓ	13.	Cockpit
Ⓐ	Ⓑ	Ⓒ	Ⓓ	14.	Wing
Ⓐ	Ⓑ	Ⓒ	Ⓓ	15.	Elevator
Ⓐ	Ⓑ	Ⓒ	Ⓓ	16.	Rudder

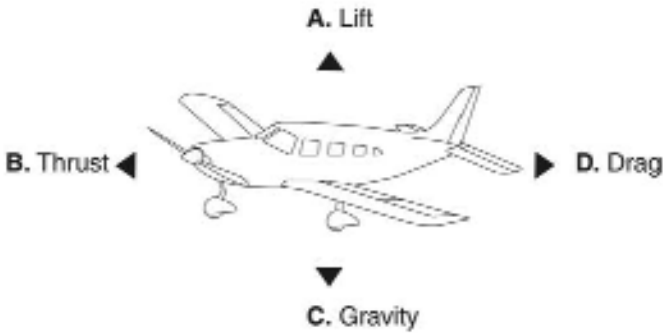
Select the best answer by filling in the appropriate circle.

17. If you are landing an airplane in a city that is 5,000 feet above sea level what will your altimeter read when you are on the ground?
    - Ⓐ 0 feet
    - Ⓑ 500 feet
    - Ⓒ 1,000 feet
    - Ⓓ 5,000 feet

18. To move an airplane's nose to the left, you would move the....
    - Ⓐ rudder right
    - Ⓑ rudder left
    - Ⓒ left flap
    - Ⓓ right flap

19. One reason an airplane is able to gain lift is because the air moving across the top of the wing....
    - Ⓐ exerts less pressure than the air moving along the bottom.
    - Ⓑ exerts more pressure than the air moving along the bottom.
    - Ⓒ exerts the same amount of pressure as air moving along the bottom.
    - Ⓓ does not exert any pressure on the wing.

Match each force of flight with the letters from the picture below.



A	B	C	D		
Ⓐ	Ⓑ	Ⓒ	Ⓓ	20.	Produced by air flow over the wings and the angle of the wing into the wind.
Ⓐ	Ⓑ	Ⓒ	Ⓓ	21.	Force that pulls an aircraft down.
Ⓐ	Ⓑ	Ⓒ	Ⓓ	22.	Forward movement produced by a propeller, jet, or rocket engine.
Ⓐ	Ⓑ	Ⓒ	Ⓓ	23.	Slows the forward movement of an aircraft.

24. What is Sir Isaac Newton's Law of Inertia?
    - Ⓐ Unless acted upon by an outside force, an object at rest will stay at rest and an object in motion will stay in motion.
    - Ⓑ The more force given to an object, the more it will accelerate.
    - Ⓒ The greater the mass of the object, the greater the force needed to accelerate it.
    - Ⓓ For every action, there is an equal and opposite reaction.

Wait for your instructor to read the directions and questions.

25. If you threw two balls of different weight using the same amount of force the....
- Ⓐ heavier ball would go the farthest.
- Ⓑ lighter ball would go the farthest.
- Ⓒ two balls would go the same distance.
- Ⓓ heavier ball would go twice as far as the lighter ball.

26. Which planet has 23 known moons and thousands of rings?
- Ⓐ Mercury
- Ⓑ Pluto
- Ⓒ Saturn
- Ⓓ Earth

27. Which planet do humans believe they could inhabit in the future?
- Ⓐ Mercury
- Ⓑ Mars
- Ⓒ Saturn
- Ⓓ Neptune

28. The development of something new or improvement of something already existing is
- Ⓐ gravity.
- Ⓑ inertia
- Ⓒ technology
- Ⓓ law

29. If you have something you want to do, or something you want to be in life, you should....
- Ⓐ wish for it really hard in order to make it come true.
- Ⓑ watch other people on TV to see how they do it.
- Ⓒ do something everyday that will help you reach your goal.
- Ⓓ wait for someone to give you what you want

30. Which of the following can destroy an individual's dreams?
- Ⓐ setting goals
- Ⓑ using illegal drugs
- Ⓒ obtaining an education
- Ⓓ practicing a skill

Wait for your instructor to read the directions and questions.

What is your opinion?



	Strongly Disagree (1)	Disagree (2)	Slightly Disagree (3)	(?) Uncertain (4)	Slightly Agree (5)	Agree (6)	Strongly Agree (7)
1. I like math.	①	②	③	④	⑤	⑥	⑦
2. I am good at math.	①	②	③	④	⑤	⑥	⑦
3. I like science.	①	②	③	④	⑤	⑥	⑦
4. I am good at science.	①	②	③	④	⑤	⑥	⑦
5. I am good at following directions.	①	②	③	④	⑤	⑥	⑦
6. Learning is easy for me.	①	②	③	④	⑤	⑥	⑦
7. Learning can be fun.	①	②	③	④	⑤	⑥	⑦
8. You can learn a lot by trying things.	①	②	③	④	⑤	⑥	⑦
9. I think I can graduate from High School.	①	②	③	④	⑤	⑥	⑦
10. Military people do lots of different things.	①	②	③	④	⑤	⑥	⑦
11. I set goals for myself.	①	②	③	④	⑤	⑥	⑦
12. I make good decisions.	①	②	③	④	⑤	⑥	⑦
13. STARBASE Instructors are kind and helpful.	①	②	③	④	⑤	⑥	⑦
14. I can make my dreams come true.	①	②	③	④	⑤	⑥	⑦
15. You can accomplish a lot in a group.	①	②	③	④	⑤	⑥	⑦
16. You can have fun working in a group.	①	②	③	④	⑤	⑥	⑦
17. I like to make new things.	①	②	③	④	⑤	⑥	⑦
18. I think about what I want to be when I grow up.	①	②	③	④	⑤	⑥	⑦
19. The military is a good place to work.	①	②	③	④	⑤	⑥	⑦
20. I am enjoying coming to a military base.	①	②	③	④	⑤	⑥	⑦
21. Military bases are fun.	①	②	③	④	⑤	⑥	⑦
22. I like to think of new ways to use things.	①	②	③	④	⑤	⑥	⑦
Post STARBASE							
23. At STARBASE, I learned a lot of things that I can use.	①	②	③	④	⑤	⑥	⑦
24. I would tell my friends to come to STARBASE.	①	②	③	④	⑤	⑥	⑦
25. STARBASE is boring.	①	②	③	④	⑤	⑥	⑦

Thank You!

PLEASE DO NOT WRITE IN THIS AREA

[SERIAL]

DOD STARBASE Teacher Survey

All information gathered by this survey is for development purposes. The information you provide will help us to continue to improve the STARBASE program. Please provide honest feedback about various issues presented in this questionnaire. Completed questionnaires will be tallied by an agency outside of your school and outside of the STARBASE. Individual responses will be strictly confidential and will not be released to your school or to any STARBASE representative. We are collecting information from all of the STARBASE programs. This survey contains a total of 31 questions and should take less than 10 minutes to complete. Please do not fold.

Thank you.

The STARBASE location I work with is: _____ **What grade do you teach?** _____

Did you ever visit a military base prior to your current STARBASE involvement?

APPENDIX B-1.2 Teacher Assessment

①Never, this is my first STARBASE program
②Yes, for prior STARBASE programs only
③Yes, for activities not related to STARBASE
④Yes, for STARBASE and non-STARBASE activities
⑤Other: _____

I have been involved with STARBASE for (# of months): _____

I have been a Teacher for (# of years): _____

Respond to the following statements by completely darkening the appropriate numbered circle next to each item.

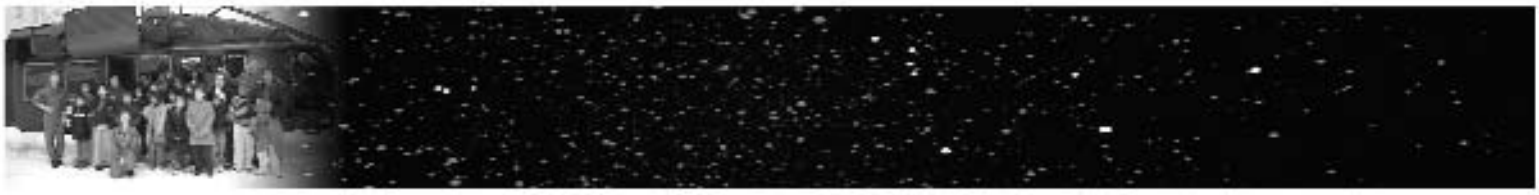
After attending STARBASE, the students appear.....	Disagree						Agree
1. more interested in learning about math	①	②	③	④	⑤	⑥	⑦
2. ... more interested in learning about science	①	②	③	④	⑤	⑥	⑦
3. ... more willing to try new things	①	②	③	④	⑤	⑥	⑦
4. ... better at following directions	①	②	③	④	⑤	⑥	⑦
5. ... better at working in groups	①	②	③	④	⑤	⑥	⑦
6. ... more confident about what they can accomplish	①	②	③	④	⑤	⑥	⑦
7. ... more goal oriented	①	②	③	④	⑤	⑥	⑦
8. more comfortable with military personnel	①	②	③	④	⑤	⑥	⑦
9. more comfortable making decisions	①	②	③	④	⑤	⑥	⑦
10. more excited about their futures	①	②	③	④	⑤	⑥	⑦
11. ... more excited about learning	①	②	③	④	⑤	⑥	⑦
12. ... more likely to encourage each other	①	②	③	④	⑤	⑥	⑦
13. ... more willing to cooperate with each other	①	②	③	④	⑤	⑥	⑦

Please go on to the next section.

Please indicate your level of agreement with these statements.

		Disagree						Agree
1.	After STARBASE, the students ask more questions about technology.	①	②	③	④	⑤	⑥	⑦
2.	STARBASE has helped to improve the students' understanding of science.	①	②	③	④	⑤	⑥	⑦
3.	STARBASE has helped to improve appreciation of how math can be applied to a variety of situations.	①	②	③	④	⑤	⑥	⑦
4.	STARBASE has helped to improve the climate for participative learning in the classroom.	①	②	③	④	⑤	⑥	⑦
5.	Because of my participation in STARBASE, I am more comfortable with military personnel.	①	②	③	④	⑤	⑥	⑦
6.	The students talk about STARBASE long after the program has ended.	①	②	③	④	⑤	⑥	⑦
7.	STARBASE reinforces many positive behaviors I try to teach my students.	①	②	③	④	⑤	⑥	⑦
8.	I use the resources STARBASE provides to teachers.	①	②	③	④	⑤	⑥	⑦
9.	I would like more STARBASE resources to take back to my classroom.	①	②	③	④	⑤	⑥	⑦
10.	My principal is a strong advocate of STARBASE.	①	②	③	④	⑤	⑥	⑦
11.	My School Board is very involved in supporting STARBASE.	①	②	③	④	⑤	⑥	⑦
12.	The STARBASE instructors are good role models for the students.	①	②	③	④	⑤	⑥	⑦
13.	I have included many STARBASE resources in my curriculum.	①	②	③	④	⑤	⑥	⑦
14.	The students admire their STARBASE instructors.	①	②	③	④	⑤	⑥	⑦
15.	The STARBASE curriculum supports our state standards.	①	②	③	④	⑤	⑥	⑦
16.	The children enjoy sharing their STARBASE experiences with others.	①	②	③	④	⑤	⑥	⑦
17.	Parents are delighted that their children are participating in STARBASE.	①	②	③	④	⑤	⑥	⑦
18.	The students enjoyed being on a military base.	①	②	③	④	⑤	⑥	⑦

Thank you!



DoD STARBASE Commander's Questionnaire FY 2004

(B-2.1)

OVERVIEW

This brief questionnaire is part of a general assessment on the effectiveness of the DoD STARBASE program that will be presented in the Annual Report to Congress. While the STARBASE evaluation process concentrates on student performance and attitudinal changes, there are additional components on the assessment process that focus on Academy operations, classroom teacher assessment, military volunteers and commander perceptions on the program's efficacy. Your cooperation and timely response is both important and appreciated. Please send your response by November 13, 2004, to:
DoD STARBASE, The Spectrum Group, 11 Canal Center Plaza Suite 103, Alexandria, VA 22314
or email to: dovenden@spectrumgrp.com.

SURVEY

Name: (optional)_____

Title/Position: _____
(i.e. Base Commander, Wing Commander)

1. Public/Community Affairs Relationships
Please check the ways in which the STARBASE program has impacted your public/community relations. (
Check all that apply)

___ a. Increased public awareness of the role of the military in community services/affairs.
___ b. Promoted a positive view of the military to the community.
___ c. Provided a foundation for involving parents, teachers, and community leaders with the military.
___ d. Increased the number of articles, public affairs promotions and media attention on the military's contribution to the students/community.
___ e. No impact.
___ f. Additional comments: _____

_____

_____

Of the above, which is the most important to your military/community relations? _____

2. Benefits to the Military Personnel
Please indicate the benefits, as appropriate, to the members of your unit as a consequence of their STARBASE involvement. (Check all that apply)

___ a. Opportunity to support a worthy cause.
___ b. Outlet for community service.
___ c. Additional experience in teaching and instruction.
___ d. Opportunity for dependents to attend the program.
___ e. Little or no benefit.
___ f. Additional comments: _____

_____

_____

3. Support Sources

Your support of the program, as sponsor of STARBASE, includes the following support services (check all that apply):

___ a. Facilities (classrooms and offices)
___ b. All or some utilities
___ c. Custodial/maintenance services
___ d. Printing/reproduction
___ e. LAN and computer support
___ f. Administrative support
___ g. Transportation
___ h. Security
___ i. Others (please specify)_____

_____

_____

4. Feedback

Does your office receive feedback from the schools, teachers, parents, and community leaders about the program's effectiveness?

Yes ___ No ___ If yes, from who and what were the comments:_____

_____

_____

5. Comments/Suggestions

Any comments or thoughts, as well as recommendations, would be appreciated:

_____

_____

_____

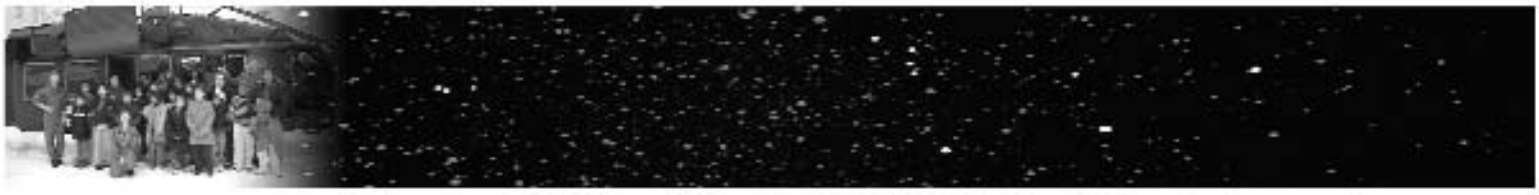
_____

_____

_____

_____

_____



DoD STARBASE Military Volunteer Questionnaire FY 2004

(B-2.2)

OVERVIEW

This brief questionnaire is part of a general assessment on the effectiveness of the DoD STARBASE program that will be presented in an Annual Report to Congress. Your experiences and observations are an important part of the assessment. While the evaluation focuses primarily on student performance and attitude changes, the input that you can provide is another dimension of the contribution made by military personnel to this program. Your candid response and timely cooperation is appreciated. Please send your response by November 13, 2004, to: DoD STARBASE Program, The Spectrum Group, 11 Canal Center Plaza Suite 103, Alexandria, VA 22314 or email to: dovenden@spectrumgrp.com.

SURVEY

1. Name: (optional)_____

2. Rank:_____

3. Branch of service:_____

4. STARBASE site:_____

5. Activity in support of the program (check all that apply):
   ____ Tour Guide
   ____ Teacher Aide
   ____ Presenter
   ____ Facilitator of Experiments/display e.g. rockets, computer simulator, etc.
   ____ Administrative
   ____ Other(s) _____

6. Estimated hours you committed to DOD STARBASE in FY'04 (October 1, 2003 – September 30, 2004): _____

7. Do you think STARBASE influences the community's perception of the military?
   Yes ___ No ___ If yes, in what way?_____

   _____

   _____

   _____

8. Has the work you have contributed to STARBASE affected you?
   Yes ___ No ___ If yes, in what way?

   _____

   _____

   _____

9. Has the military made a difference in the community as the sponsor of the program?
   Yes ___ No ___ If yes, in what way(s)?

   _____

   _____

   _____

10. Do you know of any feedback from the community, military personnel, or others?

Yes __
No __
If yes, from what source and what were the responses?

_____

_____

_____

11.If available, will you volunteer your time in the future?

Yes ___
No ___
Comments:

_____

_____

_____

12. Please make any comments, suggestions and/or recommendations in the program.

_____

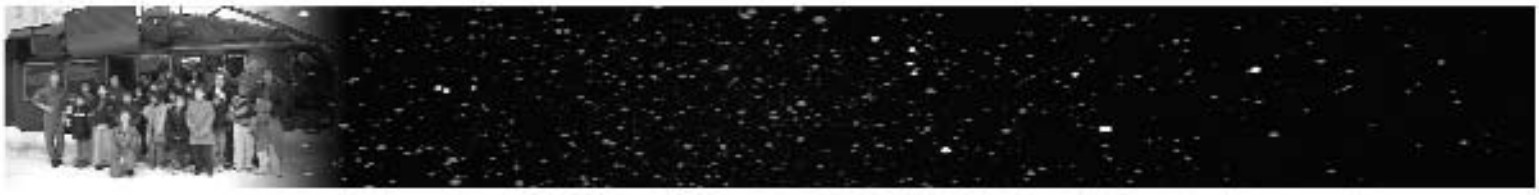
_____

_____

_____

_____

_____



DoD STARBASE Director's Questionnaire FY 2004

(B-2.3)

OVERVIEW

It is time again to update the information requested for the 2004 DoD STARBASE Annual Report to Congress. The data not only documents your Academy's current operational activities but it also identifies key issues, challenges, and future concerns that potentially effect future program development and operational concerns. All information requests relate to Federal FY'04 (October 1, 2003- September 30, 2004) activities unless otherwise indicated. Your cooperation and timely response is essential to the successful completion of this requirement to Congress by the end of this calendar year. Before returning the questionnaire, review each item for completeness and/or explain the data's unavailability. The due date is on or before November 13, 2004. Send to: DoD STARBASE Program, The Spectrum Group, 11 Canal Center Plaza Suite 103, Alexandria, VA 22314 or email to: dovenden@spectrumgrp.com

SITE INFORMATION

1. Please state the following information as you would like it to appear in the annual report and in participant directories:

   Name of Site: _____

   Military Location: _____

   Address: _____

   _____

   Telephone Number: _____

   DSN Line: _____

   Fax Number: _____

   Email Address: _____

   Website Address: _____

ACADEMY STATISTICS

2. FY'04 Statistics:

Type of Program	Number of Schools Served	Number of Classes Held	Number of Students Served
5-day			
4-day			
Other			

   * Please attach names of schools served for longitudinal study purposes.

   Briefly describe the type of program(s) taught outside the 4 or 5-day program, if applicable. _____

   _____

Note: Questions 3 through 9 refer only to 4 or 5-day on-base programs.

3. FY'04 Average class size: _____

4. FY'04 Grade Level(s) Served (Check all that apply):

K	1	2	3	4	5	6	7	8	9	10	11	12

5. FY'04 Demographics (Total numbers):

Females Served	Males Served

6. FY'04 Ethnicity (Total numbers):

Black/ African American	Asian/ Pacific Islander	Caucasian	Hispanic or Latino	Multi-Race	Indian/ Alaska Native	Other

7. Total Number of Students with Learning Disabilities (include mentally and physically challenged): _____

8. Total Number of Students with Free/Reduced Lunch Program: _____

9. FY'04 Locally Administered Pre/Post Test Raw Data:

Number of Test Questions	AverageNumber of Answers Correct - Pretest	Average Number of Answers Correct - Post Test

Example:

Name of Student	# of Test Questions	# Answers Correct Pretest	# Answers Correct Post Test
Tom Smith	20	10	20
Sarah Toms	20	8	15
Sally Roberts	20	12	18
John Black	20	6	12
Total Sum of Scores:		36	65
Average: (Sum of scores divided by number of scores)		9.0	16.25

CURRICULUM

10. Check all the areas of instruction that you currently cover in your program. Then indicate out of the 20-25 required hours, the estimated hours devoted to each topic.

Curriculum Topic	Current Program	Estimated Hours
Newton's Law of Motion		
4 Forces of Flight		
Bernoulli's Principle		
Model Rocketry		
Aircraft Control		
Properties of Air		
Development and Innovative Use of Technology		
Properties of States of Matter		
Flight Simulation		
Space Exploration		
Goal Setting		
Teamwork		
Avoiding Substance Abuse		
Other (specify)		

If topic is embedded in other topical areas, please explain: _____

_____

_____

_____

_____

Is this different from last year? Yes ___ No ___

11. Out of the 20-25 required hours per class, indicate the estimated number of hours spent at each location:

	Location	Hours
Military		
Non-military		

12. Do you have an instructor-training program? Yes _____ No _____ If yes, please describe: _____

_____

_____

_____

13. Do you provide training to local teachers? Yes _____ No _____

    If yes, please check all that apply.

    ___ Continuing Education Workshops

    ___ Local, State, National Conference Workshops

    ___ Student-Teacher Workshops

    ___ Experiential Training for Student Teachers

    ___ Methods Courses through Local Universities

    ___ Other (specify) _____

    _____

14. How often did you share materials/lessons-learned with other Academies?

    ___ More than once a week

    ___ About once a week

    ___ Once or twice a month

    ___ Less than once a month

    ___ Never

15. Do you provide additional curriculum materials to schools/teachers? Yes ___ No ___

    If yes, were they used? Yes ___ No ___ Not Sure ___

    If yes, what materials did you provide? _____

    _____

    _____

    _____

16. New Sites Only: To what degree did you borrow materials, teaching aids, curriculum, and other program operation procedures from other STARBASE programs?

    ___ Almost all the material

    ___ A majority of the material

    ___ Almost half

    ___ A fair amount

    ___ Very little

17. Identify materials that are new this year that other Academies may find useful upon review:

    _____

    _____

    _____

    _____

OPERATIONS

18. FY'04 Staffing (Check full-time. For part-time, estimate hours/week):

Position	Number	Full-Time	Part-Time (Hours/week)	State/Federal/ Contract/Not-for-profit Employee
Director				
Deputy Director/Program Instructor				
Program Instructor				
Secretary/Administrative Assistant				
Other (specify)				

19. FY'04 Personnel funded by Non-DoD cash donations. If none, please write "N/A":

Position	Total Number

20. Staff Retention (Staff changes from last reporting cycle) If none, please write "N/A":

Position	Reason for Departure

21. Volunteer Activity (Please estimate the number of volunteers and volunteer hours committed in FY'04):

Volunteer Group	Number of Volunteers	Number of Hours
Military		
Teachers		
Parents		
Other (Specify)		

22. Current program service area (Please check one):

Local School District (within 20 mile radius)	Countywide (between 20-50 mile radius)	Statewide	State and Beyond	Other (specify)

If other, please explain._____

23. What support services, in whole or in part, did the participating schools provide? (Check all that apply)

___ Transportation ___ Teachers as monitors ___ Lunches

___ Duplication/printing ___ Educational supplies ___ Graphics

___ Audio visual equip ___ Communications ___ Computers

___ Other (specify) _____

24. Have you had a real property audit of your program over the past three years? Yes___ No___

If yes, please specify the year and auditing agent. _____

25. Do you have a real property listing on file? Yes ___ No ___

If yes, does it include all non-expendable property or just property at a certain dollar amount?

_____

_____

_____

26. Have you had a fiscal audit of your program in the last three years? Yes ___ No___

If yes, please specify the year and auditing agent. _____

27. Do you give STARBASE presentations to community groups? Yes___ No___

If yes, please list which groups and how often.

_____

_____

_____

28. Do you have a non-profit organization? Yes ___ No ___

If yes, what is the function of the board of Directors? (Check all that apply)

_____Selection of schools

_____Review of potential staff personnel

_____Budget planning and review

_____Review of recommendation of subcontractor relationships

_____Grant writing/submissions

_____Program planning/annual review

_____Fundraising/marketing of program

_____Compliance to DODI policies and review

_____Other (specify)

29. Review the following list of core documents. Please check the status in the appropriate column.

Documents	On File at Site	N/A
Staff/Students Schedules		
Curriculum Outline		
Local/State Testing Data		
FY'04 Strategic Plan/Program Goals		
Memorandums of Understanding (MOU)		
Minutes of Board Meetings		
Bylaws and Articles of Incorporation		
DoDI Exemption Letter(s)		
Voluntary Participation Form		
Hold Harmless Agreement		
Emergency Health Form		
Public Affairs Release		
Incident Report Form		
Parent/Guardian Acknowledgement of Responsibility for Property Damage		

30. Over this past program year, have there been any events that have had an effect on your program's operation (e.g. Homeland Security, Iraq information, staff turnover, weather, etc)?

Yes ___ No ___ If yes, please briefly explain the event(s) and its effect on the program. _____

_____

_____

_____

If yes, will the event have residual consequences into the federal FY'05 program year? Please explain _____

_____

_____

_____

FINANCIAL INFORMATION

31. FY'04 Academy Income:

Total Income ($)	Federal Funds ($)	Other ($)

32. FY'04 Supplemental Income (additional cash income beyond DoD Budget Allocation):

Source Of Funding	Amount ($)
Grants	
Donations	
State	
Other (specify)	
Total:	

33. FY'04 Supplemental Expenditures (non-DoD funds expenditures):

Category of Expenditure	Amount Expended ($)
Staff Salaries	
Staff Development	
Facilities/Furnishings	
Transportation/Travel	
Supplies	
Equipment	
Services	
Program/Curriculum Development	
Communications/Outreach	
Total:	

34. FY'04 In-kind Donations (non-cash gifts):

Donation	Source of Donation	Estimated Dollar Value
Facilities		
Furnishings		
Supplies		
Transportation/Travel		
Services		
Equipment		
Communication/Outreach		
Other		

35. FY'05 Supplemental Income (Provide best estimate):

Source Of Funding	Amount ($)
Grants	
Donations	
State	
Other (specify)	
Total:	

SUPPORTING MATERIALS & SUGGESTIONS

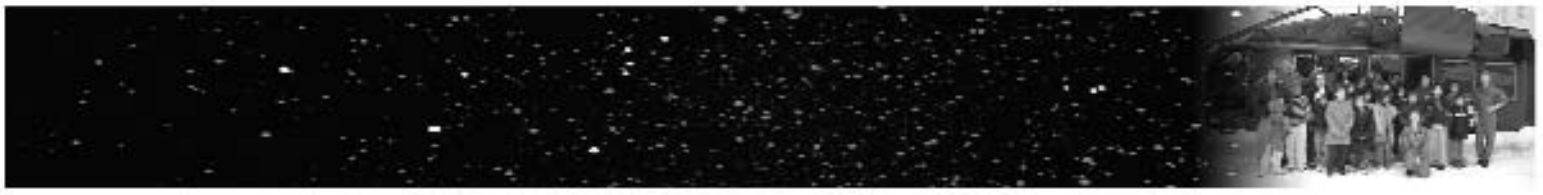
36. Please enclose examples and materials that would enhance the quality of the report and that could be used by DOD STARBASE committees.

    a) Testimonials i.e.quotes, letters, articles, telecom transmittals to Academy from students, teachers, parents, principals, volunteers, etc.

    b) Pictures of students/participants in Academy activities

    c) Materials, core applications, experiments, demonstrations that enhance curriculum presentations that may be useful to other Academy programs. This would include operational support activities.

37. Please provide any suggestions regarding curriculum, operational concerns or program imperatives. Thank you!



Knowledge by Curriculum Areas

(B-3.1)

Curriculum Area	Item Stem
Teamwork	A team works together to achieve a common goal Using teamwork results in Which of the following is not a team?
Properties and States of Matter	Matter does not take up space. Which of the following is NOT one of the states of matter?
Properties of Air	How thick is the Earth's air? The air is composed mostly of what element? Air presses down 15 pounds on every inch of our bodies. The reason we don't feel this pressure is
Bernoulli's Principle	One reason an airplane is able to gain lift is because the air moving across the top of the wing
Aircraft Control Surfaces & Components	Wing Rudder Elevator Cockpit To move an airplane's nose to the left, you would move the If you are landing an airplane in a city that is 5,000 feet above sea level what will your altimeter read when you are on the ground?
Four Forces Of Flight	Force that pulls an aircraft down. Forward movement produced by a propeller, jet, or rocket engine Produced by air flow over the wings and the angle of the wing into the wind Slows the forward movement of an aircraft
Newton's Laws Of Motion	If you threw two balls of different weight using the same amount of force What is Sir Isaac Newton's Law of Inertia?
Space Exploration	Which planet has 23 known moons and thousands of rings? The Earth is the closest planet to the sun. Which planet do humans believe they could inhabit in the future?
Development, Innovation, & Use of Technology	Technology usually decreases in cost after many units are sold. The development of something new, or improvement of something already existing is
Avoiding Substance Abuse	Which of the following can destroy an individual's dream? Drinking alcohol may decrease our bodies' ability to do easy things.
Goal Setting	If you have something you want to do, or something you want to be in life, you should Negative actions may make it hard for you to reach your goals.

FY '04 Changes to Student Assessment

(B-3.2)

Changes to student assessment for FY'04 involved:

- Adding alternate banded shading of survey items to line up item with response options;
- Adding a face (◡̈) to illustrate the middle of the survey scale and compliment faces at the other ends of the scale;
- Adjusting the demographic questions (i.e., student number, age and grade);
- Adding the item "I heard about STARBASE before I knew I was coming here" in the pre-assessment questionnaire;
- Refining two of the knowledge items based on instructor feedback and analyst input;
- Refining three attitudinal items based on instructor feedback and analyst input; and
- Replacing two space exploration items with two new space exploration items.

Grade Level Participation

(C-1.1)

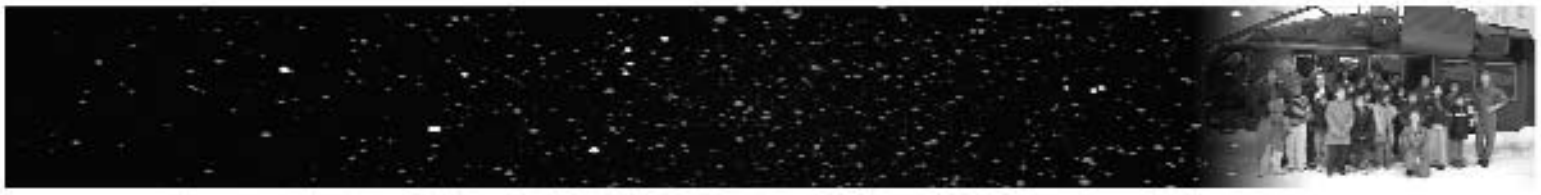
Grade	Frequency	Percentage
4	254	14.9
5	1047	61.4
6	305	17.9
7+	95[2]	5.6[3]

Age Distribution of the Student Body

(C-1.2)

Age	Frequency	Percentage
9 years	130	7.6
10 years	714	41.9
11 years	592	34.7
12 years	194	11.4
13 years	71[4]	4.2[5]

[2] Missing responses to this item.
[3] Missing responses to this item.
[4] Missing responses to this item.
[5] Missing responses to this item.



Drivers

(C-1.3)

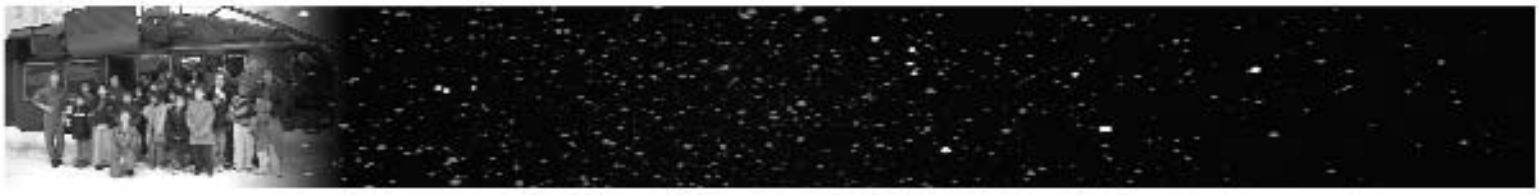
Drivers identify a set of related attitudinal clusters for the student population (i.e., when the driver is present, the set of attitudes will most likely be present, or in reverse, when the condition in the list of attitudes are present the target "driver" attitude will also be present). For example, the list below identifies a rank order of predictors of a target attitude (i.e., the driver).

Driver: "At STARBASE, I learned a lot of things I can use."

- I would tell my friends to come to STARBASE
- STARBASE instructors are kind and helpful
- STARBASE is boring (reverse rated)
- I set goals for myself
- You can have fun working in a group
- I like to think of new ways to use things
- I am enjoying coming to a military base
- I like math
- I am good at science

These perceptions or opinions of the student are important because they cluster together. This driver is ranked very high in the post program responses (6.46 rating and third in ranking). Students who do not do as well in the knowledge test would have a tendency to show less positive attitudes. The last two years of drivers held the same attitudinal values as displayed this year, although not in the same rank order. Many of the items are related to self-confidence and a perception of "can do." The other key drivers, in rank order, include:

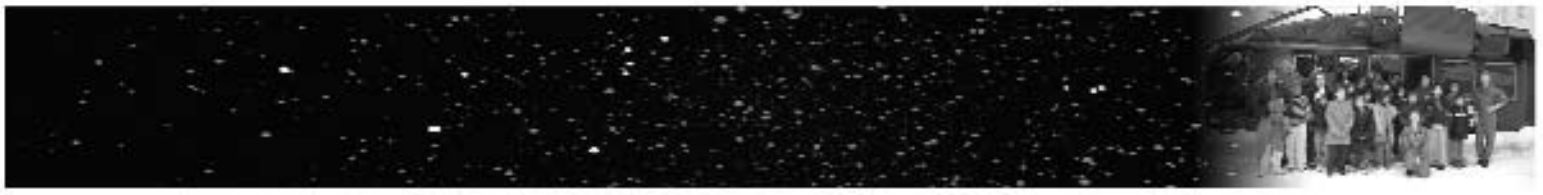
- I would tell my friends to come to STARBASE
- I can make my dreams come true
- Military bases are fun
- Military people do lots of different things
- Learning can be fun



Ranking of Student Post-Program Attitudinal Responses by Branch

(C-1.4)

Opinion Item	Air Force Reserves	Marines	National Guard	Navy
STARBASE instructors are kind and helpful	1	1	2	1
At STARBASE, I learned a lot of things that I can use	2	2	3	2
You can learn a lot by trying things	5	4	1	3
I think I can graduate from high school	4	3	4	7
I think about what I want to be when I grow up	6	6	5	6
I am enjoying coming to a military base	7	5	7	4
You can have fun working in a group	9	7	6	5
Military people do lots of different things	8	10	10	8
You can accomplish a lot in a group	10	11	8	9
I like to make new things	13	6	9	10
I can make my dreams come true	3	13	13	15
I would tell my friends to come to STARBASE	11	9	11	13
I like to think of new ways to use things	12	12	14	11
Military bases are fun	15	8	16	12
Learning can be fun	17	14	12	14
I set goals for myself	14	16	15	16
I make good decisions	20	18	17	18
I like science	16	19	18	21
I am good at following directions	21	20	19	17
Learning is easy for me	24	15	20	20
I like math	18	17	23	22
I am good at science	19	21	21	23
The military is a good place to work	23	24	22	19
I am good at math	22	22	24	24
STARBASE is boring	25	25	25	25



Mean Scores of Student Post-Program Attitudinal Responses

(C-1.5)

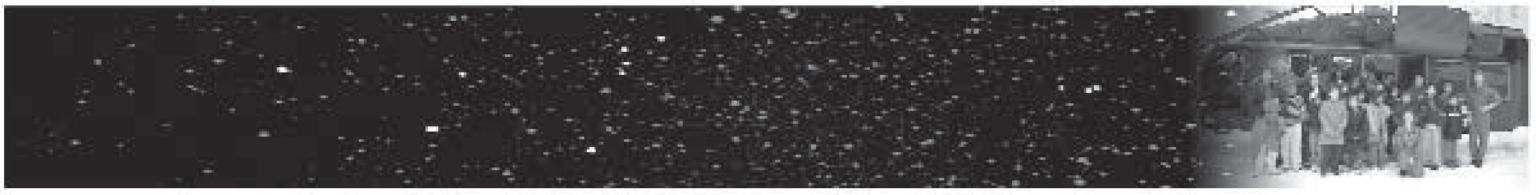
Post-Program Attitudes	Mean	Std. Deviation
STARBASE instructors are kind and helpful.	6.54	1.00
At STARBASE I learned a lot of things that I can use.	6.53	.92
You can learn a lot by trying things.	6.51	.93
I think I can graduate from High School.	6.47	1.01
I think about what I want to be when I grow up.	6.38	1.11
I am enjoying coming to a military base.	6.35	1.12
You can have fun working in a group.	6.34	1.02
You can accomplish a lot in a group.	6.29	1.07
Military people do lots of different things.	6.29	1.04
I like to make new things.	6.29	1.07
I would tell my friends to come to STARBASE.	6.21	1.30
I can make my dreams come true.	6.17	1.30
I like to think of new ways to use things.	6.17	1.19
Learning can be fun.	6.15	1.29
I set goals for myself.	6.07	1.18
Military bases are fun.	6.02	1.34
I make good decisions.	5.73	1.28
I am good at following directions.	5.70	1.38
I like science.	5.67	1.67
Learning is easy for me.	5.55	1.45
I am good at science.	5.43	1.53
The military is a good place to work.	5.40	1.59
I like math.	5.33	1.85
I am good at math.	5.27	1.64
STARBASE is boring.	1.56	1.33

Teacher Attitudinal Ratings

(C-1.6)

N=145

Attitude	Mean	Std. Deviation
More interested in learning about math	5.58	1.33
More interested in learning about science	6.44	0.78
More willing to try new things	6.15	0.97
Better at following directions	5.65	1.20
Better at working in groups	5.97	1.07
More confident about what they can accomplish	6.01	1.02
More goal oriented	5.74	1.16
More comfortable with military personnel	6.05	1.13
More comfortable making decisions	5.68	1.05
More excited about their futures	5.95	1.05
More excited about learning	6.10	0.94
More likely to encourage each other	5.96	1.01
More willing to cooperate with each other	6.03	0.98
The students ask more questions about technology	5.54	1.19
STARBASE has helped improve the students understanding of science	6.40	0.83
STARBASE has helped to improve appreciation of how math can be applied to a variety of situations	5.85	1.16
STARBASE has helped improve the climate for participative learning in the classroom	6.06	0.99
Because of my participation in STARBASE, I am more comfortable with military personnel	5.89	1.42
The students talk about STARBASE long after the program has ended	6.57	0.99
STARBASE reinforces many positive behaviors I try to teach my students	6.71	0.64
I use the resources STARBASE provides to teachers	6.08	1.36
I would like more STARBASE resources to take back to my classroom	6.27	1.10
My principal is a strong advocate of STARBASE	6.27	1.14
My school board is very involved in supporting STARBASE	5.76	1.36
The STARBASE instructors are good role models for the students	6.75	0.63
I have included many STARBASE resources in my curriculum	5.89	1.31
The students admire their STARBASE instructors	6.59	0.77
The STARBASE curriculum supports our state standards	6.75	0.58
The children enjoy sharing their STARBASE experiences with others	6.74	0.68
Parents are delighted that their children are participating in STARBASE	6.52	0.85
The students enjoyed being on a military base	6.70	0.68



Student Interest in Science & Math in FY'03 & FY'04

(C-2.1)

	2004	2003	Difference
Science	6.44	6.43	+0.01
Math	5.58	5.83	+0.25

Directory of DoD STARBASE Academies

(D1-1)

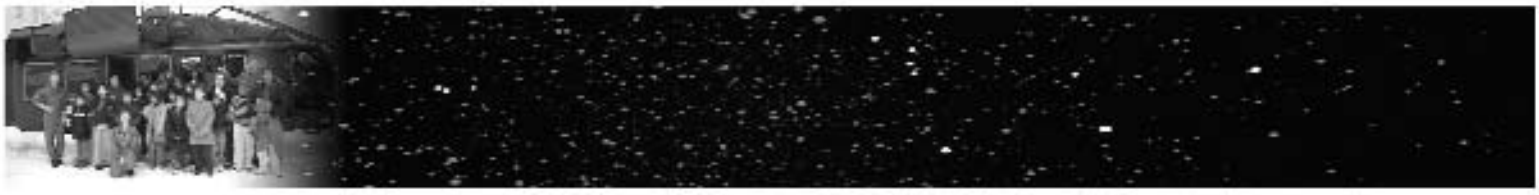
For the Directory of DoD STARBASE Academies refer to the locations menu at www.starbasedod.com

For the Directory of DoD STARBASE Academies
refer to the locations menu at www.starbasedod.com

For the Directory of DoD STARBASE Academies
refer to the locations menu at www.starbasedod.com

For the Directory of DoD STARBASE Academies
refer to the locations menu at www.starbasedod.com

For the Directory of DoD STARBASE Academies
refer to the locations menu at www.starbasedod.com



FY'04 Listing of Schools/School Districts Served

(D-1.2)

ALABAMA*

STARBASE Maxwell

District: Elmore County Public School System
Wetumka Intermediate School

ALASKA

STARBASE - Alaska

District: Anchorage School District
Lake Otis Elementary School
Ptarmigan Elementary School
Russian Jack Elementary School
Susitna Elementary School
Take Elementary School
Tudor Elementary School
Ursa Major Elementary School
Williwaw Elementary School
Willow Crest Elementary School

District: Matanuska-Susitna Borough Schools
Colony Middle School
Finger Lake Elementary School
Glacier View Elementary School

Other
Anchorage Christian School
Boys and Girls Clubs
Elmendorf AFB School Age Services Program
Family Partnership Charter School
FOXTROT Team
(ChalleNGe Program Cadets)
Heritage Christian School
IDEA (Home School)
Matanuska Christian School
Wasilla Lake Christian School

CALIFORNIA

California STARBASE

District: Elk Grove Unified School District
Butler Elementary School
Elliott Ranch Elementary School
Markofer Elementary School
McKee Elementary School
Union House Elementary School

District: Elverta Joint Elementary School District
Elverta Elementary School

District: Folsom -Cordova Unified School District
Blanch Sprentz Elementary School
Cordova Gardens Elementary School
Cordova Lane Elementary School
Cordova Meadows Elementary School
Cordova Villa Elementary School
Folsom Hills Elementary School
Gallarda Elementary School
Gold Ridge Elementary School
Judah Elementary School
Mather Heights Elementary School
Natoma Station Elementary School
Oak Chan Elementary School
Rancho Cordova Elementary School
Riverview Elementary School
Shields Elementary School
Sprentz Elementary School
Sundahl Elementary School
White Rock Elementary School
Williamson Elementary School

District: Loomis Union School District
Franklin Elementary School
Loomis Elementary School
Placer Elementary School
Powers Elementary School

District: Newcastle Union School District
Newcastle Elementary School

District: Penryn Union School District
Penryn Elementary School

District: Rio Linda Union School District
Aero Haven Elementary School
Allison Elementary School
Dry Creek Elementary School
Foothill Oaks Elementary School
Hillsdale Elementary School
Holmes Elementary School
Joyce Elementary School
Larchmont Elementary School
Orchard Elementary School
Rio Linda Elementary School
Village Elementary School
Woodridge Elementary School

District: Robla Union School District
Bell Elementary School
Bell Avenue Elementary School
Glenwood Elementary School
Main Elementary School
Robla Elementary School
Taylor Street Elementary School

STARBASE-Atlantis San Diego Academy

District: Chula Vista Elementary School District
Feaster-Edison Elementary School
Harborside Elementary School
Montgomery Elementary School
Silver Wing Elementary School
Vista Square Elementary School

District: National Elementary School District
Ira Harbison Elementary School
Kimball Elementary School
Olivewood Elementary School
John A. Otis Elementary School
El Toyon Elementary School

District: San Diego Unified School District
Jefferson Elementary School
Kennedy Elementary School

CONNECTICUT

STARBASE Hartford (Warthaog)

District: Hartford School District
Barnard-Brown School
Batchelder School
Betances School
Burns School
Burr School
J.C. Clark School
Dwight School
Fisher School
M.D. Fox School
Hooker School
Kennelly School
M.L. King School
Kinsella School
McDonough School
Milner School
Moylan School
Naylor School
Parkville School
Rawson School
Sancheq School
SAND School
Simpson-Waverly School
Twain School
Webster School
West Middle School
Wish School
Breakthrough Charter School

District: Jumoke Academy District
Jumoke Academy

STARBASE Waterbury (Warthaog)

District: Brooklyn School District
Brooklyn School

District: Waterbury School District
Barnard Elementary School
Bucks Hill Elementary School
Bunker Hill Elementary School
Carrington Elementary School
Chase School
W. Cross School
Driggs School
M. Generali School
Gilmartin School
Hopeville School
Kingsbury School
Maloney Magnet School
Regan School
Rotella School
Sprague School
Tinker School
Walsh School
Washington School
Woodrow Wilson School
State Street School

DISTRICT OF COLUMBIA

STARBASE-Atlantis

District: District of Columbia Public Schools
Brightwood Elementary School
Patterson Elementary School
Bancroft Elementary School
LaSalle Elementary School
Martin Luther King Elementary School
Stanton Elementary School
Slowe Elementary School
Savoy Elementary School
Leckie Elementary School

Other
KippDC-Key Academy
St. Peter School
Thurgood-Marshall Elementary School

FLORIDA

STARBASE Florida, Inc.

District: Duval County School District
Martin Luther King Elementary School
Woodland Acres Elementary School
S.A. Hull Elementary School
Alimacani Elementary School
Gregory Drive Elementary School
St. Clair Evans Elementary School

NAS Pensacola STARBASE-Atlantis

District: Escambia School District
Blue Angel Elementary School
Lipscomb Elementary School
Montclair Elementary School
Myrtle Grove Elementary School
Navy Point Elementary School
Oakcrest Elementary School
Sherwood Elementary School
Spencer Bibbs Elementary School
West Pensacola Elementary School

District: Santa Rosa School District
Bagdad Elementary School
Berryhill Elementary School
Chumuckla Elementary School
East Milton Elementary School
Gulf Breeze Elementary School
Holley-Navarre Intermediate School
Jay Elementary School
Oriole Beach Elementary School
Pea Ridge Elementary School
Rhodes Elementary School
SS Dixon Intermediate School
West Navarre Elementary School

Other
Santa Rosa County Home School/Westgate Center

GEORGIA

Peach State STARBASE

District: Cobb County School District
Belmont Hills Elementary School
Brumby Elementary School
Green Acres Elementary School
Harmony Leland Elementary School
Milford Elementary School
Powers Ferry Elementary School
Sander Elementary School

District: Marietta City School District
Lockheed Elementary School
Park Street Elementary School

STARBASE Robins

District: Bibb County School District
Alexander Ii Magnet School
Hartley Elementary School
Heritage Elementary School
Ingram-Pye Elementary School
Jones Elementary School
King Elementary School
Skyview Elementary School
Vineville Elementary School

District: Houston County School District
Lindsey Elementary School
Linwood Elementary School
Miller Elementary School
Parkwood Elementary School
Pearl Stephens Elementary School
Tucker Elementary School
Westside Elementary School
District: Twiggs County School District
Jeffersonville Intermediate School
Twiggs Academy

HAWAII

STARBASE Atlantis-Hawaii

District: Hawaii Department of Education
Aliamanu Elementary School
Hickam Elementary School
Iroquois Point Elementary School
Mokulele Elementary School
Makalapa Elementary School
Nimitz Elementary School
Pearl Harbor Elementary School
Pearl Harbor Kai Elementary School
Shafter Elementary School

Other
Grace Christian Academy
Samuel Mac Smith Christian School
St. Elizabeth School
Hickam Home School Network

ILLINOIS*

KANSAS

STARBASE Topeka

District: Baldwin City School District
Vinland Elementary School

District: Kansas City School District
Banneker Elementary School
Bethel Elementary School
Emerson Elementary School
Eugene Ware Elementary School
Grant Elementary School
New Stanley Elementary School
T.A. Edison Elementary School
White Church Elementary School
Whittier Elementary School

District: Kau Valley School District
Rossville Elementary School

District: Lawrence School District
Pinckney Elementary School

District: Marais Des Cygnes Valley School District
Marais Des Cygnes Valley Elementary School

District: Mill Creek Valley School District
Alma Elementary School

District: Onaga-Havensville-Wheaton School District
Onaga Elementary School
District: Santa Fe Trail Public School District
Carbondale Attendance Center

District: Shawnee Mission Public School District
Nieman Elementary School
Sunflower Elementary School

District: Topeka School District
Chase Middle School
Linn Elementary School
Stout Elementary School

Other
Cair-Paravel Latin School
Christ the King Elementary School
St. George Elementary School
St. Marys Elementary School
St. Matthews Elementary School
St. Peters Catholic School
Topeka Lutheran School
Williams Science & Fine Arts Magnet School

STARBASE Wichita

District: Augusta School District
Robinson Elementary School

District: Burrton School District
Burrton Elementary School

District: Concordia School District
Concordia Elementary School

District: Derby School District
Pleasantview Elementary School

District: North Ottawa County School District
Minneapolis Elementary School

District: Pittsburg School District
Lakeside Middle School

District: Salina School District
Oakdale Elementary School
South Middle School
Stewart Elementary School
Sunset Elementary School

District: Wichita School District
Benton Elementary School
Caldwell Elementary School
College Hill Elementary School
Jefferson Elementary School
Lincoln Elementary School
Peterson Elementary School

District: Twin Valley School District
Bennington Elementary School
Tescott Elementary School

District: USD 262
Wheatland Elementary School

District: USD 299
Sylvan Grove Elementary School

District: USD 385
Sunflower Elementary School

Other
Holy Family Elementary School
Holy Savior Catholic Academy
St. Marks Elementary School
St. Marys Catholic School

LOUISIANA

STARBASE Louisiana

District: Bossier Parish School Board
Bossier Elementary School
Carrie Martin Elementary School
Central Park Elementary School
Meadowview Elementary School
Waller Elementary School

District: Caddo Parish School Board
Creswell Elementary School
Keithville Elementary School
Newton Smith Elementary School
Oil City Elementary School
Werner Park Elementary School

Pelican State STARBASE

District: Jefferson Parish
Jefferson Elementary School

District: Orleans Parish School Board
Bradley Elementary School
Dunbar Elementary School
Drew Elementary School
Ray Abrams Elementary School
Terrace Elementary School
Wilson Elementary School

District: St. Bernard Parish
Arabi Elementary School
Gauthier Elementary School
Joseph Davies Elementary School
Lacoste Elementary School
Rowley Elementary School
Sebastien Roy Elementary School
W. Smith Elementary School

Other
Belle Chasse Academy
CHEF/Montessori

MAINE

STARBASE Maine

District: Airline Csd
Airline Community School

District: Bucksport School Department
Bucksport High School

District: Brewer School Department
State Street School

District: Dedham School Department
Dedham School

District: Glenburn School Department
Glenburn Elementary School

District: Herman School Department
Herman Middle School

District: Msad 22 Hapden
George B. Weatherbee School

District: Msad 56 Searsport
Frankfort Elementary School

District: Msad 63 Holden
Holbrook School

District: Orland School Department
Orland Consolidated School

District: Orono School Department
Asa C. Adams School

District: Orrington School Department
Center Drive School

District: Otis School Department
Beech Hill School

District: Surry School Department
Surry Elementary School

District: Trenton School Department
Trenton Elementary School

Other
All Saints Catholic School

MICHIGAN

STARBASE Detroit

District: Detroit City School District
Bates Academy
Brewer Elementary School
Clippert Elementary School
Davison Elementary School
Detroit Academy
Golightly Elementary School
Greenfield Union Elementary School
Henry Ford Elementary School
John R. King Elementary School
Stark School of Technology
District: Creative Montessori Academy
Creative Montessori Academy

District: Highland Park School District
Liberty Elementary School

District: University Preparatory Academy
University Preparatory Academy

District: Southfield School District
Academy of Detroit Southfield

STARBASE One

District: L'Anse Cruese School District
Carkenord Elementary School
Hiller Elementary School
Rainbow Elementary School
Siefert Elementary School
South River Elementary School

District: Taylor School District
Eureka Heights Elementary School
Federal Elementary School
Fischer Elementary School
Holland Elementary School
Moody Elementary School
Myers Elementary School

MINNESOTA

STARBASE Minnesota

District: Minneapolis Public Schools & Affiliated
Andersen Elementary School
Green Central Park Elementary School
Hale Elementary School
Jefferson Community School
Nellie Stone Johnson Elementary School
Harvest Prep Academy, Charter School

District: St. Paul Public Schools & Affiliated Charter Schools
Adams Spanish Immersion Magnet School
American Indian Magnet School
Cleveland Middle School
Crossroads Elementary School
Farnsworth Aerospace Magnet School
Franklin Music Magnet School
Hayden Heights Elementary School
Homecroft Elementary School
John A. Johnson Elementary School
Maxfield Magnet School of Academic Excellence
Phalen Lake Elementary School
Sheridan Elementary School

World Cultures and Languages Magnet School
Four Seasons Elementary School
Achieve Language Academy, Charter School
Como Elementary School
Humboldt Junior High School
Washington Middle School
Cleveland Middle School

Other Twin Cities Schools/Organizations
Al Amal School, Fridley
St. Jerome Catholic School, Maplewood
St. Bernard's Catholic School, St. Paul
St. Agnes Catholic School, St. Paul
Holy Childhood Catholic School, St. Paul
East Metro Immigration District – Crosswinds Year Round School
Maplewood/North St. Paul School District

MISSISSIPPI

STARBASE Atlantis Gulfport

District: Gulfport School District
Gaston Point Elementary School
Twenty-Eighth Street Elementary School
West Elementary School

District: Harrison County School District
Lizana Elementary School
North Woolmarket Elementary School
Pineville Elementary School
Saucier Elementary School
Woolmarket Elementary School

District: Long Beach School District
W.J. Quarles Elementary School

Other
St. Thomas Elementary
Coast Episcopal Elementary

STARBASE Atlantis Meridian

District: Meridian Public School District
Crestwood Elementary School
Harris Upper Elementary School
Oakland Heights Elementary School
West Hills Elementary School
Witherspoon Elementary School

District: Lauderdale County School District
Northeast Middle School
Southeast Middle School

Other
Choctaw Indian Reservation
Bogue Chitto Elementary School
Conehatta Elementary School
Red Water Elementary School
Pearl River Elementary School
Standing Pine Elementary School
Tucker Elementary School
Choctaw Elementary School

NEBRASKA

STARBASE Nebraska

District: Lincoln Public School District
Huntington Elementary School
Hawthorne Elementary School
Arnold Elementary School
Everett Elementary School
West Lincoln Elementary School
Norwood Park Elementary School
Elliott Elementary School
Hartley Elementary School
Fredstrom Elementary School

Other

Zion Lutheran Elementary
Prairie Hill Learning Center
Blessed Sacrament Elementary
Sacred Heart Elementary
Faith Lutheran Elementary
Lincoln Christian Elementary
Park View Christian Elementary
Messiah Lutheran Elementary

St. John's Elementary
St. Patrick's Elementary
North American Martyrs Elementary

NEW MEXICO

AF STARBASE La Luz

District: Albuquerque Public Schools
Bernalillo Middle School
Eisenhower Middle School
Hayes Middle School
Mountain View Middle School
Roosevelt Middle School
Van Buren Middle School

District: Belen Consolidated Schools
Belen Middle School

District: Los Lunas Public Schools
Raymond Gabaldon Intermediate School

District: Rio Rancho Public Schools
Eagle Ridge Middle School

Other
Our Lady of Fatima School
Solomon Schechter Day School

NORTH CAROLINA

STARBASE North Carolina

District: Alexander County Schools
Wittenburg Elementary School

District: Cabarrus County Schools
Beverly Hills Elementary School

District: Currituck County Schools
W.T. Griggs Elementary School

District: Charlotte-Mecklenburg Schools
Smith Language Academy
Westerly Hills Elementary School
Oaklawn/Bruns Elementary School
Thomasboro Elementary School
Statesville Road
Reedy Creek Elementary School

District: Hickory City Schools
Viewmont Elementary School

District: Macon County Schools
Cowee Elementary School

District: Martin County Schools
E.J. Hayes Elementary School

District: Mitchell County Schools
Buledean Elementary School
Tipton Hill Elementary School

District: New Hanover County Schools
Ogden Elementary School

District: Pender County Schools
Malpass Corner Elementary School

District: Pitt County Schools
Chicod Elementary School
E.J. Hayes Elementary School

District: Rowan-Salisbury Schools
Hurley Elementary School

District: Lincoln County
Rock Springs Elementary School

District: Iredell School District
Monticello Elementary School

District: Davison City School District
Liberty Drive Elementary School

District: Patawba School District
West Jefferson Elementary School

STARBASE- Fort Fisher

District: New Hanover County Schools
Dorothy B. Johnson Elementary School
Rachel Freeman Elementary School
District: Cartaret County School District
White Oak Elementary School

OHIO*

OKLAHOMA

STARBASE Oklahoma – Oklahoma City

District: Kingfisher School District
Hennessey Elementary School

District: Oklahoma City School District
Parker Elementary School
Rockwood Elementary School
Stonegate Elementary School
Westwood Elementary School

STARBASE Oklahoma – Tulsa

District: Anderson School District
Anderson Elementary School

District: Berryhill School District
Berryhill Elementary School

District: Catoosa School District
Catoosa Elementary School

District: Coweta School District
Central Elementary School

District: Tulsa School District
McKinley Elementary School

District: Tulsa Catholic Dioceses
St. Catherine's Elementary School
Sts. Peter and Paul's Elementary School

STARBASE Oklahoma – Native American Initiative

District: Anadarko School District
Mission Elementary School
East Elementary School

District: Okay School District
Okay Elementary School

District: Woodall School District
Woodall School

OREGON

STARBASE Kingsley

District: Klamath County School District
Altamont Elementary School
Bonanza Elementary School
Chiloquin Elementary School
Fairhaven Elementary School
Ferguson Elementary School
Henley Elementary School
Keno Elementary School
Malin Elementary School
Merrill Elementary School
Peterson Elementary School
Shasta Elementary School
Stearns Elementary School

District: Klamath Falls School District
Conger Elementary School
Fairview Elementary School
Mills Elementary School
Pelican Elementary School
Roosevelt Elementary School

Other (Private School)
Hossana
Henley Middle School

STARBASE Portland

District: Portland School District 1j
Alameda Elementary School
Atkinson Elementary School
Ball Elementary School
Capital Hill Elementary School
Clark Elementary School
Duniway Elementary School
Grout Elementary School
Irvington Elementary School
Kelly Elementary School
Maplewood Elementary School
Sabin Elementary School

Scott Elementary School
Vestal Elementary School
Whitman Elementary School
Woodmere Elementary School

PENNSYLVANIA

STARBASE Pennsylvania

District: Greater Johnstown School District
Johnstown Middle School

District: North Star School District
North Star Area Schools

District: Rockwood Area School District
Rockwood Area Elementary School

District: Salisbury-Elk Lick School District
Salisbury Area Schools

District: Southern Huntington County School District
Shade Gap Elementary

District: Somerset School District
Somerset Area Junior High School

District: Windber Area School District
Windber Elementary School

Other
Our Mother of Sorrows
St. Andrew's School
St. Benedict's School
St. Patrick's School

STARBASE Atlantis Pittsburgh

District: California Area School District
California Elementary School

District: East Alleghend School District
Westinghouse Elementary School

District: Monessen School District
Monessen Elementary School

District: Penn Hills School District
Penn Hebron Elementary School
William Penn Elementary School

District: Urban League of Pittsburgh Cs
Urban League Charter School
Cornell Middle School

Other
Good Shepherd Catholic

PUERTO RICO

STARBASE Puerto Rico

District: Arecibo Region
Esc. José Gautier Benitez
Esc. Jesús Siverio Delgado
Int. S.U. Marta LaFontaine
Int. Juan S. Marchand
Esc. Francisco G. Marín
Int. José G. Padilla
Esc. José Cordero Rosario
Int. Dr. Francisco Vázquez

District: Bayamón Region
Esc. Alejandro Jr. Cruz
Esc. Rosa Luz Zayas Cruz
Esc. Amalia López De Vilá
Int. Martín García Guisti

District: Caguas Region
Esc. S.U. Ramó Alejandro Ayala
Esc. Bilingüe José Mercado
Int. S.U. Pasto

District: Fajardo Region
Int. S.U. Rafael Rexach Dueño
Esc. Pedro Guitiérrez

District: Humacao Region
Esc. Comunidad Calzada
Int. José A. López
Int. Esc. Andrés Sandín Martínez
Esc. Cirilo Santiago Plau
Int. Especializada Juan Ponce de León
Esc. Luis Muñoz Rivera
Int. Fernando Roig
Int. S.U. Marcos Sánchez
Int. S.U. Vidal Serrano
Int. S.U. Cruz Ortiz Stella
Int. Rosa Costa Valdivieso

District: Mayagüez Region
Int. Reg. Bil. Ramírez de Arellano
Esc. Consuelo Pérez Cintrón
Esc. Lucía Cubero
Esc. Juan Lino Santiago
Int. La Soledad

District: Morovis Region
Esc. Bonifacio Alvarado
Esc. Manuel Negrón Collazo
Esc. S.U. Federico Degetau
Int. Pedro Laboy
Int. José Berríos Verdecía

District: Ponce Region
Exc. Capitanejo
Int. Norma Iris Torres Colon
Esc. Miguel A. Sastre Oliver
Esc. Áurea Gineste
Int. Rafael Aparicio Jiménez
Esc. Francisco G. Pachín Marín
Int. Francisco Zayas

District: San Germán Region
Int. S.U. Ernesto Ramos Antonini
Int. S.U. José A Castillo
Esc. Antonio Acarón Correa

District: San Juan
Esc. Emilio Castellar
Int. S.U. Juan A. Corretjer
Esc. Amalia Expósito
Int. Carlos Conde Marín
Int. Dr. Cesáreo Rosa Nieves
Esc. Ángeles Pastor
Esc. José Severo Quiñones
Esc. Jesús Ma. Sanrromá

RHODE ISLAND*

SOUTH CAROLINA

STARBASE MCAS Beaufort

District: Beaufort County School District
Beaufort Elementary School
Bluffton Elementary School
Broad River Elementary School
Coosa Elementary School
Davis Elementary School
Hilton Head Elementary School
Lady's Island Elementary School
Mossy Oaks Elementary School
Port Royal Elementary School
Shanklin Elementary School
Shell Point Elementary School
Whale Branch Elementary School

District: Laurel Bay School District
Laurel Bay Intermediate School

STARBASE Swamp Fox

District: Fairfield County School District
Geiger Elementary School
Kelly Miller Elementary School
McCorey Liston Elementary School

District: Fort Jackson Elementary Schools
Charles C. Pinckney Elementary School

District: Kershaw County School District
Lugoff Elementary School
Midway Elementary School

District: Richland County School District One
Arden Elementary School
Burton Pack Elementary School
E.E. Taylor Elementary School
Forest Heights Elementary School
Gadsden Elementary School
H.B.Rhame Elementary School
Hall Institute

Horrell Hill Elementary School
Logan Elementary School
Hyatt Park Elementary School
St. Andrews Middle School
Satchel Ford Elementary School
W.A. Perry Middle School

District: Richland County School District Two
E.L. Wright Elementary School
Joseph Keels Elementary School
Rice Creek Elementary School
Summit Parkway Middle School

District: Richland Lexington School District 5
H.E. Corley Elementary School
Seven Oaks Elementary School

District: Sumter County School District 2
Midway Elementary School
R.E. Davis Elementary School

SOUTH DAKOTA

STARBASE - Rapid City

District: Rapid City School District
General Beadle Elementary School
Black Hawk Elementary School
Horace Mann Elementary School
Knollwood Elementary School
Rapid Valley Elementary School
Robbinsdale Elementary School
South Park Elementary School
Valley View Elementary School
Wilson Elementary School
Canyon Lake Elementary School
North Middle School

District: Douglas School District
Vandenbuerg Elementary School

STARBASE Sioux Falls

District: Sioux Falls School District
Lowell Elementary School
Hayward Elementary School
Garretson Elementary School
Renberg Elementary School
Garfield Elementary School
Mark Twain Elementary School
Jefferson Elementary School
Eugene Field Elementary School
Terry Redlin Elementary School
Joe Foss Alternative School
Axtell Park Middle School
Anne Sullivan Elementary School

District: Brandon Valley School District
Brandon Elementary School

Other: Project NOVA (Outreach Program)
Little Wound Elementary School
Loneman Elementary School
American Horse Elementary School
Red Cloud Elementary School
Pierre Indian Learning Center
Cheyenne Eagle Butte Elementary School
Timberlake Elementary School
Tiospa Topa Elementary School
Mission Upper Elementary School
Rosebud Elementary School
St. Joseph's Indian School
Lower Brule Elementary School
Crow Creek Elementary School

TEXAS

Texas STARBASE

District: Cleveland ISD
Eastside Intermediate School

District: Dickinson ISD
McAdams Jr. High School
Dunbar Middle School
Bay Colony Elementary School
Hughes Road Elementary School

District: Galena Park ISD
McArthur Elementary School

District: Hitchcock ISD
Stewart Elementary School

District: Houston ISD
Berry Elementary School
Gordon Elementary School
Carrillo Elementary School
Law Elementary School
Pleasantville Elementary School
Betsy Ross Elementary School
Cornelius Elementary School
Fleming Middle School
Helms Community Learning Center
DeZavala Elementary School
Wainwright Elementary School

District: LaPorte ISD
College Park Elementary School

District: Pasadena ISD
Pomeroy Elementary School
Red Bluff Elementary School
Jensen Elementary School
Meador Elementary School

District: Shepherd ISD
Shepherd Elementary School

District: Texas City ISD
Levi Fry Intermediate School

Other
Lady of Lourdes Parochial School
Solid Foundation Private School

STARBASE Kelly

District: San Antonio ISD
Bowden Elementary School
Tynan Elementary School
Kelly Elementary School
Riverside Park Elementary School

District: Southwest ISD
Sky Harbour Elementary School
Kriewald Road Elementary School

District: South San Antonio ISD
Benavides Elementary School
Five Palms Elementary School

District: Edgewood ISD
Burleson Elementary School
Emma Frey Elementary School
Winston Elementary School
H.K. Williams Elementary School
Perales Elementary School

District: Lackland ISD
Lackland Elementary School

VERMONT

STARBASE Vermont (Rutland)

District: Bennington Id School District
Monument Elementary School

District: Benson School District
Benson Village Elementary School

District: Clarendon School District
Clarendon Elementary School

District: Killington School District
Sherburne Elementary School

District: Ludlow School District
Ludlow Elementary School

District: Orwell School District
Orwell Village Elementary School

District: Northfield School District
Northfield Elementary School

District: Poultney School District
Poultney Elementary School

District: Proctor School District
Proctor Elementary School

District: Shrewsbury School District
Shrewsbury Mountain Elementary School

District: Rutland School District
Rutland Intermediate School

District: Wallingford School District
Wallingford Elementary School

Other
Christ The King

STARBASE Vermont (South Burlington)

District: Burlington School District
J.J. Flynn Elementary School
Lawrence Barnes Elementary School

District: Bristol School District
Bristol Elementary School

District: Danville School District
Danville Elementary School

District: Franklin Supervisory Union
Saint Albans Town Educational Center

District: Grand Isle School District
Grand Isle Elementary School

District: Milton Id School District
Milton Elementary School

District: Northfield School District
Northfield Elementary School

District: Sheldon School District
Sheldon Elementary School

District: South Hero School District
Folsom Elementary School

District: South Burlington School District
Central Elementary School
Orchard Elementary School

District: Walden School District
Walden Elementary School

District: Washington West
Crosette Brook Elementary School

District: Washington Central
Supervisory Union
East Montpelier Elementary School

District: Winooski School District
JFK Elementary School

Other
St. Michael's
Trinity Baptist

VIRGINIA

STARBASE-Atlantis Norfolk

District: Norfolk City Public Schools
Campostella Elementary School
Chesterfield Elementary School
Fairlawn Elementary School
Ingleside Elementary School
James Monroe Elementary School
Little Creek Elementary School
Willoughby Elementary School

WASHINGTON

STARBASE Atlantis, TTF, Bangor

District: Central Kitsap School District
Brownsville Elementary School
Clear Creek Elementary School
Cottonwood Elementary School
Cougar Valley Elementary School
Emerald Heights Elementary School
Esquire Hills Elementary School
Green Mountain Elementary School
Jackson Park Elementary School
Pine Crest Elementary School
Seabeck Elementary School
Silverdale Elementary School
Silver Ridge Elementary School
Tracyton Elementary School
Woodlands Elementary School

District: North Kitsap School District
Breidablik Elementary School
David H. Wolfle Elementary School
Hilder Pearson Elementary School
Poulsbo Elementary School
Richard F. Gordon, Jr. Elementary School
Suquamish Elementary School
Vinland Elementary School

WEST VIRGINIA

West Virginia STARBASE Academy

District: Kanawha County School District
Alban Elementary School
Andrew Jackson Elementary School
Hayes Elementary School
Horace Mann Elementary School
J.E. Robins Elementary School
Stonewall Jackson Elementary School
South Charleston Elementary School

District: Pocahontas School District
East Bank Elementary School

STARBASE Martinsburg

District: Berkeley County School District
Eagle Elementary School
Mill Creek Elementary School
Orchard View Elementary School
Potomack Elementary School
Tomahawk Elementary School

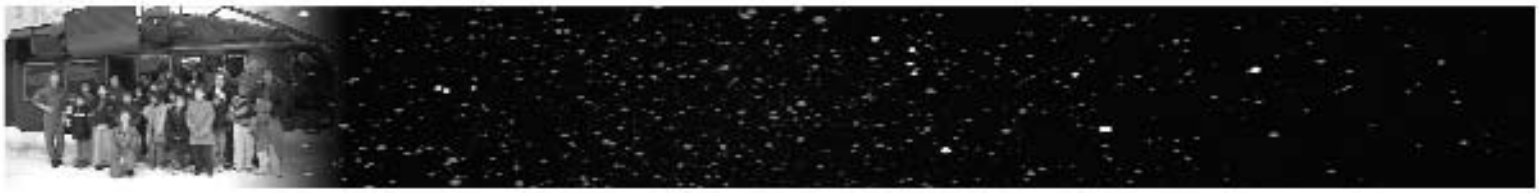
WYOMING

Wyoming STARBASE Academy

District: Laramie County School District #1
Afflerbach Elementary School
Alta Vista Elementary School
Anderson Elementary School
Arp Elementary School
Baggs Elementary School
Bain Elementary School
Buffalo Ridge Elementary School
Churchill Elementary School
Cole Elementary School
Corlett Elementary School
Davis Elementary School
Dildine Elementary School
Fairview Elementary School
Gilchrist Elementary School
Goins Elementary School
Hebard Elementary School
Henderson Elementary School
Hobbs Elementary School
Jessup Elementary School
Miller Elementary School
Pioneer Park Elementary School
Rossman Elementary School

District: Laramie Co. School District #2
Albin Elementary School
Carpenter Elementary School
Pine Bluffs Elementary School
West Elementary School

* Academy is new or not yet fully operational



DoD STARBASE Academy Time Line

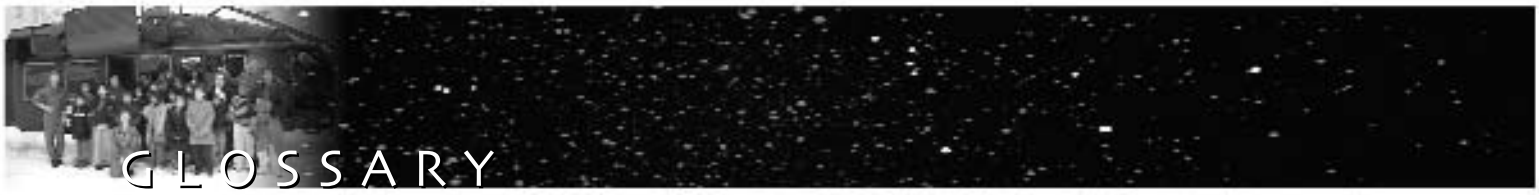
(D-1.3)

1989	Michigan, Selfridge*		
1993	California, Sacramento	North Carolina, Chalotte	
	Kansas, Topeka/Wichita	Oklahoma, Tulsa	
	Minnesota, St. Paul	Oregon, Portland/Klamath Falls	
1994	Florida, Jacksonville	South Dakota, Sioux Falls	Wyoming, Cheyenne
	Florida, Pensacola	Texas, Houston	
	Iowa, Johnston**	Vermont, South Burlington	
1995	Puerto Rico, Carolina		
	Texas, San Antonio		
	Virginia, Norfolk		
1996	Georgia, Warner Robbins		
1998	California, San Diego		
1999	Louisiana, Barksdale		
	Louisiana, New Orleans		
	South Carolina, Beaufort		
2000	Kansas, Wichita***	Pennsylvania, Boswell	
	Michigan, Detroit	Vermont, Rutland	
	Oregon, Klamath Falls		
2001	Connecticut, Hartford	Illinois, Great Lakes	South Carolina, Columbia
	DC, Washington	Maine, Bangor	Washington, Silver Dale
	Georgia, Atlanta	Mississippi, Gulfport	West Virginia, Charleston
	Hawaii, Peral Harbor	Oklahoma, Oklahoma City	
2002	Alaska, Anchorage	Pennsylvania, Pittsburgh	West Virginia, Martinsburg
	Mississippi, Meridan	Rhode Island, Newport	
	Nebraska, Lincoln	South Dakota, Rapid City	
2003	New Mexico, Albuquerque		
	Connecticut, Waterbury		
2004	Alabama, Maxwell AFB		
	North Carolina, Kure Beach		
	Ohio, Wright-Patterson		

* Initial pilot program site with grant from the Kellogg Foundation.

** Iowa was officially terminated at the end of FY02 in accordance with the November 21, 2001 OASD/RA Memorandum.

*** January 2000 OASD/RA identified sites in Kansas and Oregon as separate STARBASE Academies.



GLOSSARY

Academy: See DoD STARBASE Academy.

Adjusted data: Data derived from the same Academies that were operating last year so that comparisons can be made concerning the internal growth of the program.

After school programs: Center-or school-based programs regularly scheduled at least once each month during after school hours.

Alternative education provider: A public or private school designed for children who do not function well in the traditional school setting. This may include continuation high schools or schools that fall outside the categories of regular, special education or vocational education.

Appropriations: Budget authority provided through the congressional appropriation process that permits federal agencies to incur obligations and to make payments.

At-risk: Being "at-risk" means having one or more family background, or other factors, that have been found to predict a high rate of school failure at some time in the future. This "failure" generally refers to dropping out of high school before graduation, but also can mean being retained within a grade from one year to the next. The risk factors include having a Mother whose education is less than high school, living in a single-parent family, receiving welfare assistance, and living in a household where the primary language spoken is other than English.

At-risk youth: Students at risk are those who have characteristics that increase their chances of dropping out or falling behind in school. These characteristics may include being from a single-parent household, having an older sibling who dropped out of high school, changing schools two or more times other than the normal progression (e.g., from elementary to middle school), having C's or lower grades, being from a low socio-economic status family, or repeating an earlier grade.

Class: Within the context of a DoD STARBASE Academy, a class is a grouping of students. This group may not necessarily have been a homogenous entity prior to DoD STARBASE instruction. It may be a temporary grouping only for the purposes of assembling for the 20-hour minimum period of DoD STARBASE instruction.

Classroom contact hour: A period of 60 minutes, plus or minus 5 minutes, in which a DoD STARBASE Academy instructor is actively involved with students or in which a military member is demonstrating, displaying, or teaching an application of math, science, or technology to the students.

Core curriculum: STARBASE core curriculum is comprised of the eleven following areas: 1) Teamwork; 2) Properties and States of Matter; 3) Properties of Air; 4) Bernoulli's Principle; 5) Aircraft Control Surfaces and Components; 6) Four Forces of Flight; 7) Newton's Laws of Motion; 8) Space Exploration; 9) Development, Innovation, and Uses of Technology; 10) Avoiding Substance Abuse; and 11) Goal setting.

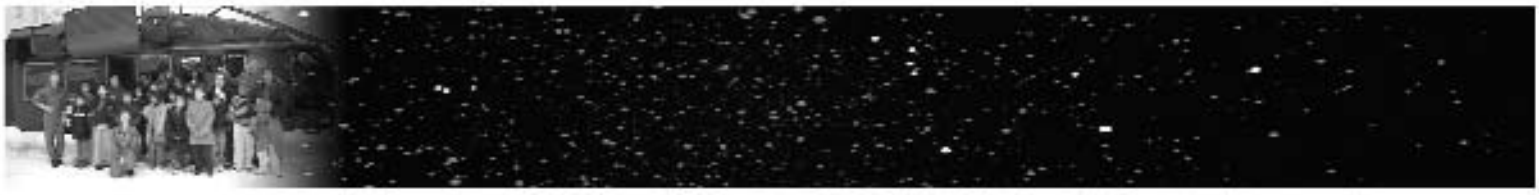
Current expenditures: Expenditures for operating STARBASE Academies, excluding capital outlay. These expenditures include such items as salaries for school personnel, fixed charges, student transportation, books and materials, and energy costs.

Current Expenditures per pupil: Current expenditures for the STARBASE Academies divided by the total number of participating students.

Disability: Physical, mental, or sensory impairments that render major life activities more difficult.

DoD: Department of Defense.

DoD components: Those Department of Defense entities that have established or are in pursuit of establishing a DoD STARBASE Academy, including the military departments, defense agencies, and defense field activities.



DoD instruction (DODI): Document that implements policies, responsibilities, and procedures for executing the DoD STARBASE program.

DoD STARBASE Academy: A DoD educational entity that seeks to improve knowledge and skills of students in kindergarten through twelfth grade in mathematics, science, and technology, and follows the academy model description in DODI 1025.7. A DoD STARBASE Academy is not defined in terms of a geographic location.

DoD STARBASE core curriculum: The fixed course of study referenced in the DODI that must be taught by all DoD STARBASE Academies. (See also core curriculum.)

DoD STARBASE program: The DoD STARBASE Program is authorized by Title 10 United State Code Section 2193b as a DoD science, math, and technology education improvement program. The Office of the Assistant Secretary of Defense for Reserve Affairs administers policy and oversight. The DoD components execute the program at DoD STARBASE Academies. DoD STARBASE is funded by Congress as a Civil Military Program.

DoD STARBASE site: The component of a DoD STARBASE Academy that performs instruction. Sites can be co-located at a DoD STARBASE Academy or geographically separated from the Academy.

DOE: Department of Education.

Driver: Drivers identify a set of related attitudinal clusters for the student population (i.e., when the driver is present, the set of attitudes will most likely be present, or in reverse, when the condition in the list of attitudes are present the target "driver" attitude will also be present).

Elementary school: An elementary/secondary school with one or more grades of K-6 that does not have any grade higher than grade 8.

Elementary/secondary school: Elementary/secondary schools include regular schools (i.e., schools that are part of state and local school systems and private elementary/secondary schools, both religiously affiliated and nonsectarian); alternative schools; vocational education schools; and special education schools. Subcollegiate departments of postsecondary institutions, residential schools for exceptional children, federal schools for American Indians or Alaska Natives and federal schools on military posts and other federal installations are not included in the definition of elementary/secondary school.

Enrollment: The total number of students registered at a STARBASE Academy at a given time, generally in the fall of the year.

Expenditures: Charges incurred, whether paid or unpaid, that are presumed to benefit the current fiscal year.

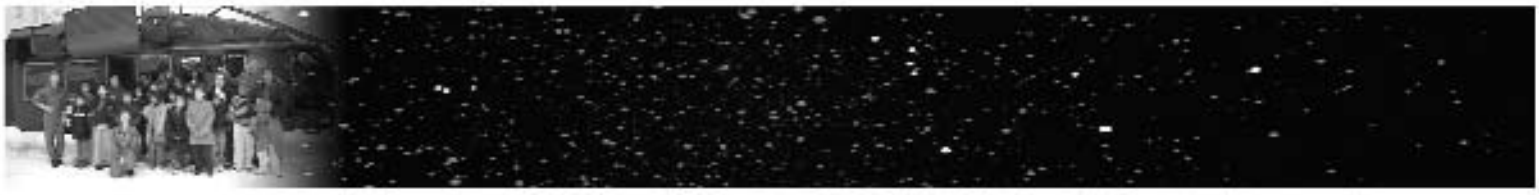
Expenditures per pupil: Charges incurred for a particular period of time divided by a student unit of measure, such as enrollment, average daily attendance, or average daily membership.

Fiscal year: The yearly accounting period for the federal government, which begins on October 1 and ends on the following September 30. The fiscal year is designated by the calendar year in which it ends; for example, fiscal year 2004 begins on October 1, 2003 and ends on September 30, 2004.

Gap Score: Difference between pre-and post-scores.

Graduate: An individual who has received formal recognition for the successful completion of a prescribed program of studies.

High school: A secondary school offering the final years of high school work necessary for graduation, usually including grades 10, 11 and 12 (in a 6-3-3 plan) or grades 9, 10, 11, and 12 (in a 6-2-4 plan).



Inner city location: Central section of a city, which is usually older and more densely populated.

Kindergarten: Includes transitional kindergarten, kindergarten, and pre-1st grade students.

Mathematics: A body of related courses concerned with knowledge of measurement, properties, and relations quantities, which can include theoretical or applied studies of arithmetic, algebra, geometry, trigonometry, statistics, and calculus.

Median: A number, such that half of the data is larger than it and half-smaller. If the itemized data are listed in order of size, the median is the middle number in the list.

Middle school: A separately organized and administered school between the elementary and senior high schools. When called a "junior high school," a middle school usually includes grades 7, 8, and 9 (in a 6-3-3 plan) or grades 7 and 8 (in a 6-2-4 plan). In some districts, however, a middle school spans grades 5 to 8 or grades 6 to 8.

Minority: Any individual or racial/ethnic group that is not categorized as White, not Hispanic or Latino.

National school lunch program: Established by President Truman in 1946, the program is a federally assisted meal program operated in public and private nonprofit schools and residential child care centers. To be eligible, a student must be from a household with an income at 185 percent of the poverty level for reduced-price lunch or 130 percent of the poverty level for free lunch.

Not-for-profit organization: A legal entity recognized or chartered by competent state authority and to which the Internal Revenue Service has given status as a 501(c)(3) tax-exempt organization.

Operational academies: An academy that is processing students.

Participant: The term participant not only includes the STARBASE students, but is utilized to reflect the time, energy, skills and commitment of institutions and individuals that make the STARBASE program operate successfully. Participants include military service command support units, the local sponsoring base command, community leaders, local community sponsoring committees, school systems, schools, teachers, military service volunteers, STARBASE Board members, staff, and parents. Most participants are voluntary, self-recruiting and active. Their support and contributions are not limited to a one-time activity, but are usually ongoing and long-term, often covering the life-cycle of the program's operation.

Percentile (score): A value on a scale of zero to 100 that indicates the percent of a distribution that is equal to or below it.

Pre/Post application: Prior to the start of the program and at the completion of the program.

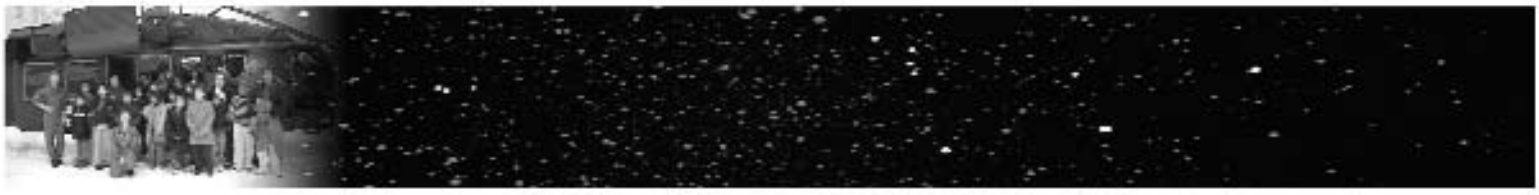
Program Year: The STARBASE program year is the same as the government fiscal year, October 1-September 30.

Public school: An institution that provides educational services for at least one of grades 1-12 (or comparable upgraded levels), has one or more teachers to give instruction, is located in one or more buildings, receives public funds as primary support, and is operated by an education or chartering agency. Public schools include regular, special education, vocational/technical, alternative, and public charter schools. They also include schools in juvenile detention centers, schools located on military bases and operated by the Department of Defense, and Bureau of Indian Affairs-funded schools operated by local public school districts.

Rural Location: The population and territory outside any urbanized area and the urban part of any place with a decennial census population of 2,500 or more.

Salary: The total amount regularly paid or stipulated to be paid to an individual, before deductions, for personal services rendered while on the payroll of a business or organization.

Sample Population: A statistically significant representation of the total number of students tested each year.



School district: An education agency at the local level that exists primarily to operate public schools or to contract for public school services.

School year: The 12-month period of time denoting the beginning and ending dates for school accounting purposes, usually from July 1 through June 30.

Science: The body of related course concerned with knowledge of the physical and biological world and with the processes of discovering and validating this knowledge.

Secondary school: An elementary/secondary school with one or more of grades 7-12 that does not have any grade lower than grade 7.

Site: See DoD STARBASE Site.

Socio-Economic disadvantage: A term used to describe economically deprived, poor, poverty stricken, or disadvantaged individuals or groups. (See also Socio-Economic status.)

Socio-Economic status: A measure of an individual or family's relative economic and social ranking based on such factors as father's education level, mother's education level, father's occupation, mother's occupation and family income.

Supplemental programs: These are programs that for one reason or another (e.g. below minimum hours, non-military base delivery, etc.) do not meet DODI standards. They are more diverse than traditional STARBASE programs, are often conducted during the summer months and are specially designed to reach students that do not fall under the targeted "participant" schools or are in response to requests by members of the community to serve "hard-to-reach" children. Supplemental programs are initiatives that go beyond the normal operation and obligations of the Academy. In many cases, supplemental programs are established in response to the demand created by the popularity and success of the STARBASE program within the community.

Teacher certification: License granted by states for teachers to teach a given subject. In 2002, all states required a bachelor's degree that included subject matter as well as pedagogical studies. All but 10 states required basic skills tests in reading, mathematics, or general knowledge. 31 states required subject-matter examinations.

Tuition and fees: A payment or charge for instruction or compensation for services, privileges, or the use of equipment, books, or other goods.

For More Information Contact:

Office of the Secretary of Defense/ Reserve Affairs (OASD/RA)
1500 Defense Pentagon
Washington, DC 20301-1500
Phone: 703.693.8630