ASSET Inc
Student Consultant, Paul Harada
Community Partner, Thelma Wodzinski, Outreach Coordinator

Starting from a 3 million dollar grant from the NSF in 1995, ASSET Inc is a non-profit organization dedicated to assisting teachers who teach science and technology in Allegheny County's elementary schools. ASSET is an acronym meaning Allegheny Schools Science Education and Technology. By providing a science kit filled with hands-on labs and teaching material, both refresher materials for teachers and original material to be used while teaching in class, ASSET Inc has improved the quality of education for Allegheny youths. Students who have benefited from ASSET Inc.'s efforts have scored higher on state science tests. Teachers who are using Asset materials have reported that they feel more prepared to teach effectively. ASSET Inc works.

Situation Report

This company produces teaching material, both refresher materials for teachers and original material to be used while teaching in class. For the past five years ASSET Inc has operated under a NSF grant to improve elementary education through teacher professional development and by providing first-class science materials. This grant covered half of ASSET Inc's 2.1 million dollar annual budget. The remainder of the funding came from donations by companies and philanthropists. Two years ago ASSET Inc also applied for and received a one-year grant from the PDE (Pennsylvania Department of Education) to do multi-media work in addition to their teaching work. Through this grant they received digital and video cameras, computers and different programs to help push their company into the digital age. At the end of this fiscal year, the original NSF grants ends and ASSET will be fully self-sufficient--able to work without the assistance of the federal government. The budget for the next years depends on the contributions donated to ASSET Inc by their sponsors and school districts involved.

ASSET Inc has a single office located in the West Side of Pittsburgh at 290 Corliss Street, Center City Terminal, Pittsburgh, PA, 15220. From this one location, ASSET Inc provides teaching modules for over 35 school districts in Allegheny County, 50 schools total in Western Pennsylvania, and provides professional development for more than 2,500 teachers. ASSET Inc goal is to improve the science skills of elementary students from kindergarten through seventh grade, as measured against the National Science Education Standards. As seen on their website (http://www.assetinc.org/op/vision.htm), here are ASSET Inc's current vision and mission statements:

> "Vision: ASSET's vision is to help educators foster outstanding achievement in science and technology.
> Mission: The mission of ASSET Inc. is to achieve a self-sustaining exemplary science and technology education program in the elementary grades by promoting professional development, teacher support, collaboration, and quality hands-on material."

This website was created by Allegheny Intermediate Unit's (AIU's) graphics department during the course of the one year grant. Because of this, ASSET Inc has a webpage that is a good source of information about their company and what they do to assist in the education of Allegheny County's elementary school children.

I am working with Outreach Coordinator Thelma Wodzinski. She is responsible for contacting outside people, updating and maintaining ASSET Inc's website, and uses both the digital (video and still) cameras and the software to present material. I also work with Steve Radi, who is the Director of Operations and Finances. Because there is no position defined solely to take care of the technology environment. Thus in the absence of such a position, Steve Radi has become the resident "Tech" person.

If the office has a problem, Steve is the one who they turn to. If he cannot figure out the problem, then they must call a technician from "Universal Business Systems," which occurs 6-7 times a year.

For a brief description of ASSET Inc, please read "The Great Experiment," Appendix A.

Problems and Opportunities

During the past four months at ASSET Inc, the scope of work may be separated into three areas: system backups, multimedia video, and web design & architecture. Covered under system backups are plans detailing a backup schedule and methods of archiving computers. Multimedia video involves the creation of a short digitally edited clip showing off ASSET Inc, edited and modified in-house--on an ASSET Inc computer. The final phase of web design and architecture has the above video posted to the ASSET Inc website, and my Community Partner Thelma knowing how to post the above video, create additions to, and maintain ASSET Inc's website.

Problem #1, web design

ASSET Inc maintains a website at http://www.assetinc.org/ that was created by the AIU multimedia design department. A few staff members have had Microsoft Front Page experience, but no one knows HTML nor can anyone update anything more than text on the website.

The web is a great tool for outreach and contacting people. Currently, ASSET Inc uses their website to tell potential and current users about ASSET Inc. This includes showing their vision and mission statements, listing and announcing professional development opportunities, as well as presenting a listing of what they package in their modules and when these modules are available. Knowledge of how to maintain this website allows ASSET Inc to assist their users by providing a source of up to date contact and product information.

Solution
- Thelma and I developed a donation solicitation page on the ASSET Inc website.
- Thelma wrote and designed a page to display the AVI clip.
- Thelma successfully embedded new graphics into web pages. (Involving the use of Adobe Photoshop to modify existing graphics, and coding to place the graphics on the page)
- Thelma knows how to link AVI video to the web site and will be able to add video clips when she has finished creating them.

Outcome evidence:

Thelma Wodzinski has obtained a firm grasp of updating and maintaining a website. She has, in conjunction with me, created a page to solicit donations to ASSET Inc. On her own, she has demonstrated the ability to create a new embedded graphic for ASSET Inc's website, as well as create additional pages as needed (evidenced by Professional Development's framework pages). Thelma was able to place a modified video onto the web page such that it plays on mouse-over. This video is viewable on the Internet at http://www.assetinc.org/Annie%20Project/blank1.htm. (Note, you must use Internet Explorer, and remember that the %20 is needed, as computers do not recognize spaces.)

Evidence of Sustainability:

The more interesting ASSET Inc can make its website, the more likely people will remember ASSET Inc. The web is a very good method of advertising and only people who understand how to change their presentation to match the media will be able to take advantage of this free publicity. Knowing how to modify a page is important, and understanding the code base of a web page will allow for easy insertions and deletions of obsolete or confusing features. A better website makes it easier to communicate with visitors, allowing ASSET Inc to convey its mission of better teaching. In addition to the above reasons, Thelma is the Outreach Coordinator and one of her duties is the maintenance of ASSET Inc's website. Because this is part of her job, she will retain her skill at updating the website.

Recommendation:

As Thelma has other tasks than maintaining the website, she may loose her skill of creating and modifying web pages. I recommend she refers to her notes on how to use FrontPage and runs through the tutorials presented below in order to maintain her current abilities. Besides simply knowing how to use Microsoft FrontPage, it is also important for her to understand some of how web pages are coded. This would allow Thelma to "borrow" code from other websites that she finds interesting.

There are many varied ways of learning how to begin coding HTML, but it is simplest if you have time to experiment while learning. "Hands on time" remains the best way to learn things, as ASSET Inc's method of teaching shows. This method involves picking up some reading material, be it from the Internet or from a book, and finding out by trial and error how building a web page works. I learned web page creation via on-line tutorials and copying from other people's websites. Once Thelma can look at the source code of a web page, she can "borrow" the code fragments corresponding to features she enjoyed on a website.

For this section, I recommend running through at least one introduction level tutorial and skimming the upper level resources. This will give a good start on understanding HTML.

Resources:

http://www.htmlprimer.com/

One of many HTML tutorials located on the Internet. A search via a web search engine under "html tutorial" will bring up lots of these pages. This one has the added benefit of being clear, and easy to follow. In addition, the author of this website has added a "HTML Lab" section to each lesson allowing easy trial of new material.

http://www.pagetutor.com/pagetutor/makapage/

Another tutorial found on the Internet. Again this is a fairly low level tutorial, but doesn't have the built in trial area. It is still a very good tutorial because this page also connects to tutorials on a lot of other web related subjects (frames, JavaScript, etc.)

http://www.w3schools.com/html/

http://www.ncsa.uiuc.edu/General/Internet/WWW/index.html

While neither websites is as easy to use as the prior two, these are very complete tutorials on how to change and modify HTML code. However, these sites assume that you have at least an intermediate knowledge of coding to begin with. While not introductory tutorials, they are comprehensive, continuing where the others end and providing good resources to continue learning HTML. Located in both tutorials are HTML tag listings, making them good references to use while coding.

Problem #2, Multimedia Video

ASSET Inc would like to be able to produce and edit digital video of their sessions. During the multi-media NSF grant, ASSET Inc was able to edit digital video in conjunction with Carlow College. However because this grant ended, ASSET Inc wanted to be independent of Carlow College. Because video editing took place at Carlow College or was outsourced, the production of digital video was time consuming in addition to keeping ASSET Inc from being fully self-sufficient. This problem stops ASSET Inc from transferring their digital images directly into their material they produce.

Being able to edit videos "in house" will present ASSET Inc with a better tool to teach their charges inquiry based science. A digital video camera at ASSET Inc events allow ASSET Inc to show exactly how they teach and what methods work. Being able to turn about and represent covered events digitally makes it easier to view and to understand. A short video makes teaching teachers easier and holds the attention of students better (a short video instead of a verbal description). The idea of showing instead of telling is a crucial idea behind ASSET Inc.

Solution
- Reloaded all relevant software and checked and reinstalled the hardware involved, making sure that Thelma understood what was done.
- Thelma located tapes of classroom scenes.
- Thelma understands how to hook up the digital camera to the computer, and transfer files from the camera directly to the computer via installed hardware.
- Thelma successfully used Adobe Premiere to modify the video clips for size and sound quality.

Outcome evidence:

Thelma and I installed Adobe Premier and Moto DV studio onto her computer. After the firewire interface card was installed, the settings on her computer were checked to insure that video editing was possible. This involved transferring files off of certain partitions and locating enough space in memory to enable the modification of digital video. Via the hardware interface card, Thelma now downloads short video segments from her digital camera straight into her hard drive. Once these clips are sitting in resident memory, Thelma can edit them using her video software program (Adobe Premiere) into a video for ASSET Inc's website. Thelma noticed that the sound on the clip was low, and was able to raise the overall sound quality of the promotional video clip. In addition to this, Thelma introduced a sound fade to the end of the clip. This short segment is now available in a single coherent promotional clip on their website.

Evidence of Sustainability:

ASSET Inc currently tapes their workshops. Because of this, digital tapes of their events exist. Once the first short website clip is produced, there will be motivation for ASSET Inc to continue producing these videos. Keeping visitors to ASSET Inc's website interested in ASSET Inc's mission is an important goal. Thelma was also very interested in being able to edit video at her own computer. Because she can now edit at her desktop, she will continue to create her own clips and use this technology in the future.

Perhaps the best evidence of sustainability is how much the rest of ASSET Inc's staff enjoyed seeing the video displayed on the web. Once the website with the embedded video was operational, the rest of the office spent the next half hour experimenting with the web page. This is a clear indication of how much interest there is in this project, and the likelihood of video creations continuing.

Recommendation:

Thelma used Adobe Premiere to do the multi-media work involved with the PDE (Pennsylvania Department of Education) multi-media grant in conjunction with Carlow College. However, during the past few weeks, we have had difficulties using all of Premiere's features. These problems, we later determined, occurred because of minor oversights in settings and functions of these features. If we had understood the program better, or taken a more systematic approach to using Adobe Premiere (such as assumed we knew nothing and started from there), these problems would not have occurred. Because these problems required valuable time to solve, it would be beneficial to productivity if the Adobe Premiere tutorial was run occasionally, and if we knew some more tips on how to use Adobe Premiere.

Something else to think about, are methods of displaying the created video clips. Because these are digital images, they could easily be displayed using a digital projector of some kind. A digital projector would allow a laptop to contain a presentation, which could then be displayed in front of a classroom instead of using slides or overhead transparencies.

I recommend a review of Adobe Premiere's capabilities by determining what you might want to do in the future and learning how to do it (via the tutorial or the help websites). I also recommend looking into a digital projector, as it would greatly enhance lectures and presentations.

Resources:

http://web.missouri.edu/~jourmlm/356/video1.html

This tutorial was written for journalism majors in the University of Missouri-Columbia. However, it is easy to follow and gives a basic 'how-to' manual that could be used as a refresher.

http://www.ndic.com/premiere.html

This website simply contains a list of interesting tips and tricks for Adobe Photoshop. While this is not optimized for the most recent version of Adobe Photoshop, there seems to be nothing there that won't work with the version used at ASSET Inc (Adobe Premiere 5.1).

http://www.huntfor.com/photography/tutorials/premiere.htm

This website is a search engine that already listed some websites that contain informational tutorials about Premiere. This would greatly help a search for a certain feature of Premiere. Use these sites as a reference and examine them if needed.

http://www.projectorcenter.com/

If you're looking for a projector, this is the first website I was able to find that allows you to compare different projectors they have in stock. I suggest using this website to get a baseline in what you can afford, projector-wise. However, before buying anything, I recommend seriously considering what you would need the projector for and how you would use it before thinking of shopping.

<u>Problem #3, System Backups</u>

        ASSET Inc currently has fewer than twenty computers. Each of these computers has an internal floppy disk drive and Ethernet connection to the outside world. Even though ASSET Inc uses computers to create documentation for their professional development sessions, there is nothing ASSET Inc can do in the case of a disk failure or physical disaster. In the past this has become an issue. Workers working on the roof of ASSET Inc's building left the roof open one weekend, which resulted in the building getting flooded. Due to this flooding, many computers in ASSET Inc's office were damaged. These affected computers lost most if not all of their data, and water destroyed most of the paper files sitting on or in desks. This cost ASSET Inc both time and money when they needed to recreate these documents. A simple digitalized backup of all media would have prevented this loss of work and time.

        <u>Solution</u>
- Computer with internal zip drives (or tape drives) were setup to backup to those drives.
- Other computers will be backed up using a portable external zip drive.
- Document created detailing how to use the Microsoft Backup program, and how to install the external zip drive to a computer.
- Copies of backup zip disks containing critical/essential data will be stored safely.

        <u>Outcome evidence:</u>
- User files are stored in the My Documents folder. The back up policy is set so all staff include this folder in backup procedures
- Recommended procedures and policies for backup available to all personnel via links from the ASSET web site, and from Steve Radi.
- Copies of critical information:
    - Database of teacher & school information, maintained by the Assistant Director backs up these data daily to a zip disk.
    - Public information, web site, and products maintained by Outreach Coordinator, backed up to tape drive at least weekly.
- Automatic reminders to backup personal computers runs in Task Scheduler and will remind staff to backup on specific days and times.

        Vince Valicenti, the Assistant Director, currently has Microsoft backup running on his computer, reminding him to backup his "My Documents" folder and the "Peety 2000" folder which contains the database of teacher and school information. These two folders contained the most important files recovered from his original crashed computer. He backs up his computer to a zip disk. My community partner, Outreach Coordinator Thelma Wodzinski, and the Admin Assistant to the Project Director Deborah Shaffer have a consistent schedule for backing up their computers to tape drives. This is a full backup of their entire hard drive, done weekly. All other staff members have or will begin a back up of crucial files to zip disks. Because of the nature of other staff member's files, this is all that is needed. However, the science kit database also needs to be backed up, and this also occurs on a once a week basis.

        <u>Evidence of Sustainability:</u>
        Due to the problems that ASSET Inc had in the past, this system of backups will be implemented and continued. As the back up reminders will be given to Microsoft Task Manager, the constant reminder will also help insure a continual and regular back up of data files. Both management and staff are actively

backing up their data according to a specific procedure (to determine who needs the external zip drive). With both management support and permanent reminders, there are no continuality problems

Recommendation:

Off site backups. Once the back up files are placed onto zip disks those disks need to be taken elsewhere. If another flood occurs, a zip disk floating in water would be just as useless as the shorted out computer or soggy pieces of paper. In order for this to be fully effective, the backups need to be in a different location than the originals.

Final Recommendations

Here are two recommendations that are both from the Technology Literacy Benchmarks. The technology literacy benchmarks are a list of specific areas where non-profit organizations can organize themselves in regards to technical aspects of their company. Although these benchmarks are not specialized to meet the needs of ASSET Inc, they remain a source of recommendations to think about and consider. These literacy benchmarks may be viewed over the web, or downloaded to your computer at: (http://outreach.mac.cc.cmu.edu/tcinc/CourseInSession/Curriculum/Week03/NPBenchmarks.doc). Although all recommendations are not equally helpful, I have identified two recommendations that I feel should be addressed at ASSET Inc.

1. Technology Sustainability: The organization keeps an updated inventory of all computer hardware and software.

Currently in ASSET Inc, there isn't a clear organization of technical material or documents at the company. A complete listing of available resources and capabilities of office equipment would allow easier maintenance of equipment, and give an idea of what needs to be up-dated and replaced. A file containing current problems that need to be updated, or a listing of what capabilities ASSET Inc would like to have, would be a great assistance during budget reviews. Currently Steve Radi knows the location of most computer equipment, and staff members consult him when they need computer assistance. However, the exact location of numerous installation disks, back up records, and actual physical equipment is varied throughout the office. When Steve was not in the office, for example, attempting to find the scanner installation disks required a long search. As Thelma needed the scanner to update ASSET Inc's website, having an updated inventory sheet will hasten work and allow tasks to be accomplished quicker.

Suggested Actions
- Sit down and locate all installation disks and instruction booklets.
- Put all said material into a standard location—do not spread out installation disks among communal cabinets, Thelma's desk, and Steve's record cabinet.
- Locate all movable peripheral devices (scanners, zip drives, extra zip disks and tapes, digital cameras, etc).
- Determine how many computers ASSET Inc owns, and what each of their capabilities and operating systems are. (CPU speed, RAM, storage, OS)
- Write up a listing of where equipment is, and what computers ASSET owns.

A comprehensive listing will allows a staff member to look at the current resources of ASSET Inc (technology wise) and make decisions about up-grading computers or updating the current capabilities of movable devices. The biggest problem with doing this is the time required, but as this will allow staff members to respond faster when they need installation disks or instruction booklets, the time expended is worth the results. In addition to this, this keeps the records straight in the case of burglary or natural disasters. With a complete listing of what ASSET Inc has, they are able to replace their missing equipment and obtain a general idea of its complete value.

2. Technology Use-Organization Networks & Internal Communication: Agencies with a computer network have mechanisms in place to ensure data security.

Perhaps one of the greatest holes in ASSET Inc's fulfillment of the Technology Benchmarks, ASSET Inc is not fully protected against computer viruses. This is evidenced by Vincent's recent computer loss during 2/01. Even though anti-viral programs cover individual computers, all of the computers are not protected and I recommend that this be looked into soon. There were three options considered earlier, but no actions have been taken yet: a dedicated server (e-mail), licenses from an anti-virus provider, and shareware virus protection.

The drawback to the server was the expense. The amount of capital required for just the server was too much, let alone the costs for both virus protection and the hacking protection now needed. Site licenses from Macafee or Norton are a somewhat feasible alternative. Costs are still a factor, as the number of computers at ASSET Inc will require upwards to 20 licenses. Unless ASSET Inc is able to get their virus protection at reduced rates due to being a non-profit company; this is not a good option. A cheaper and more feasible alternative remains the current shareware virus protection software offered over the Internet.

I recommend that a version of the shareware programs be downloaded at each computer initially, regardless of what ASSET Inc finally decides upon. Even as there are no worldwide viruses currently hitting major companies, there are still many smaller viruses. Having no virus protection for your computers is never safe, and with the current new publicity campaign this practice is dangerous. After some form of protection get installed on each computer, consideration needs to be given as to whether this level of security is enough, or whether buying more extensive virus protection is desirable. Personally, I would consider shareware virus protection in addition to regular backups of non-crucial computers would be enough. For computers that are more crucial to ASSET Inc's organization (Vincent, Jackie, Thelma, Debbie, Barb) I suggest buying site licenses or updating the current virus software at each computer.

The first step in doing this, however, is determining which computers already have working virus protection software installed, and how effective this software is. The virus protection software installed on computers is only good if the latest virus files have been updated, and the relevant patches installed on operating system hard drives.

Virus protection is always a good idea. Even if viruses are not targeted at ASSET Inc explicitly, they have the potential to cause a lot of damage to the company in terms of computers damaged and productivity lost fixing the problems the viruses cause.

Resources:
http://www.vcatch.com/home.html
http://antivirus.cai.com/

Each website discusses a free virus protection program. There are automatic download buttons on each website. As these programs are share-ware, they don't require paying for a site license.

http://www.symantec.com/avcenter/

http://www.macafee.com/

There are the two most popular and well known of the virus protection software programs: Norton's anti-virus and Macafee virus protection. However, I haven't been able to locate details on their sites—too confusing to immediately locate.

http://windowsupdate.microsoft.com/R702/v31site/x86/w98/en/thanksstart.htm

This website is a link off of the Microsoft Homepage. From here, there are links to the patch download sections of different operating systems. As these patches tend to be security patches, patches that fix loopholes in the operating system, obtaining these files is a priority action.

Conclusion

I have enjoyed working with ASSET Inc this past semester. It has driven home the value of good technology management and computer skills. During the course of this consulting work, I have found that I enjoyed helping the staff at ASSET Inc when they had computer problems, and also that I learned a bit more about computers in general as I assisted. Some of these suggestions I have made, I will also implement on my own computers (like the system backups). Not until you have evidence of a problem do you consider using the solutions. Thank you Technical Consulting in the Community for this opportunity to assist others.

The Grand Experiment

"The module created excitement and motivation in my class. This provided an atmosphere of discussion, observation and involvement that I do not want to ever lose."

Marie Lowe, Teacher
Avella School District

In the mid 1990's, 16 adventuresome school districts in Allegheny County embarked on a grand experiment that would awaken young people's interest in science and technology and revolutionize the way science is taught. These districts and 14 more that joined them over the years worked collaboratively to refine teaching methodologies and establish best practices in science education for elementary school students.

Their experiment, the Allegheny Schools Science Education and Technology (ASSET) Inc. program, became a model for others to emulate and adopt. Why? The answer is simple. ASSET works.

Teachers following the ASSET curriculum see markedly better performance from their students. They're excited, and so are their students. Better yet, these students are out-performing their counterparts who did not participate in ASSET.

The Grand Experiment, continued

WHAT SETS ASSET APART?

The trademark of ASSET is the kit packed full of supplies to tantalize young people to explore areas of science otherwise unknown to them. These distinctive kits guide teachers and students through a world of discovery.

Complete with all that classes need for eight weeks of study, the kit topics range from animal studies to chemical tests to ecosystems. ASSET is also developing new and better ways to stimulate learning. The input that educators involved in ASSET gather through their continuous professional development exercises fuels this development. The synergies between teachers brought together for professional development always inspires the creation of new and better ways to prompt student learning.

"Collaborative Inquiry is a process by which all relevant groups construct their understanding of important problems and potential solutions through asking questions, carefully analyzing all relevant data, and engaging in constructive dialog with colleagues."

Wagner (1998)

ASSET aligns its professional development sessions with the national and state standards for science education and for professional development. Because the sessions are sequential, they build on each other. Although the sessions focus on the specific units of study comprising the ASSET curriculum, the sessions afford participants the latitude to innovate. The ASSET kits provide to teachers and students ample stimulus for inquiry.

Inquiry is the essence of the ASSET teaching methodology. ASSET teachers learn to answer students' questions with other questions. This encourages students to seek their own answers and creates a lifelong quest for data and information that allows students to interpret the constantly dynamic environment that surrounds them.

Science is all about discovery. Recognizing this, ASSET attempts to promote discovery in all that it does. And, it encourages this discovery through collaboration and sharing.

By connecting with the teacher development programs at this area's many fine regional amenities, ASSET greatly enhances what it can offer teachers. ASSET works in concert with the Pittsburgh Zoo and Aquarium, the Carnegie Science Center, the Pittsburgh Civic Garden Center and many other regional resources to augment its offerings and broaden participants' horizons even further.

The Grand Experiment, continued

To ensure that the programs meet real world expectations, ASSET recruits scientists from industry and higher education as volunteers. These scientists work in classrooms to supplement teachers' instruction.

In addition, the scientists frequently participate in ASSET's professional development programs. Their involvement challenges teachers to work outside of traditional educational paradigms. This allows children at an early stage in their development to explore with accomplished scientists what skills they must acquire if they want to eventually add value to university or industry research labs.

At every possible checkpoint, ASSET evaluates teacher effectiveness and student achievement. It does this to fuel continuous improvement. It does not do it to identify and punish poor performance. Substandard performance is, in ASSET terminology, an opportunity for collaborative support. And, teachers working together in a supportive environment are better able to motivate their students to learn.

ASSET, inc.   Page 12 of 18
Paul Harada, Student Consultant   May14, 2001

- Page 196 -

The Grand Experiment, continued

RESULTS PROVE PERFORMANCE

Results from the Pennsylvania reading and math assessments point to ASSET's effectiveness. The 16 districts involved in ASSET since its inception have scored every year above the mean scores of all southwestern Pennsylvania districts on the assessments. The 16 ASSET districts' average scores were consistently 20 to 30 points higher than the average scores of all of southwestern Pennsylvania students.

*"For our children, learning is not just 'sitting there, reading about science' —learning is **doing.**"*

*Karen Cummings, Parent
Upper St Clair*

Since five of the original 16 districts that participated in ASSET are socio-economically disadvantaged districts, their exemplary performance is even more remarkable. And, the school with the lowest socioeconomic status improved the most dramatically. This indicates that the ASSET approach can definitely help to level the playing field for disadvantaged students, making ASSET a great investment for this community.

The ASSET districts' students also distinguished themselves when compared to their counterparts throughout the State of Pennsylvania. On Pennsylvania's reading and math assessments, the ASSET districts' scores ranged 40 to 50 points higher than statewide averages.

Although they are preliminary, these results nonetheless captured the nation's attention. The National Science Foundation currently invests $1 million annually in ASSET. Their initial investment of $3,060,000 in 1995 launched ASSET and enabled the program to leverage additional contributions from private and corporate philanthropies.

RESULTS PRODUCE GROWTH

Its ability to generate measurable and meaningful results ensured the program's steady growth. In 1995 ASSET owned 25 units which were distributed to approximately 75 classrooms. Five years later, the program distributed 3,500 units.

Teachers participating in ASSET's professional development programs grew from 450 in 1996 to 2,880 in 1999. Districts incur substantial salary costs in sending their teachers to these programs, so obviously, they find appreciable value in them.

The Grand Experiment, continued

This impressive growth is fueled by ASSET's absolute commitment to four core values. The program builds its success on outstanding professional development and strong support for teachers in elementary school classrooms. By fostering collaboration among teachers and among districts, ASSET continues to add value. All of this in combination with the distribution of high quality hands-on materials ensures maximum outcomes.

FOUR INGREDIENTS TO SUCCESS

"The ASSET/Duquesne University Earth Science Institute was a perfect model of inquiry-based learning. Thanks for having the vision and resolve to initiate an inquiry institute in Pittsburgh."

Sandy Matrascia, Teacher Carlynton School District

Professional development, teacher support, collaboration and hands-on materials are the four fundamental ingredients in the grand experiment ASSET launched in 1992 when Bayer Corporation provided the initial seed capital to start the program. ASSET remains equally committed to these four essential "ingredients" today. All four are required to ensure student's success. The absence of any specific component will dramatically affect outcomes.

Because ASSET facilitates interdistrict and intradistrict collaboration among teachers, it expands educators' horizons. ASSET also encourages involvement by the principal as well. The cross-fertilization of ideas among teachers and administrators ultimately creates a program greater than the sum of its parts.

Today's teachers are often isolated. Their interaction with other teachers or with professionals in the disciplines that they teach is minimal. That's why ASSET brings professionals into the classroom to work directly with students and teachers. Everyone learns more under these circumstances.

Through ASSET's extensive professional development, teachers consistently interact with other teachers. Their collective input continuously refines the ASSET programs. All districts participating in ASSET use the same curriculum framework, creating a consistency across districts that never existed.

This consistency focuses teachers and students on specific targets for learning. In addition, the consistency facilitates the measurement of results, which makes both teachers and students more accountable. Still, ASSET affords to districts the flexibility that they need to adapt the ASSET curriculum to meet their own individualized requirements.

The Grand Experiment, continued

Since ASSET's curriculum is completely in line with newly released State Science and Math standards, the districts participating have already addressed the difficult issues of how to operationalize the standards and assess students' performance against them. In addition, ASSET incorporates language arts skills to reinforce students' proficiency across disciplines.

"The studygroup has further validated the innate inquisitive nature of children and has provided justification for my role as a facilitator, rather than strictly a teacher."

Barb L., Quaker Valley

The instruction and hands-on learning exercises in ASSET classrooms resulted from the careful examination of best practices in demonstration lessons around the world. Professionals from industry along with teachers and administrators worked with curriculum development specialists. Together, they developed instruction guidelines and support materials with a demonstrated ability to significantly enhance young people's interest in and understanding of science.

The benefits to students are measurable and well-defined. However, the benefits to teachers are not as easily quantified but are no less valuable. ASSET creates a learning community to debate educational issues. In this environment, continuous feedback is the norm.

ASSET is focused exclusively on the advancement of children's learning. By involving teachers, administrators, industry professionals and parents in the child's exposure to science, ASSET significantly enhances students' performance. It does take a community to educate a child. ASSET brings the community together to do just that.

Computer Backups

In a nut shell:

- Turn on the computer
- Locate the files on your computer that you need to keep
- Install the Zip Drive.
- System tools/Microsoft Backup
- Backup your computer!

Backing up your computer:

There are two things to know about computer backups. Computer backups are useful only if the backups are recent. Computers always fail right before you get around to making a backup. To this end, this document is to use as a reference while setting up a periodic computer backup system. There are three steps to setting up this system: Finding the files you need to back up, having a location to back files up into, setting up the program to create your backup. After this, you just continue to run the backups.

Finding the files:

Locate the directory where you store all of your most used information. This normally is found at c:\"My Documents"\ . However, there are also other locations for important and often used files. Using the start menu, scroll to the find option and open up the find program. Click the second of the two tabs, the one marked Date, and select Find all Files, and during the previous __ day. Enter in 2 days for the time span and search by clicking the find now button.

In the window that scrolls up, look down the list of files for files that you have used recently. Once you locate a file that may be useful (like an address book or used database), write down the folder name. Continue until you run out of files you may need. Using the find file program in this manner will locate files recently used, giving a general idea of where used files are in your computer.

You will use this directory listing as a guide for the files you want to save on your computer. These are the files you can't live without, and you need to do your work.

Installing a Zip Drive

We are backing up your computer on a zip drive. Meaning, that before you are able to do a backup, you need to install the zip drive onto your computer. This requires three things. The zip drive itself, a supply of zip disks to back files up on, and the zip drive installation disk. After locating this items, it is a fairly simple matter to install a zip drive onto a computer.
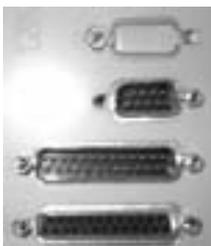
1. Plug in the zip drive.
2. Locate the Serial port plug. This plug is (for the current portable zip drive) dark blue. It ends with an outlet that's four holes on top, and five holes on the bottom.
3. Plug the cable into the serial port of your computer. This is the slot which looks like the topmost plug in the picture to the left.
4. Screw the cable securely onto the spot.

(See picture)

ASSET, Inc.
Paul Harada, Student Consultant

May14, 2001

Computer Backups, continued

The computer should automatically detect the zip drive and begin installation.

Make sure the zip drive installation disk is located in your computer (in the floppy drive) and choose that disk when prompted during installation.

Setting up the backup system:

Check the start menu and scroll through /program/accessories/system tools.

If there is a program called "backup" then skip this next section, otherwise…

Installing Microsoft Backup:

> First off, make sure you don't have backup installed somewhere on your hard drive. Using the find file program, type in "backup.exe" and run a search. You should be able to find that program if it is on your hard drive. For NT users, look for "ntbackup.exe."

To install MS Backup, you need a copy of your operating system CD. For win 95/98/98se Microsoft Backup is included in most full setups.

1. From the start menu, open up settings/ and "control panel." This is really a folder containing multiple low level interfaces for your computer.
2. You are looking for the icon labeled "Add/remove programs."
3. Open up this program and you'll get a screen where you can uninstall parts of your computer.
4. Click on the windows setup tab, and wait until the computer quits searching.
5. Scroll down until you hit the system tools icon in the window, and double click on that one.
6. Near the top of the new window should be an icon named backups.
7. Make sure that this box is checked, if not, check it and leave.
8. If the box wasn't checked, follow the instructions to install MS Backup.

Ntbackup.exe should be installed on all copies of Windows NT or 2000 already.

Using Microsoft Backup

Once you've located the backup program, you're ready to begin running it. Here is a step by step instruction for the Windows 95/98/98se backup program. The NT program is slightly different, but similar enough that following is possible.

1. Start the program.
2. Choose to begin a new backup job from the menu. Hit OK.
3. Choose the second of the two options "Back up selected files, folders and drives." (For the full backup, choose the first option and go to step XX)
4. Click "next" to continue.
5. In the second window, click on the + signs to open up the folders. Once you come across a folder on your list of useful files, click on the box next to the name. A checkmark should appear. Notice how every folder above the checked box now has a ghost checkmark. This is to help you track where the backed up files are.

Computer Backups, continued

6.   Again, click "next" to continue.
7.   Choose the "New and changed files" option, and "next" again.
8.   You've backing up your files into a new file, so leave the first pull-down menu alone. Because you're trying to backup this file onto the zip drive, you need to click on the small icon of a folder.
9.   On the pull down menu labeled "look in," find your zip drive and select it.
10.   Click "next" and again, "next." You want to keep those two options.
11.   Choose a name, and then click start.

To restore a backup file, start the back up program again.
1. Choose "Restore backed up files" and click "ok."
2. Click on the small icon of a folder.
3. On the pull down menu labeled "look in," find your zip drive and select it.
4. Click on the backed up file (default name is MyBackup.qic).
5. Choose which of the back ups you want to restore from, by clicking on the box to the left of the file name. (There should be only one there)
6. Choose the files/folders that you want to restore.
7. Pick the location where you want the files to be restored to (most likely the original location)
8. Choose to not overwrite the original, and press "start."
9. You'll be prompted for the name of your backup file, so choose it, and continue on. This will restore your files.

To continue a job that already exists:
1. Choose "Open an existing backup job."
2. Now locate which backup job you are using, and select it. ("Open")
3. Now on the screen that pops up, just click the "start" button.
4. Follow the direction options there, and you'll back up your computer.

The final step for backups is to schedule a time to back up your computer.
1. Open up your task scheduler. It's normally found as a tiny calendar on your menu bar. Double click.
2. Choose to "Add a scheduled task."
3. Choose "Next."
4. Click on Browse, and locate the backup program from above.
5. Pick a time for the program to execute. I suggest at least once a week.
6. Select the exact details of when on the next menu, and voila, a timed backup program! When it pops up, go hunting for the zip drive and back up your computer!