EDUCATION/CONSULTING PANEL

Staff of SAS Institute, Peter Rikard, and Earl Nail

The session moderator was Chapman Gleason, USDA. Five panelists answered questions from the audience. Two of the panelists were SAS users - Pete Rikard, Virginia Commonwealth University and Earl Nail, Union Carbide. The remaining three panelists were SAS Institute staff - Herbert Kirk, Director of Education and Technical Support; John Boling, Director of Video Training; and Mason Nichols, Manager of Technical Support.

Mason Nichols:

I'm just going to take a few minutes to discuss the developments of Technical Support during the last year. Last year we announced the availability of the Usage Note tape up to three times per year to the SAS representatives. Beginning with SAS 82.3, the Usage Notes will be back on the installation tapes. If you are also interested in obtaining a hard copy of the Usage Notes, this can be obtained from Bill Taylor at Biometrics. It is a service he is providing, and it costs $36 per year for a hard copy every other month. It contains the entire Usage Note file as we distribute it. So, if you are interested in getting that, you can fill out the form he has left at the registration desk and give it to Bill or any of the SAS staff and we'll pass it on.

For those of you who were not at the General Session on Sunday, I announced two new systems that we have incorporated during the past year; one is a computerized mail system for call-backs and another is a tracking system that we enter problems under investigation into. If you call the Institute to report a problem, we'll be giving you a tracking number that you should keep until the problem is resolved.

We are encouraging all sites to set up a support group to be the interface between SAS Institute and the user community. A lot of companies have already done this and feel that it benefits them substantially. Last year you asked for a mechanism to tell your users that there was a local support group instead of the Institute. We will have a feature like this available to you in SAS/2 with the new HELP facility. There is a member called SITEINFO that you can use to tell users who the support group is. Within that member, you can indicate that you do not want them (if you don't) to call the Institute. This information about the support group will be sent back to the Institute in the transmittal letter. We will have all the information you put in that member available to us.

We have asked two of our users to join us on the panel today to share with you their experiences in supporting their users, and hopefully you will be able to benefit from these experiences.

Earl Nail:

I'm Earl Nail and I work with Union Carbide in Oak Ridge, Tennessee. I want to give you a brief history of how things have changed for us in the last five years. Five years ago, when I first got involved with SAS, what I received from SAS was one distribution tape and one manual. There were a finite number of consultants. The installation instructions were small and there really wasn't much problem.

At Union Carbide, we had a 360/195 batch machine. We had one consultant, and about 50 users. So it was no problem. Now, five years later, SAS has expanded of course, with the regular OS SAS and SAS/ETS, SAS/FSP, the SAS/GRAPH, macro facilities, SAS/OR, portable systems; there are an infinite number of consultants and manuals, and the number of sites that SAS is installed in goes into four digits. Now where I work, things have changed also. We have two 4341s, two 3033s, a 3083, three 7155s, we still have our 360/195, and we have at least four VAXs. This time next year we will probably have a dozen. We have numerous different types of plotting devices and we have tons of questions.

People are calling about how to do their plots on various devices, we have people making SAS/GRAPH slides, SAS/GRAPH transparencies, and we have people making SAS movies. We have more than 300 users. Well, our consultants now number two, so there's obviously a problem. There are a lot of areas and our consultants can't know everything. Therefore, we decided to start logging some of the questions that we get and figure out what categories they fell into. As it turns out, about 25% of the problems we could answer on the phone; about 5% of the problems we ended up having to call SAS about; but 70% of them, almost three quarters of all questions, were just general information type questions. These questions fell into the following categories: somebody would call and ask if we had SAS/GRAPH, what kind of training is available locally and at SAS Institute, does SAS run on a small computer, and the most dreaded call of all is "I'm a first-time SAS user." We were getting a tremendous number of calls, 12, 15, 20 calls a day. Most of these questions were questions that we answered over and over. We felt we could better utilize our time if we could find some way to put this general information on the computer.

141
As Mason mentioned, there is something that SAS has done with a small amount of fanfare; they introduced in SAS82 the SAS HELP library. In the HELP library, there are various types of help files on each of the procedures, formats, and the macro language. This is good to use when you are in an interactive mode. But the best thing about the SAS HELP library, for the consultants and the installation representatives, is that it is expandable. It is a partitioned data set that you can add members to.

We have taken full advantage of adding members to this HELP library. Some of the things that we have as HELP members on our library, in addition to the regular SAS member names, are help files on JCL: we have tons of JCL examples on how to override DD statements, how to ask for more sort work space, how to ask for SAS work space, how to ask for time, how to run SAS on all our different machines. We have a list of every SAS manual and all local documentation and all technical reports. We keep this up-to-date. Each time I receive a new SAS Communications, I go through it and add to a member called Communications highlights of particular articles so people can use it as a kind of index. We have full information on how to use the sample library as a learning tool. We have listed every SAS data set we have on the system. If you are writing your own SAS procedures, our SAS sample library has every single SAS data set we have on the system, which helps our users in their use of SAS. We have a sample procedure that runs at each of our sites. It compiles, links, and executes, storing the load module in the users library. We have a list of major problems that we think that the users have. We have a list of all the educational classes that are going to be held at SAS Institute, at our installation, and the public courses. We have a list also of some of our big SAS users. For instance, we have information on who we think is the most knowledgeable person at our site with PROC MATRIX or GLM. We have a list of 10-20 names of heavy SAS users. If our consultants can't answer a question, these are the people they usually consult in a specific area. We have every bit of JCL or how to get to every type of plotter. How to make a compressed data stream file, how to send it to the FRB0, how to send it to the CALCOMP, VERATECH, or any local plotter.

Our other consultant and myself have made a commitment to ourselves that we will continually update this SAS HELP file. We won't let it get stale; we want to keep it up-to-date. Every time we add a new machine or change the JCL, we're going to keep it updated since it has reduced significantly the number of questions we get from SAS users. When they call us and want to know how to send a plot to the APPRACON jet spray color plotter, we can say, "Look at HELP file, APPRACON.

So that's how we have conquered the problem of answering all these general information questions. I think it is going to benefit us significantly.

Chapman Gleason:

Pete is now going to talk about the organization of consulting activities in an educational environment.

Pete Rikard:

My name is Pete Rikard, I come from Virginia Commonwealth University, which is an unknown institution of about 20,000 students and several thousand faculty. We are even unknown by some of our own people who walk around with badges that say Medical College of Virginia. They are really from VCU, although they sometimes don't want to admit it. VCU is (they may not like it) but it's a social science institution predominantly. We really are not an engineering school or a large hard science school. We do have the medical college, we have the School of Dentistry; we are predominantly, however, social science-oriented.

We have had SAS since 1971, I believe. We have SAS, SAS/GRAPH, and SAS/ETS. We would like to have the other products, but our budgets are limited and I have a hard time convincing people that it's worthwhile to spend the money when they are non-SAS users. If they were SAS users, I wouldn't have any problem convincing them.

We are a test site for SAS. That means we get the newest releases and have to deal with a different set of issues: really finding bugs in SAS, documenting whether they are real bugs or some user's foul up. We run SAS in batch, and we have just installed SAS as a high speed batch compiler. We also have SAS under TSO. I'm the system REP for SAS at VCU. I've been the REP for about six years; I've been using SAS for about eight years.

My predominate job is as a consultant, that's the best way I know how to describe my job. I teach short courses. I do lots of other things. I run a little private business on the side occasionally. I work for a group called Academic Computing. We are not much different from other groups called user services or something similar. We have a small staff, relatively speaking, who assist the users in getting their work done. We (in general) do not do any programming for users. Any programming we do is for systems-related stuff for all users. I have a similar story to Earl. When I went to work for Academic Computing in 1975, there were five full-time staff members and three consultants, people who worked half-time. Being a social science institution, we have seen our rapid growth curve in people using the machine in the last four to
five years. If we had been an engineering school, we would have seen a very rapid growth curve in the early '70s, but ours came in the late '70s.

Our user population has probably quadrupled or more in the last eight years. I started with five full-time and three part-time, we now have eight full-time and five part-time. A couple of weeks ago we thought we were going to be down to seven full-time and no part-time. Our staff has barely grown and our user population has gotten a lot bigger.

In consulting we try to get to users before they do research, but that doesn't always work. We teach a lot of short courses and we attempt to give debugging aids and assistance when a user is actually running on the machine. We can only assist the user in learning how to use the machine themselves. We really cannot do the work for them. The general user who has a problem first sees a student consultant who works about 48 hours a week of desk time for students. They intercept the minor JCL problems, missing semicolons, misspelled procedure names, and those kinds of things. If they can't help the user, they send the user to a full-time consultant who attempts to aid them. We're a little bit specialized at times. We don't just consult in SAS. We also have SPSS, BMDP, MINITAB, and some of its compilers and lots of other things. We do all of the consultation for those also. Because of our user-base population, if we tried to give more than assistance we would be in deep trouble. SAS is a user-oriented product and it's easy for them to learn how to use it themselves, and, therefore, it's easy for them to go forward to the next piece.

To consult you need tools. SAS Institute certainly provides those. They have a wide range of publications; anybody who is trying to be a SAS consultant should have every publication that is relevant to their machine. We don't have CMS so I don't really have to have the books on how to use CMS, but I have every SAS publication that is relevant, including all the technical reports. One of the best pieces of material that I can think of is something that people aren't even aware of: the SUGI Proceedings. Unfortunately, SAS only has the last two years of the Proceedings. It is probably the cheapest tool you can find. They are about $10 a piece. Maybe after I make a recommendation, they won't have the last two years worth because they will sell out. There's all kinds of information in the Proceedings that you should get.

I'll repeat that you need to have the sample libraries up, because they are very useful. You have to have the HELP facility up; it is fantastic. I won't dwell on it. I wrote my own HELP procedure like a lot of other places did and then had the after-the-fact intelligence last summer to ask SAS if they were writing one. They said yes, so I quit writing mine. We put up macro libraries and they are different from the macro libraries that SAS puts up. Those are for how to write your own SAS procedure. If you find somebody who has some useful tools you can embed them as macros and put them out there so other people can get to them.

I do a lot of consulting training. We have a turn-over; our students leave, they graduate. Our regular full-time consultants turn-over and you have to train consultants. Well, you give them about the best education that you can give them and then you throw them out there and watch them sink or swim. SUGI Proceedings are useful and I got a nice little quote on consulting. This happens to be on statistical consulting, but it applied to SAS consulting. "Consulting is a craft, an art, scarcely a science, which cannot be taught, but must be learned, acquired, by a process of caring to learn to swim unassisted and in deep water. Or for the more fortunate, a process amounting to progressive apprenticeship under the guidance of a master guru." I don't claim necessarily to be the best guru in the world, but I try.

I'm going to make a point that SAS Institute is making. You need to have your own on-site consulting. Especially for the commercial clients, you have to do it. Not because SAS wants you to do it, but because you need to do it. Almost every installation I know of has a three, four, or five year backlog of projects that haven't been written. There aren't any more programmers out there, you aren't going to get them. You install SAS and the users find out about it; they are going to get on take three years worth of backlog and put it on your system in three months. And if you aren't ready for it, they are going to swamp you. And it's not because SAS is inefficient code, but because they can get it online that fast. They're going to want TSO facilities, they're going to want graphics, they want printers, they're going to want disk space. If you're not ready for those kinds of issues, and if you're not ready to deal with those users, you're in trouble. I will tell you that most consulting services need to do what Earl has done. Your users have to help each other. In many places, each department is one unto itself and won't talk to any other department because that's not their job. It is in their best interest that the statistician help the systems programmer who doesn't understand statistics, who helps the novice user who doesn't understand JCL, who helps some production programmer who helps the statistician. The process is self-feeding and it's the only way to get things done. We have a staff of about 9 or 10 people and we have several thousand users. We just can't keep up.

I'm sorry I didn't give you the answer. There isn't one.
Question/Answer Period:

Q - J.D. Hill, Texas Instruments
We're still running 79.6, perhaps if we had 82 I'd know the answer to this one. We're running CMS. CMS as you may know has a very good HELP facility built into it, where you type HELP and it will bring up a menu to get the individual topics through other menus. Can the SAS HELP system under CMS be accessed through the CMS HELP facility? If not, why not?

A - Mason Nichols
I'm not familiar with how the CMS HELP facility is designed. The SAS HELP facility under CMS I think is going to be implemented through a TEXTLIB facility. Is that the same?

J.D. Hill
No it's not, under CMS. The files are just normal text files, individual files with special extensions. I think it would be a very good idea if you looked into implementing the SAS HELP facility under the CMS HELP facility. Our approach at Texas Instruments is to try and put all our on-line documentation under the facility and this would be a great aid if you would do that.

Carol Jobusch, SAS Institute
I'm the CMS specialist in the SAS consulting group and I can partially answer J.D.'s question. The SAS HELP facility is not in CMS HELP file format, but you can get it out into the clear and it would not be too difficult to put it into the CMS HELP file format. We have not done it yet, but it could be done in a fairly straightforward fashion and we probably should do it.

Q - Glen Reich, Johnson Controls
I am the information center at Johnson Controls. I would like to get a little more information on the two new courses or the two new offerings from the SAS Education group. The SAS Technical Support class and also the class for the overview of SAS Institute that you offer in Cary.

A - Herb Kirk
The workshop I assume you are talking about is a one-day offering to acquaint customers with SAS Institute and its services. One of the goals I've taken on for the past and the coming year, along with trying to inform our sites of the services we have available, is stating our policy on technical support. In the past, we really haven't made an issue of what is our policy on technical support. To what extent can you use our technical support? When our marketing department makes a sale, a letter goes out from me to that site containing two flyers and an invitation. One flyer states the policy of technical support. The motto is "we help you help yourself." The other flyer is the training brochure announcing our training courses, our philosophy in training, and our support in that area. Also enclosed is an invitation card for that individual to come to SAS Institute to learn more about the additional software products we have and how those products fit together, as well as the services available to support them. It gives an individual an opportunity to come to SAS and get to know us better and to talk to the people who developed the courses, who developed the publications, and who do the technical support. So when you call and ask for Mason Nichols, it's a face, it's a person, and not just a name on the telephone. The workshop gives you an opportunity to come to SAS, sit down in front of a 3279 and try our products, or sit down in our viewing room and view our video products. You may want to come and talk with myself or John Boling or someone else who developed those projects, view the products, and see if you really want to make that investment.

The Enhancing Technical Support Skills Course was developed and is taught by Mason Nichols and Jerry Mock. I feel it would be a very good idea if each site should make an effort to support themselves, we needed to supply additional information about SAS that is not covered in any of our standard training courses. The course provides more indepth knowledge about SAS to enable you to answer some questions or be able to solve the problems quickly. Mason and all of our consultants have developed a gift for answering phone call after phone call. We're talking about 200 calls a day. They grab the phone, someone describes 100 lines of SAS code and their problem, and the consultant quickly determines what caused it. Because the consultants know exactly what's happening at compile time, what's happening at execution time, the buffer sizes and everything. We feel that this indepth knowledge is needed to be true SAS consultants. So that is the purpose of the Enhancing Technical Support Skills Course.

Q - Glen Reich
One other question that maybe some one in the audience could address or the people from industry. We have a lot of widely distributed locations running on a central machine and right now it's hard for the information center to be at more than one place at one time. Does anybody else here have experience in supporting a widely distributed user base?

A - Gus Jonas, Indiana National Bank
We have several locations where we have terminals, and its kind of hard even crossing streets in midwinter. We have some deep snows occasionally, it's pretty cold, and we do things mostly on-line. People look at their reports on-line because we have to wait sometimes half an hour to an hour before we get printouts. So to solve some of the problems in a TSO environment (I don't know how you work with CMS), we have users send their problems through our program. They actually execute their programs with our ID as their job name and then we can sign on under TSO/SPF and we can view their
output on-line. In a remote location, without ever having to talk to them except via phone, we can answer their problems. It's been a super tool for us, because we rarely have to go out and we usually don't lose more than a few minutes as opposed to hours trying to get answers back. They can send things under our ID's so that we can view that information on-line.

A - Ray Danner, National Institute of Health
We have WILBUR at NIH and you can execute jobs fetch their job and look at the job and talk to and hold them in the queue. It makes my life easier. Any user can walk up and stick in a job and run PROC GLM and get some statistics and go running off and say I got this R² and so my model is wonderful. It is too easy, but if it wasn't easy we'd all be in trouble. There is no easy answer. I would tell you that it's a self-help feature. Most of our statisticians need help in serious programming. So it's sort of a trade-off. I'll help them with their serious programming issues and they trade a little bit of their time. It means I give them an experienced hour of my time and they give me an experienced hour of their time instead of wasting 10 hours of my time and wasting 30 of theirs. The users have to cooperate with each other at any site. It's the only way to go.

Q - Diane Goulding, Getty Oil Company
How do we contact our local SAS users group and, if there is not a local users group, what aid will SAS Institute give in forming one?

A - Cassie Griffin, SAS Institute
I'm the editor of SAS Communications. What we just started doing with the winter issue is that we will publicize, if you give us the information, what specialty or locality you're interested in starting a user group. We will publicize it in SAS Communications and people will write or call you to start your user group. We will also give you names and address of other user groups so that you can get information on how to set up your bylaws, how often you meet, and what sort of information you need to provide to your users. That's what we provide from SAS Institute.

Q - unknown, Ohio State University
Could you discuss a little bit about how far into the role of the statistical consultant a package consultant should go? And what's the relationship at the University, from the consultant's point of view, with the statistics department. In other words, how far do you go?

A - Pete Rikard
It's a problem. I train new consultants and they ask me the same question and I give them a vague answer. It has to depend on the consultant's experience. In general, most of our consultants have some background in the use of statistics, but it's fairly limited. We can recognize that users are unsure of what they are doing statistically, or they are using an inappropriate technique, or there is a more appropriate technique. We're fairly fortunate at VCU that the statistician exists. Many departments have formed something called the Institute for Statistics that will do statistical consulting, at least for the faculty members, and so we have a user who has a statistical question and we can turn around and say "I don't think this is quite right and you need to go talk to the statistician." We turn them away, unfortunately, but we have to. We are not statisticians and we can't tell the user that this is the wrong statistic to use. We can say we don't think it is the right one, but we're not qualified statistically. It's a hard issue. I have no answer for it. There was a comment several years ago on this panel from a man from Tennessee who said that SAS is too easy. Any user can walk up and stick in a job and run PROC GLM and get some statistics and go running off and say I got this R² and so my model is wonderful. It is too easy, but if it wasn't easy we'd all be in trouble. There is no easy answer. I would tell you that it's a self-help feature. Most of our statisticians need help in serious programming. So it's sort of a trade-off. I'll help them with their serious programming issues and they trade a little bit of their time. It means I give them an experienced hour of my time and they give me an experienced hour of their time instead of me wasting 10 hours of my time and them wasting 30 of theirs. The users have to cooperate with each other at any site. It's the only way to go.

A - John Boling
The paper that Pete was referring to was given by John Philpot from the University of Tennessee two years ago at the Lake Buena Vista meetings. John's argument was that it is essentially a dilemma: do you provide consulting help at the level of need or do you provide consulting help at the level of knowledge? John's argument was essentially that if you structure it right, you can almost incorporate the educational aspect into the consulting role and place some of the burden back onto the individual and really turn it into a learning experience for them as well. I encourage you to look at that paper from the Proceedings two years ago.

A - Earl Nail
Anytime anyone executes SAS at any of our sites, on any of our CPUs, they get a message that says "Refer SAS questions to a specific number, refer statistical questions to another number, and all other questions to the programming assistance office." We are fortunate that we have a whole building full of Ph.D.s/statisticians who are real heavy users. And whenever Martha or myself gets a call from somebody who has a statistical question, we just refer them to that statistician consultant and things have worked out real well so far.

A - Pete Rikard
We get into particular issues. We'll have somebody doing a dissertation and someone on their committee says "You will do some analysis of variance". I won't even speak to the qualifications of the person on the committee who said that, but we certainly get that. I get the data in and I look at what data they have and I
Whether you're using SAS or any other package, you don't have to know a great deal to become dangerous in the area of statistics. In the statistical courses we sponsor at the Institute, we spend as much time, if not more, discussing limitations of the interpretation as we do anything else in the course.

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Q - Jim Benavidez, Ralston Purina

The dial-up facility that you provide, is that the same information that you receive with the usage notes?

A - Mason Nichols

The ZAPS that are available in DIAL-A-ZAP are also on the Usage Note tape. The Usage Note tape does contain more ZAPS then you can actually get on DIAL-A-ZAP. If a ZAP can't be universally applied to a particular operating system, in other words, if you are not using VTAM or VCM and you apply the fix, it would actually cause you more problems. Those type fixes do not go into DIAL-A-ZAP. They go on the Usage Note tape only.

Q - Mel Klassen, University of Victoria

About the usage notes, will they also continue to be available on tape?

A - Mason Nichols

Yes, we're going to put the Usage Notes on the installation tape, but they will still be available three times a year by sending a tape to the Institute.

Q - Robert Floyd, Blue Bell

My question is in regard to undocumented features and the policy on that. I remember last year there was a mention in the General Session of something called INVALUES as a function of PROC FORMAT. There was, as far as I know, no mention of it in any SAS documentation. I called the Institute and one person in consulting had never heard of it. A second consultant still never heard of it, but found someone who had. Eventually I got some documentation. All this brought up a question in my own mind of how much is there in SAS that is not documented? How much of that is known to the consultants, how much is told to the consultants? Is there a plan to produce some of this information? INVALUES, is a very useful feature. I asked somebody if there were plans for it to be documented and they said no. I was wondering why is that and is there is anyway we can find out some of these things other than my trying to go through object code?

A - Mason Nichols

We can't tell you everything that's not documented. The INVALUE statement that you were speaking of we'll address first. That is an undocumented feature because it is not completed yet. It only works with character variables and since it is not completed, we don't want to document it. Undocumented features are subject to change. If you call the Institute and we tell you how to use it, I hope that you are also getting enough information to know that it could change on the next release of SAS or not even be there. That's why we do have things that are undocumented. There are probably some things that are undocumented that I don't even know about. A lot of times if somebody needs something and we go ask, that's when we find out that yes they have it in there and we hope to get it into documentation the next go-around. Does that answer all your questions?
A - Herb Kirk
You might wonder what's going on. A lot of times Systems will put some features on the test releases and we don't want to expose it to everybody because it's not completely finished. There are always some features on the tape that you will not be aware of. Some people are there testing them so we can get feedback. So in the next release, if we feel we are ready, they will be documented.

A - Mason Nichols
We started addressing a lot of the undocumented features in the Enhancing Technical Support Skills Course. We want to at least tell our SAS REPS about them so their users don't have to tell them.

Q - Ray Barnes, The Upjohn Company
I would like to suggest that as you encourage more sophisticated first-line support at each of the customer sites, that you actually provide the Enhancing Technical Support Skills course to at least one technical support person free. I think also you should include some additional ideas for organizing your in-house support and organizing in-house user groups. Another comment that I had was about in-house courses. I think you should find out ahead of time who the in-house supports are at a particular site and be able to mention their names to the course participants. When people come back from those courses, quite frequently, what's on the top of the first page is SAS Institute's telephone number. At the last in-house course that was taught at our Portage facility, there was no information given about the user groups that exist in Portage or downtown Kalamazoo and no other names. If you want to help pass out that information then I think you should get that information when you start the courses and point that out.

A - Herb Kirk
That's a very good point. I take complete blame for not emphasizing that to our instructors who are teaching these in-house courses. I am definitely going to make an effort to do that. When I used to teach in-house courses, a lot of times I would invite someone at that site to wrap the course up as to where we go from here. And I think that is something we do need to do: turn over the program to that site for the last 15 minutes of the last day to answer questions such as how do I run SAS on the operating system, how do I get disk space, who do I see for help? We'll make an effort to get our instructors to encourage sites to do that.

A - Pete Rikard
Can I add to that comment as a consultant who has been out there for awhile? I've been egocentric and I've been publishing my name in the SAS notes on our system the whole time. My name and telephone number comes out on every piece of SAS output that's run on the system, unless you cut it off. My name is embedded in the SAS PROCs, so if you execute the PROCs and you don't suppress the procedure printed output, you get my name and telephone number. I was informed day before yesterday by a user from another site, that someone called them and asked for the number for SAS Institute because they had a problem. Now I don't know how much more I can do as a consultant to tell people to call me, but sometimes they don't do it. So just because SAS puts their number out at one place or another, users are going to call them anyway.

Q - Chris Webber - Philip Morris
The technical support people have an FSP data base that they use as a front end to trying to resolve consulting type questions. Things relative to graphics support, new device support, etc. Will this data base be made available to the REPS in the future, maybe as an addendum to the usage note files? It would be very practical for us. I hear the two representatives from the industry and academic field showing a great deal of interest in being able to do the consulting, maintaining HELP notes, being able to produce all that information but they cease and desist as soon as they find you are producing your own. Will you be able to submit that to the community at large so that we can have that as an additional feature in the future?

A - Mason Nichols
Which database are you addressing, the one that has different drivers in it, device driver information?

Chris Webber
No, no, beyond the Usage Notes. The technical support data base that you are using.

A - Earl Nail
When I install SAS at our place, I go through the installation documentation and also add information off that to our HELP facilities. When we received SAS/GRAPH82, I got a list about two pages long of device drivers that SAS/GRAPH supports. I took everyone of those devices and put them on the HELP file.

Chris Webber
They already have all that information in a database that they maintain which would save you from having to do all that. Why isn't that available to us as we put up new releases or enhance our help facilities with usage notes?

A - Herb Kirk
Mason and I are still having quite a problem in trying to interpret exactly what you are getting at. The usage notes that you will be receiving are exactly the usage notes that we have out there as a SAS data set that we do use FSP to scroll through. But I think you mentioned
something about the graphic device drivers. If you call, you would probably end up with Mike Kalt, who would discuss with you how to hook up a graphic device to this mainframe, and this type of information. Yes, that is one of our biggest problems right now. This information is not under FSP, it's mostly in Mike Kalt's head and some notes. To cut down on telephone calls I've got Mike Kalt and Jim Ward who are supporting this area, trying to write out that information in the form of documentation. I don't know exactly yet what form it is going to be in, but hopefully it will be available in the near future to REPS using SAS/GRAPH.

Chris Webber
I noticed that as we were on the system yesterday afternoon, scrolling through FSP, information on various device drivers, and notes about what was required for installation purposes, what PTFs and so forth were needed for the operating system. It is all nicely documented and that would be particularly beneficial for us as REPS.

Herb Kirk
We're hoping to get that documented shortly so we can send it out to everyone. That information can be readily available, and Mike Kalt who is supporting SAS/GRAPH, is working on it.

Q - Richard Williford, Texas Education Agency
I would like to offer a suggestion for persons who are time sharing on a computer with another group. Our particular configuration requires us to share a 3032 mainframe with one of our regional service centers. There is a great wall dividing the two groups. All of our PROCs have to be labeled differently, all of our programs, data files have to be stored on separate disk packs and there is a lot of segregation between the applications. In particular, the PROCs, procedures, data sets, and so forth used in relation to SAS have special names that identify them as belonging to us or belonging to the facility that is operating the computer. For instance, when I invoke SAS I can't say execute SAS, I have to say execute TSAS because it is our version. One thing that I would suggest that persons having a problem in that area do is set up a separate binder in the technical reference library that contains usage and application notes for the persons at your facility. In our particular technical library, we have a three-ring binder entitled "Usage Notes for SAS" and anyone who is involved in operating the system or comes up with a unique and useful application questions where I stop and say "I saw something about that somewhere." What my problem is, between major releases of SAS the documentation is upgraded in three ways. Revisions are made, enhancements are made, and tests versions of either new procedures or old procedures with new faces like TPRINT and TFREQ are created. My problem is I have to stop and ask myself "did I read it in the manual, did I read it in the enhancement notes, did I read it in the procedures, or did I read it in SAS Communications" and I spend an undetermined amount of time trying to dig back through those four sources to find the particular thing that will help my user. What I want to know is especially in the area of enhancements and revisions to the current SAS supported procedures why you could not distribute those revisions or enhancements with some type of page numbering technique that would allow me to insert them in my manual. First thing I do when I get my SAS manual is trim the edge and punch them and I imagine there are a lot of other people that do that and if we could get those revisions where we could put them in like other good software firms do, then it would help me find that without looking through 4-5 different sources. What I would like to know is if that would be possible or if you would even consider doing that.

A - Pete Rikard
I have a question before you run away. Are you using SAS/2?

Richard Williford
We thought we would be in September. No, we're not.

A - Pete Rikard
OK. I would personally recommend that your technical reports file that you have you change and start putting that into the HELP file. It's a fantastic facility, its extraordinarily easy to use and it doesn't use a lot of disk space.

Richard Williford
Our systems people have looked into the preliminary documentation that we have received
and we really do have a desperate problem on disk space. Other users can probably do that, but they have told us they will not put the HELP file on the system.

Pete Rikard
They won't give you a couple of cylinders of space. It's that tight?

Richard Williford
Every week they come around with a data set listing and ask us which ones do you want to get rid of?

A - Pete Rikard
The publications issue has been brought up before and so I'm going to tell you my ideas as a user and then they can hit me with the stick.

Yes I do the same thing. I take it down to the print shop, have the glue backing trimmed off, have it drilled and I take it apart and put it back together again with all my other manuals in alphabetical order. I did that before the SAS 82 manual came out because we have GRAPH and ETS and we have enhancements and the supplemental library and I need them in an alphabetical order. I've already done that to the 82 manual, which will just make it a little harder to do. I wouldn't mind having something that's page-numbered; they've already promised however to give us the index at some point in the future to all of our documentation.

A - Herb Kirk
This issue comes up each year and we thought maybe we had it solved this year. Since I'm not in Publications, I cannot give you an answer, but I will assure you that we have kicked it around, we have discussed it, we have fought over that for quite awhile of how we can supply updated documentation to our users. What you got in the 82 manuals is what you're going to have. I don't want to comment beyond that, but I do want to assure you that we have considered it each year.

Publications has discussed this in detail, the new arrangement of the procedures, is because of panel discussions like this. People said that's what they wanted so we changed the format. Now people don't like the new format. If I listened to you, somebody else over here would complain next year. So, we have taken it into consideration, but we decided not to do it.

Richard Williford
Well, even if you reorganized the format of the procedures or the order of them, all I'm saying is for revisions and enhancements to those procedures that you support if you could institute a numbering system when we get those we can put them into one place and know where they are. That would help regardless of where they are in the manual that you publish.

Q - Mike Conlon, University of Florida
I would like to make some comments about my experience in doing technical support for SAS in a University. I was hoping that some of these points would come out and I just want to pass on some of the experience I've gained over seven years of doing SAS consulting. When I started doing SAS technical support, we had about 2,000 executions of SAS a month and less than six people who knew SAS, so we had to economize a bit and offer slightly different services than we used to in the past. One thing that I think is very important in technical support is to tally questions. You must have an account. You must know what the questions are about and where they are coming from so that you can make a case to the people who provide your support about what you are doing and what packages are being used and what people are having trouble with and what the consultants ought to know. It's crucial that you can demonstrate with some numbers what you are doing. We found that when we started tallying the questions that we were surprised about what we were doing. It turns out that the consultants have a very bad impression of the things that they are working on because they only remember the hard ones. They only remember the things that throw them and so if you ask them what it was they were consulting about they will tell you some really obscure things and that's not really quite right. It's the bread and butter kinds of things that can be handled at a lower level. We were very concerned about the consulting desk walks out with something on paper. We try to put stuff into peoples' hands. We used to have a system similar to what Pete was describing. We had a consulting desk, people would come in, ask questions, and then if they stumped the consultant, they would be referred
A - Herb Kirk
I would like to add that I think that you would benefit by taking the Basics course before the Technical Support Course. It is more than an introduction to SAS course. You need to know some of the fundamental concepts of SAS and the logic of SAS before you can take the Technical Support Course because they throw out some challenging questions to you in the Technical Support class, like the users are going to do. I think that this is some of the fun part of the course. This is where you are challenged. You're given common problems that we encounter and see how quickly you can solve those problems and if you don't know the input/output operations of SAS, the program data vector concept and these type of things. I think you would not get as much out of the course. So, take the Basics course, get some of the feel of SAS, and then take this course. As Mason said, she covers the installations and options to run SAS most efficiently on your system and gets into some of the common problems you're going to run into and how to solve those problems.

John Harrington
Well, I was wondering about some of the things that I don't understand at all in SAS82.2. Like, installing the SVC: I have no idea what an SVC is. I can take that to my technical people, but I didn't know whether that was the kind of thing you try to cover in the course that I may or may not even have any idea on how to get started on.

A - Mason Nichols
The installation section we are keeping up-to-date. We are talking about installing SAS under 82.2, which has been helpful so far for the people who have attended the course. They go back and they know what they are going to get when they get the 82.2 or 82.3 tape. The installation process is going to be different for SAS82.

A - Herb Kirk
I do want to mention a point that you just made, that we hope you will come to this class with questions that you want to get answers to. There will be people readily available after the class if you don't want to bring it up during class. It is not designed for the systems analyst. Courses are designed for the users and people like yourself that are going to have to install and support SAS.

Pete Rikard
I would like to make a recommendation. The site REP should always be a SAS user. The SAS consultant who should be the person who installs SAS. I've seen too many commercial sites where systems installs all software and the systems person may not know beans about it. The installation is slower, they don't put up the supplemental library, they don't put up the sample library, they don't install a lot of things. When they get a ZAP, they sit on the ZAP for 6 months. I get people calling me and

A - Chapman Gleason
Those are really good points. How about some more questions, we've got about 20-25 minutes left.

Q - John Harrington, Milliken and Company
I am not a technical programmer. I'm applications and I can't really tell from the course description whether I would tend to get lost on some of the things that are going to be in the Enhancing Technical Support Skills course or whether it is strictly for the people who are installing SAS and then doing the consulting.

A - Mason Nichols
It is designed for the people who are doing SAS consulting. We go over a lot of the common problems that come in to the Institute. We do go over installing SAS, what type of options you want to set at your local site and a lot of different things. It is for the people who are supporting SAS. It's not that technical.

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asking questions about a system that's been laying around for a year and a half and its had a ZAP for a year and 3 months. I know at many installations only the system administrator installs base SAS and I heartily recommend that somebody get them away from it. I saw a site where one person installed base SAS and when they got graphics, that went to their graphics person. The graphics person hadn't installed base SAS and wasn't a SAS user. The installation instructions for graphics at that time were sort of incomplete. SAS expected the same person to install base SAS and SAS/GRAPH. This person sat on the installation of graphics for 4 months because they didn't understand how to install it. If it takes additional skills for a SAS consultant to install SAS, learn. You go to your systems people and get the assistance from them for doing those kinds of things. They going to have to install the SVC, but you need to control the installation of SAS on your site. Not some systems person.

Q - Mel Klassen, University of Victoria
We have a good statistical consultant available. He can also read PL/I. Could we get the source code for SAS/BS2 on micro fish? He's used source in the past to answer some statistical questions.

A - Mason Nichols
We're no longer distributing the source for SAS.

Q - Pat Botelle, BBL Microbiology
I would like to ask Earl a question on how you use your users to help you in your consulting since you said you had only two individuals working as SAS consultants. Do you have a formal users group that has management sanction to say that these people can officially be used as SAS consultants in their departments or is it an unofficial group that says "Yes I'm willing to help you out if you're in a pinch."

A - Earl Nall
Our official group is the statistical consultants. That was appointed by the hierarchy to cover all statistical packages, so they are a formal group. All the other users that we use are an ad hoc bunch of people who have been put together - people we know personally, or by word of mouth, who are heavy SAS users and our experience is that SAS is contagious. SAS users as a rule, generally like to help each other. They keep the responsibility of working with systems and to acquire more in-depth knowledge to support the code. We are definitely taking some action to get better support for that device. I appreciate your concern on that.

Q - Bob Holland
Could I ask about the day of a consultant? How much are they involved in problem solving, how much are they involved in consulting?

A - Herb Kirk
We have 12 people who are full-time consultants. Mason works out a schedule each week in which each consultant is on the phone about half of each day. The rest of that day they are involved in follow-ups, researching problems that come in that day, logging in on the tracing system problems that they could not solve immediately on the phone, talking with systems to find solutions to problems, and developing test programs because they are also involved in testing. Each consultant has an area of specialty, so during the time that they are off-duty, they may still have calls forwarded to them. CMS consultants will get some CMS questions in the time that they are off-duty. There is a consultant responsible for each area of SAS and they interface with the appropriate systems persons. In other words, when you call in on an IBM 3287 problem, there is a person who is responsible for 3287 problems and he has the systems person to communicate with on that.

Q - Pete Rikard, Virginia Commonwealth University
SAS is extraordinarily responsive to things that you ask them to do and, to me, it has gotten better over the years. I have been a real pain in the neck to an awful lot of people, but I've asked for things and an awful lot of the things that I've asked for that were semi-rational at least, I've gotten. I have usage notes on tape; we asked for those a couple of years ago and we got them last year. The HELP facility, even if you don't have Full Screen Product, runs in full-screen mode. It also runs in any other partitioned data set, so you can start using the HELP facility on something other than SAS HELP. They keep adding stuff. If you want to add tools, you can call them and give them suggestions. They do listen.

A - Herb Kirk
I would like to add that I appreciate you all taking the time to step up to the mike and raise
questions because that's the way we get to know what problems you are having, and we can take them back to SAS Institute and try to solve them. I appreciate you taking the time and effort to convey to us what concerns you have in using our product and how we can improve it because the key to the success of SAS Institute is that we listen to our users and try to respond to their needs.

Q - Glenn Reich, Johnson Controls, Inc.
We are undertaking data base development following the kind of ideology and patterns set forth by the alleged expert James Martin and we're using IDMS. To date we haven't heard anything about an IDMS interface with SAS. We also have some other end user tools in-house that we would like to have interfaced with SAS. Is there any kind of a formal process that we would go through to register a desire to have a interface tool on the product put together as you did with the IMS?

A - Mason Nichols
I believe on the SASware ballot there was a list of a lot of different interfaces. If there is any particular one that was not listed there, that would like us to put on the SASware ballot, we will be more than happy to do that next year.

A - Earl Nail
I believe it was two years ago in Orlando, somebody presented a paper on SAS IDMS interface. It wasn't a true interface, but it was some documentation on how people communicate with IDMS and SAS.

Mason Nichols
If you have any suggestions that you would like to go into the SASware ballot, go ahead and send them to Technical Support. We will be more than happy to put them in our suggestion file for candidates for the SASware ballot.

Q - Gus Jonas, Indiana National Bank
I have two questions on FSP, primarily about FSLETTER. Are you looking at the possibility of deleting blank lines in names and addresses? If we have a 5-line name and address and you only use 4 of the 5 lines, can you delete one of those? Is that a possibility? The other is on the 6670. We called SAS and did inform them of a problem with the widow line at the bottom of the form on the 6670. Is there anything being done that you know of in that area?

A - Mason Nichols
As far as the blank lines in the addresses, I think that is addressed in SAS82. As far as I recall, SAS will automatically take out those blank lines, or there's an option. I really don't remember how but there is a way. As far as the other problem, I'm not aware of that. Give us a call when we get back and we will investigate it again.

Gus Jonas
OK. I think we found the problem and we called IBM and they said it was SAS problem and we've been able to do the same thing whether we are using IBM, JES, or SAS. It doesn't work correctly because of this widow line. I don't know whether you're familiar at all, but it is the old theory that a blank in the first line or the last line of the page, it is assumed to be a paragraph, skips to the top of the next page and automatically starts a new paragraph regardless of any OCL or anything. That's where they used to have indentation for paragraphs so that doesn't work very well with the new paragraphing procedures where you don't indent any more.

A - Mason Nichols
Give us a call when we get back and we'll look into it again.

Jeff Chastain, Blue Cross/Blue Shield
Is there an effort currently underway to produce a document of how to use a plotter in a spooled mode?

A - Herb Kirk
I believe that would also fall under the documentation that I mentioned a while ago being developed by Mike Kalt to support the graphics and the devices. Hopefully, that discussion would be included in the new documentation that we're working on. Mike Kalt is here; he's not in the room right now, but you might catch him in the demo room this afternoon. He is the consultant who is responsible for SAS graphic devices and interfaces.

Chapman Gleason
If there are no other questions, I'd like to thank you all for attending this session. I hope you learned a few things and I'm sure SAS has taken some good notes. We'll see you this afternoon. Thank you.