INTRODUCTION

In 1984, the Inter-Agency SAS Users Group was formed in central Missouri. Its membership consists of all interested SAS users employed by the various state government agencies based in the capital city area. Currently, about 10 agencies are represented by approximately 60 members.

Prior to the formation of the Users Group, agency personnel had little interaction with SAS users in other agencies, and opportunities for learning about SAS were limited. To address the lack of learning opportunities it was decided to conduct a series of workshops which would educate SAS users of all levels of experience in areas of SAS with which they were unfamiliar. Although other forms of education were considered (self-training, tutoring, small group workshops, and SAS Institute workshops), large group workshops were perceived as being the most efficient and effective means of teaching SAS software to agency users.

MOTIVES FOR DEVELOPING WORKSHOPS

Two of the motives for developing a series of workshops were directly related to the reasons for forming a Users Group. Foremost among these was the desire to enhance members' knowledge of SAS software products and their use. Although some of this could be accomplished by the exchange of ideas at regular Users Group meetings, it was decided that a more formal approach would be more effective. By offering workshops a great amount of information could be disseminated in a fairly short period of time.

A second motive for developing workshops was to promote SAS software use. There was a general feeling among members that SAS capabilities were not being recognized by many agencies or persons within agencies with access to SAS software. It was felt that a series of workshops on several topics targeted at various levels of computing experience would not only encourage novice SAS users but attract the attention of causal SAS users who might be unaware of many SAS System capabilities.

A third motive for developing workshops was to promote the Users Group. A successful series of workshops would help to establish an air of permanency to the newly formed organization. Developing workshops would not only serve to draw together those who formed the group initially, but also provide the means to recruit new members. Those who attended one or more workshops and benefited from it would hopefully want to be associated with the group that sponsored it. Also, the publicity involved in offering the workshops would reach many agency SAS software users not on our regular mailing list, and their enrollment in a workshop would provide the opportunity to include them in future mailings.

WORKSHOP PLANNING OBJECTIVES

Basic objectives were set for planning the workshops. The first was to offer a broad range of topics, that is, "something for everyone". In this way a larger audience could be reached and the Users Group would demonstrate its intent to appeal to all SAS users regardless of their interests and level of experience.

A second objective was to plan a series of standardized workshops, that once developed could be offered once or twice a year as needed with little or no alterations. This would require more initial effort but each repetition would simply involve the presentation of the same subject material. This would ensure that each person taking a workshop could expect to get the same out of it regardless of when they took the course and from whom.

A more practical objective in planning the workshops was to involve as many Users Group members as possible. More participants would not only share the work of planning, designing, and conducting the workshops, but also broaden the base of experience of those involved.

WORKSHOP DESIGN

The initial step in the design of the workshops was the formation of a committee to direct the workshop development. The committee consisted of about half a dozen volunteers from the Users Group with experience in the SAS software basics and generally some interests in more specialized aspects of the SAS System. The background of the committee members proved to be an important factor in determining workshop topics; although input had been requested from the Users Group membership at large, little response was received on the subject of preferred topics to be presented. Personal interests of the committee was not the only means by which topics were selected, however. In keeping with the objective of "something for everyone", some subjects were included because they would be helpful to people just beginning to use the SAS System. In all, 11 topics were selected. These topics were: the Data Step, Proc Step, Report Writing, Descriptive Statistics, Analysis Statistics, Proc Matrix, the Macro Language, SAS/ETS®, and SAS/GRAPH®. We felt these subjects covered a broad range of interests and experience levels. Because of the large amount of material, the Data Step was divided into three levels, I, II, and III, corresponding to beginning, intermediate, and advanced knowledge of SAS software use. The
Pro Step was considered a beginning level topic, while Report Writing and Descriptive Statistics were intended as intermediate. All remaining workshops were considered "advanced" only because they were generally unfamiliar to most Users Group members, or required a higher level of professional or educational expertise.

The next step of the design process was to assign a coordinator to each workshop. In general, the coordinators were responsible for developing the subject material for the course. They were requested to prepare general course outlines and to offer guidelines on course objectives, pre-requisites, and course format. These were discussed by the committee as a group to ensure that important details were not omitted, and that proper emphasis was being placed on the items to be covered. The coordinators were then asked to develop the course outlines further into lesson plans that were sufficiently detailed to allow anyone to teach the workshop. In most instances, workshop coordinators volunteered to conduct the courses they had developed.

Following the guidelines set by the coordinators, the development committee also set the format for each workshop and fit it into an overall workshop schedule. Although most topics fit well into a standard format consisting of a single instructor conducting a four to six hour workshop, others seemed to require a different structure. For instance, the Data Step workshops were divided into two two-hour sessions given a week apart to enable attendees to try out some of what they had learned between sessions. The Analysis Statistics workshop was limited to a single session but was assigned to a group of instructors as no one person felt qualified to cover all of the procedures selected to be included.

Considerable thought was put into the overall workshop schedule. The intent was to present all of the workshops in a relatively short period of time, but at the same time allow attendance at more than one workshop and not overwhelm regular work schedules. The solution was to offer two workshops a week in two "learning tracks". The first track contained beginning to intermediate level topics and the second intermediate to more advanced. In track one, topics were ordered progressively beginning with Data Step 2 so that new users could go on to attend other workshops requiring that level of knowledge. Topics in track two were generally unrelated so order was not considered as important. One workshop, Descriptive Statistics, was offered both as a later topic in track one and an early topic in track two.

The final phase of workshop design was the development of publicity and enrollment procedures. Publicity efforts consisted mainly of mailed announcements to members and agency data processing managers, with a request that word be passed to all interested personnel. Announcements contained the full schedule of workshops and also details on two pre-workshop briefings to be held a month before the first course.

Sign-up for the workshops was limited to a six week period. Enrollment was accepted by mail and by phone, but announcements emphasized attendance at one of the pre-workshop briefings. These briefings were intended to describe course content and target levels so that those interested could sign up for the workshops that best fitted their own background. Course outlines were distributed to those signing up for a particular workshop; these contained information on course objectives, reference materials, and pre-requisites as well as course content.

WORKSHOP IMPLEMENTATION

Publicity and enrollment plans were carried through as scheduled, and response was far better than expected. Between 20 and 77 individuals signed up for each workshop with a mean enrollment of 48. For most of the workshops this posed no problem. However, it was necessary to limit enrollment for the SAS/GRAPH workshop due to space limitations at the location at which it was to be offered. The Data Step workshops, each with an enrollment of 70 or more, were divided into two sections each to reduce class size. With expected number of attendees in hand, room reservations were then made. These, along with last minute schedule conflicts for instructors necessitated minor adjustments in the original schedule. However, the basic two-track structure was maintained, and all workshops were scheduled and carried out essentially as planned.

The final details of conducting the workshops were left with the course instructors. Consequently, actual implementation of the workshop plans varied considerably depending on the amount of preparation by the instructor, in terms of handouts prepared, audio-visual materials used, examples developed, and general style of presentation. Instructors were encouraged to use examples which could be easily understood by individuals from a variety of backgrounds, and to use readily available reference materials, or provide handouts of others. Most instructors also emphasized that they were not experts in SAS software use but rather had an advanced level of knowledge in a particular area, based on their own experience.

Although enrollment for the workshops was very high, actual attendance was considerably lower. Attendance for the earlier workshops was about 60% of enrollment; this declined to about 25% for some of the later workshops.

WORKSHOP EVALUATIONS

The workshops were evaluated both by those who attended them and by the coordinators who conducted them.
At the end of each workshop, course evaluations were distributed to attendees. The intent of the evaluations was not to comment on the effectiveness of the course instructor, but to suggest improvements in course content and style. In actuality, of course, it was difficult to separate the effect of the instructor on the course itself.

The results of these evaluations were encouraging. Most of those who commented had positive feelings about the course they attended. Some useful suggestions were made on course content, but most of the negative feedback concerned conditions not under control of the instructor or were considered contrary to the objectives of the course. Some comments, such as those on problems of timing of the course, were obvious to all at the time the course was given, and could be easily adjusted the next time the course was offered.

By far, the most critical evaluations came from the coordinators themselves. Meetings of those involved were held to review various aspects of the workshop series, and to make suggestions on improvements for future workshops. Those areas which seemed to need the most attention were:

1. Presentation problems

The most critical problem identified by the coordinators was a lack of consistency in presentation from one workshop to another. Some instructors were unable to devote sufficient time to preparation of examples and course materials, and that was reflected in the quality of the presentations they gave. Others devoted more attention to details and gave better workshops as a result. Because of this unevenness of preparation, the success of each workshop depended more on the instructor than on the planning efforts of the development committee.

2. Attendance Problems

A particular concern of the coordinators was the decline in attendance at later workshops. Several reasons were identified to account for this problem. One was probably a result of the presentation problems previously identified—students who experienced a "bad" workshop were less likely to attend others in which they were registered. Some so-called attendance problems were actually enrollment problems. Some people signed up for workshops which later they were unable to attend, or else registered for so many sessions that they were tired of them before they attended all. Still others signed up for and attended workshops intended for a different level of SAS software experience and consequently got little out of even the best presentations. Finally, even small details contributed to declining attendance. In particular, a severe parking shortage at the location where most of the workshops were held discouraged many attendees from returning to second or third workshops.

WORKSHOP MODIFICATIONS

To deal with the problems identified by workshop evaluations, several possible modifications were discussed. The solution to many of the attendance problems seems to lie within improving publicity efforts. Although enrollment rates were very good, it seemed that many participants did not fully understand the scope of each workshop. The material presented at the pre-workshop briefings needed to be emphasized and perhaps distributed by other means so that subject matter to be covered and audience target levels would be well understood. In order to attract more participants to future workshops, it was decided to offer an additional workshop for agency data processing managers to inform them of the capabilities of the SAS System. They could then use their influence to encourage other agency staff members to attend workshops to learn specific details of SAS software use.

The major change considered for improving the workshop structure involved limiting the topics to be presented within each workshop. It was felt that some workshops should be dropped in favor of offering shorter, more concise mini-workshops, some of which could be presented at regular Users Group meetings. These limited topics would be easier to prepare for than the longer workshops, and thus eliminate much of the unevenness in quality that was experienced. A few workshops such as those on the Macro language and SAS/GRAPH seemed to work well in the original format and so were left unchanged. It was also decided that the overall schedule may have been a bit too crowded and that the workshops should be offered over a longer period of time.

Overall, it was felt that the workshop venture successfully addressed the motives established by the Users Group.

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