

Team Expansion Through External Training

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ABSTRACT

The key to effective and high quality programming is an experienced and a well trained team. Work progress can be accelerated by ensuring appropriate personal development to current employees, but also, even before being recruited, programmers can develop their skills by the means of external trainings. We have started an external training project through collaboration with Warsaw School of Information and Technology (WIT) where we have led a hands-on SASTM Programming course for one semester. The course was adjusted to beginners but quickly moved on to data manipulations, merging, generation of reports and graphs, macros, SQL and selected statistical functions. It was a great experience for programmers engaged in course preparation and lecturing, who further developed their coaching and leadership skills. Also the prepared training materials prove valuable in internal training procedures especially in case of newcomers.

INTRODUCTION

The key to effective and high quality programming is an experienced and a well trained team. Work progress can be accelerated by ensuring appropriate professional development to current employees. One of the best ways to consolidate knowledge and experience is to share it as a teacher, coach or lecturer. On the other hand, candidates for programmers can develop their skills by the means of external trainings, even before being recruited. Until now, in Poland there were no SAS programming courses which would be based on clinical trials data. Moreover, Quanticate is one of the pioneers of clinical programming in Poland. We have, therefore, taken on this challenge and created our own external course for a group of university students in Warsaw.

Our goals were:

- to recruit best prospective programmers from a talent pool of young people who are about to enter the path of professional career;
- to realize twofold marketing goals:
 - to expand awareness of Quanticate among potential candidates for programmers,
 - to reinforce image of Quanticate;
- to implement internal employees training.

HOME MADE EXTERNAL SAS COURSE

We have started this project through collaboration with Warsaw School of Information and Technology (WIT) in Poland where we have led a hands-on SAS Programming course for one semester. The course was attended by over 30 students divided into two groups. It consisted of 30 hours organized into 15 classes. Typically a theoretical introduction was given first, and then all examples and exercises were put into practice basing on clinical trials data. The course was divided into 2 parts; each was prepared and lectured by 2 Quanticate SAS programmers.

The first part was adjusted to beginners and introduced the following topics:

- Introduction to SAS (basic structure of DATA and PROC steps);
- Reading in data from external sources and outputting data to text files;
- Selecting records (WHERE, IF, KEEP, DROP);
- Arrays and loops (DO TO, DO UNTIL, DO WHILE);
- Functions (arithmetic, time and date, for text strings);
- Useful procedures (REPORT, FORMAT, COMPARE, SORT, FREQ, TRANSPOSE);
- Combining data sets (merge, set).

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The second part quickly moved onto more advanced topics, which encompassed:

- Basic procedures for data analysis (UNIVARIATE, MEANS);
- Generating graphs (PROC GPLOT, ODS);
- PROC SQL;
- Macro programming (%LET, %PUT, CALL SYMPUT, SYMGET).

As we were reaching the milestones of the syllabus, each one was culminated with a test, and the whole course was finished with a final exam. The course was passed by 83% of students.

The large scope of material was a challenge for both the lecturers and the students, but after completing the course the students had the satisfaction of being able to perform simple clinical programming tasks such as data mapping, creating listings, summary tables and generating graphs.

Materials that were used for course preparation have been listed in the references section below.

EVERYBODY IS A WINNER

TALENT POOL

There is a scarcity of clinical SAS programmers in Poland therefore the organization of an external SAS programming course was a great opportunity to search for new employees among the undergraduates and to interact directly with them in order to test their knowledge, interest in SAS and clinical programming, as well as their team spirit.

QUANTICATE AWARENESS

We have reached the goal of increasing the awareness of Quanticate and job opportunities in SAS programming. In this way we have supported the HR department in introducing Quanticate to new potential employees. This may enable the selection of the best staff to enrich the existing team and accelerate the production of high quality deliverables.

EXTERNAL COURSE FOR INTERNAL TRAINING

Besides the advantages of creating a talent pool and propagating the logo of Quanticate, the course was a valuable experience for programmers engaged in course preparation and lecturing. They have further developed their coaching and leadership skills which are essential everyday in their roles of project leads and line managers.

MULTI-USE TRAINING

The prepared training materials prove very helpful in internal training procedures especially in case of newcomers needing additional SAS training.

LOOKING INTO THE FUTURE

In the future the course can potentially be organized as an open course for a wider group of candidates. Also, there is a recognized need for a second part of this course encompassing medical statistics using SAS, so our collaboration with Warsaw School of Information and Technology will be continued.

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