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Research Article

EXPLORING RELATIONSHIP BETWEEN POSITION WINNING AND SPECIALIZATION OF STUDENTS USING SAS

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ABSTRACT

Technological advancements make it possible to perform diverse task in order to explore more useful information that may be difficult to target otherwise. SAS studio is a wonderful platform that provides visual programming as well as SAS programming to upload data, analyze data via different operations given in the list under the Task & Utilities or through Snippets. The motivation behind the current paper is to check the relation between various streams adopted by students and their sports achievement via SAS. With different motivational efforts of the Indian Government, people are now aware of various health issues. Present paper targets the youth of university to check their knowledge indicated by their achievements in sports through mining data in SAS and relation between performances, hobbies and specializations.

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INTRODUCTION

SAS studio is an interactive data mining online application to suit requirements of the researchers. With an internet connection one can perform different data analysis operation anywhere, anytime without taking laptop in hands every time. As now educational institutes have high speed fiber optics cable and speed is not a big issue. While practicing coding in SAS and applying different tasks on data, question arises into mind to apply operation to analyze real data and generate outcomes after performing well defined statistical, data mining tasks and utilities. (Michael, 2014) (support.sas.com/training, 2017) (support.sas.com/documentation, 2017) The data taken for the current application is the sports data of participants in different events such as; discuss throw, javelin throw, race 100 mtrs., 200 mtrs., 400 mtrs., 800 mtrs., 1500 mtrs., and long jump. Participants were almost from each course of the University on the annual sports day held on 24.03.2017. As everyone is aware about the importance of sports (Roy, 2013) (Chopra, 2015), the current paper emphasizes to find association of position winning in different events and their specialized courses. Paper explores as to whether sports specialization effects winning of the participants of same age group or other course students are also capable to win positions. Then, it will be further classified that other course participants win the first positions or not. It also shows effectiveness of physical education course on position of

winners. Other event held between the teachers and students also indicate the age factor plus the practice, however the current paper targets only the comparisons of youth of almost same age group. Firstly this application will examine boys category only, then females will be consider in next application thus also excludes from area of present paper for ease. Other data mining software like Orange and Rapid Miner are also free of cost, however SAS is much enriched in tools covers most statistical and data mining tasks. SAS has ability to automatically develop code for user in interactive and non-interactive mode of working. Obtained results can be saved on SAS along with the codes, results & outputs can be downloaded, e-mailed and will be used for future tasks from the saved files in Library as well as Snippets.

Assumptions and Research Methodology

It is assumed that participants in the different events are of the same age group between 15 and 25 as most of them belong to post graduate courses where some of them are under-graduate though some rare exceptions may be there. Second assumption is about input data taken, belongs to annual sports day only in which participants of the same University. Thirdly, there are a total of 105 records of boys indicating the total number of participants in different events. It is a fact that one student may participate in more than one event, so redundancy in names may

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be there and so in position winning. Data stored in .xlsx format is uploaded on SAS studio for further processing. SAS can also accept.csv format, however most of data is stored in excel. Therefore, current application inputs only excel data. The coding done in SQL, a non-procedural language plus some inbuilt widgets and snippets are used to perform analytical operation on the uploaded data. Results are printed and downloaded in PDF formats and HTML.

Comparative Analysis and Reporting

The excel file titled boys.xlsx uploaded on the SAS under Files and Folders. Before performing any operations, file will be saved in the library under the head WORK as WORK. boys., otherwise the panel will not show any results. FILENAME REFFILE gives the address of the SAS files between ‘ ’. Each statement in SAS ends with semicolon ‘;’. PROC is keyword stands for procedure, IMPORT keyword in the procedure is used to import the data file. OUT command writes file in the library under mentioned folder, here that is WORK meant for the working directory of user that is by default, user can select the others too. Sheet is the name of the excel sheet required to mention if excel files has more than one sheet. This is because by default SAS consider the first sheet only, if user requires data is not on the first sheet then it is must to mention the sheet name to work on. Replace command will overwrite the previous file, this code is shown in figure 1. Then, comparative analysis chart is developed by dragging the ‘Comparative Scatter Plot from the Snippets and change the required variables and file names.

X-axis contains Event and Names whereas Y-axis comprises numeric values of Roll and Distance. Then comparative values for given variables are drawn through scatter plot as shown in figure 2 including the Box Plot.

SQL statements (Thissen, n.d.) (tutorialspoint, 2017) (support.sas.com/documentation/cdl, 2017) (Lund, n.d.) are written to find the students having first or second positions in all the events by variable Distance in Group By statement. Data is further grouped on the basis of Class variable to show those students who participated & won in more than one event, outputs are shown in Figure 3.

After coding and clustering (youtube, 2017), results are concluded by applying the List Data widget. For this purpose input file WORK.boyscluster1 has been taken as source, created in SQL (youtube, 2017) (Thissen,n.d.) (tutorialspoint, 2017) (support.sas.com/documentation/cdl, 2017) (Lund, n.d.). Firstly data is grouped by name to show the number of events each student participated. It is listed that a student participated in maximum 5 events along with the position winning, if achieved. Other fine categorization is based on the Class so as to get the information about number of students and winning from each course. Numbers of resultant tables are equal to number of classes.i.e.semester wise and are more than 20, obviously greater than number of courses. The detailed information shows that 5 positions were held by the graduate students whereas 1 from MA English, 2 from MA Economics, no positions from

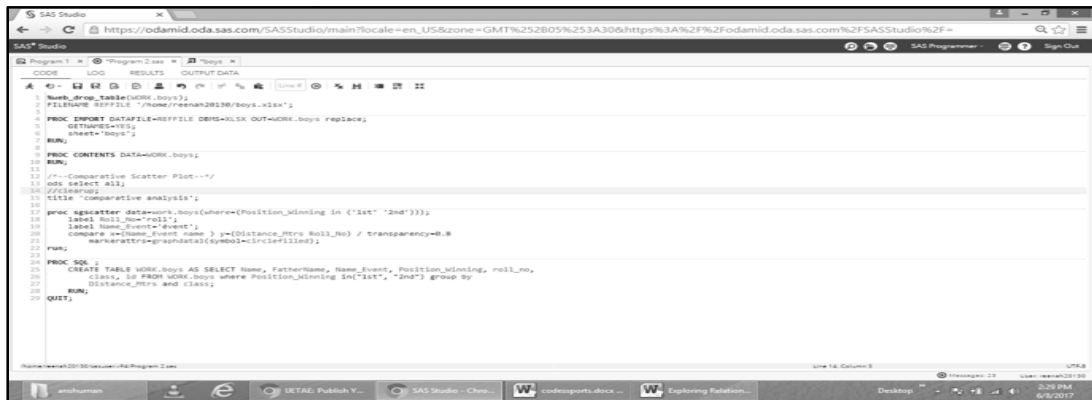


Figure 1 Shows code window for the comparative analysis and SQL queries.

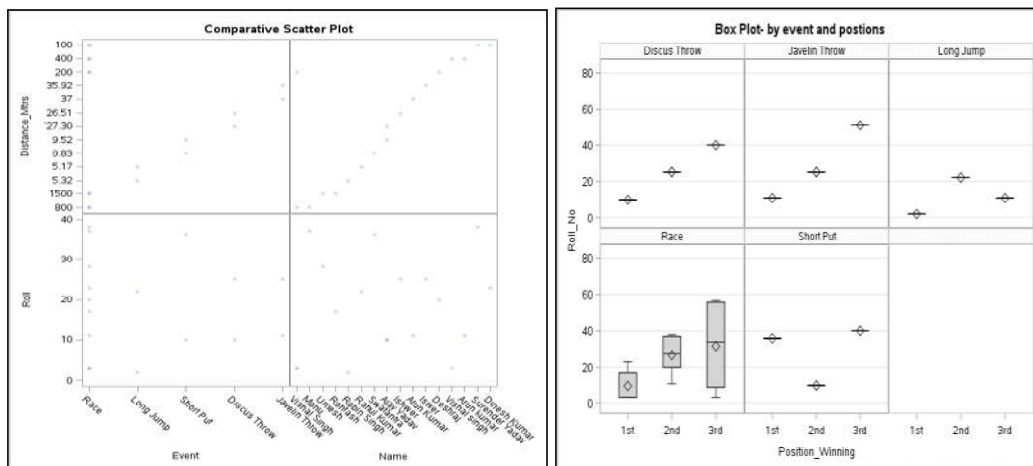


Figure 2 Shows Comparative Scatter Plot for first and 2nd positions and Box plot by Events and Position Winning.

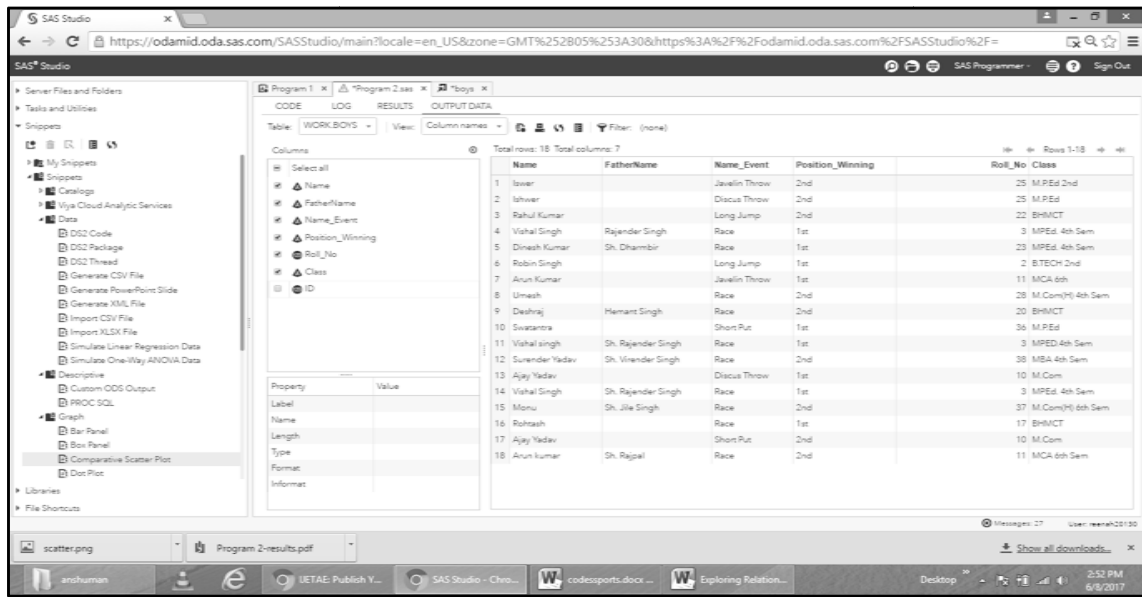


Figure 3 Shows Output Data having 18 rows and 7 columns.

Law and History, 5 positions from M.Com, 3 from MCA and 10 positions from MPED. In further classification, it is found that 2 first positions were held by graduate students whereas 1 each by MCA, MCOM and MPED. It is further noticed that the position won by non MCA and MCOM students are other than race events. All the 9 race event's first positions except 1, are held by MPED students. However, 2 graduate students, 3 MCOM students scored 2nd positions in long jump and race. One each by MCA and MBA students and rest all are by MPED students. All this shows that students from the streams other than MPED are also aware of the sports & health, albeit it is not their profession. They have less practiced on the grounds and this is for the reason that most of the races are solely won by the MPED students. Physical education is one of the important subjects in the University and may win positions in several national or international positions. They can motivate other course students to practice and take part in competitions and win more medals. This way inter-stream sharing of knowledge and experience helps students to achieve more. All this outcomes can be interpreted by the diagram given in figure 4.

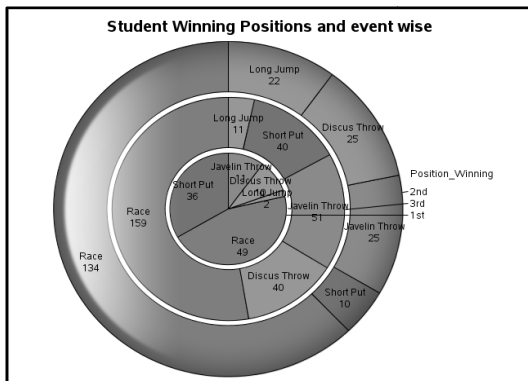


Figure 4 Shows the Pie Chart of different positions won by students in different events.

CONCLUSIONS AND FUTURE SCOPE

The current application worked in SAS for applying different analytical widgets, in built Snippets to interpret data, to get

outputs and draw pictorial presentations of conclusion that is easy to comprehend. With basic coding knowledge of SQL and SAS task& utilities, procedures, valuable results can be drawn as achieved in the current paper. It is shown that profession influenced a lot in the performances, not only hobby or the interest matters. Thus there is a positive relationship between the course and position winning. Further it is concluded that if hobbies are motivated in right direction, student can achieves a lot even if it is not their course. It is also signified that interdisciplinary courses or practices if managed systematically definitely help in achieving more in career which may not be possible otherwise through enhanced knowledge & performances. The future scope of application is to study relation of position winning of females with their courses.

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