

## THE SCRIPTS OF UNIVERSITY STUDENTS AND EXPERTS IN THE PREPARATION OF THE EXAMINATIONS: A STUDY IN PROCESS.

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**ABSTRACT** — *In the last years, the academic level of the university students has become worse. The teachers ones comment that the students lack the necessary habits of study so that they evolve well in his classes. Consequently the number of failures increases. This seems not to have relation with intellectual capacity. We asked ourselves: which is the root of the problem? Why the students fail in the examinations every tine in greater number?.*

*From a statistical pursuit about the results of the examinations taken to the students of the course Algorithms and Programming and a considerable increase in the number of reprobated students was detected. Therefore, the decision was taken to make a detailed research oriented to understand the why of these results.*

*The adopted methodology is based on the principles of the ethnographic investigation that it does not try to make a statistical generalization.*

*This research is oriented to understand as students and experts prepare examinations. In order to be able to analyze the problem, a script was asked to 30 students (inexperienced) and to a group of 10 professors (experts) of how to prepare an examination. These scripts have been taken into account to detect the differences between both. These first conclusions will allow to process courses of action so that the students know their limitations and successes as well as to design strategies that improve their habits of studies and their productions.*

The present study has been carried out in the subject Algorithms and Programming of the career of Engineering in Computer Science of the Faculty of Engineering of the University of Buenos Aires. The central objective of the same one is the obtaining of information that allows to improve the performance of the students in the exams.

This study of cases was approached in structured stages: in a first stage it is considered the particular context, in the second stage the adopted methodology is established and they are defined the instruments and procedures to obtain the information. In the third stage information is analyzed obtained by the two groups and it was carried out the comparative study by way of beginners and experts. Finally the first conclusions are presented that they are derived of the present study and the one outlines of future action courses.

To be able to thoroughly analyze this problem, they were requested to a group of 30 students of first year (beginners) and 10 professors (experts) that wrote the script of how to prepare an exam. They were asked explicitly them to enumerate the previous stages to an exam that they will detail the steps to continue that made it by way of algorithm. The use of the scripts to prepare an exam means the idea of steps by way of "script" like those that Roger Shank and Robert Abelson define in "*Scripts, plans, goals and understanding*" in 1987<sup>1</sup> Then, the central idea of this work was to compare the procedures (obtained as scripts) used by the experts (professors) with those of the beginners (students), to detect your fails and to be able to give some action lines so that the students improve their performance.

It is well known that expert when solve a particular problem has reached a high competition level in the problem solving and the beginner in general, lacks knowledge in this respect; he has some familiarity, but in general it is unwrapped bad.

The design of this research and comparison is the one of knowing how the experts proceed in the preparation of an exam so that it is it a useful method for the identification of widespread strategies. In general, the strategies that the expert uses, are independent of their respective know-how area, since they can transfer these strategies to different domain areas.

The preliminary conclusions that we arrive by the analysis and the comparison of the groups evidenced some problems of the students like the lack of bibliographical consultations, the scarce time dedicated to the study, the organization lack to prepare an exam and the absence of study strategies. Many of the students don't read correctly the problems to solve during the exams or they interpret them in incorrect way. That reveals problems such as lack of attention that they remember to the fragile knowledge that David Perkins mentions in "*Smart School*" in 1995. We also find the existence of difficulty to differentiate the irrelevant information of which is not it.

For the moment these preliminary evidences, will not only allow us to design and to implement some study strategies for the problem solving during the classes but inculcating study habits and motivation in the students.

For a next stage we have thinking in the creation of a program (an expert system), by way of intelligent tutor containing the scripts of the experts and beginners in order to obtain an intelligent adviser that carries out the agreement diagnosis a

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consultation script. This system would keep in mind the different dimensions of analysis of the scripts (for example: organization of the exam, the good use of the time, study methodology, etc.) and it would give the practical recommendation for each case, so that the student could reinforce your weak points.

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<sup>1</sup> Lawrence Erlbaum Associated, Publishers. N.J.