



## The Problem of Dropping of Subjects by Students ...



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## Introduction

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### Introduction

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At university level studies, students usually abandon some subjects in which they were enrolled in for the academic year.

Students would initiate this dynamic by skipping, or not attending, lectures, sometimes due to neglect or carelessness, while at other times as a result of their lack of understanding of the subject.

Consequently, they would lose track of the class agenda followed by the professor.

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Yet, when they would attend after some time of absence, they would discover, upon their return:

- Their lack of understanding
- Becoming discouraged
- Deciding not to return to lectures
- And studying on their own.

However some of these students do fail to turn up for their final exams while the fail rate of those who actually take the exams is high.

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The bigger problem occurs when the events described happen often to a student, a recurrence that could constitute the beginning of dropouts from college.

This is a topic of concern in the universities, especially in the early grades.

Dropouts by college students is a hot topic at present, there are many analysis carried out on the subject, trying to find the causes of it, whether :

- Social
- Organizational
- Family related
- Personal.

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## Motivation



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In this paper we are concerned by the analysis of the reasons behind the dropping of classes by students prior to the end of the course.

The reason for which some students stop attending lectures and lose contact with a subject.

Although apparently simple, this can have near future serious consequences for students:

- This can be extrapolated to other classes
- An entire course
- And finally and possibly causing the student to dropout



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## Motivation



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Here we discuss the day to day struggle the student faces in each subject during an academic year.

We also propose some techniques and methods aimed at increasing student participation and hence increasing their knowledge acquisition of those concepts instilled by, faculty their classes, actively.

We want to increase student "loyalty" so that they attend lectures.

*In our experience as professors, we have found that students, who attend lectures regularly and follow the explanations, approach the final exams with confidence and rarely fail the subject.*

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## Objectives

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The main objective of this study is to perform an analysis on the causes leading up to the abandonment of subjects, by students during an academic year.

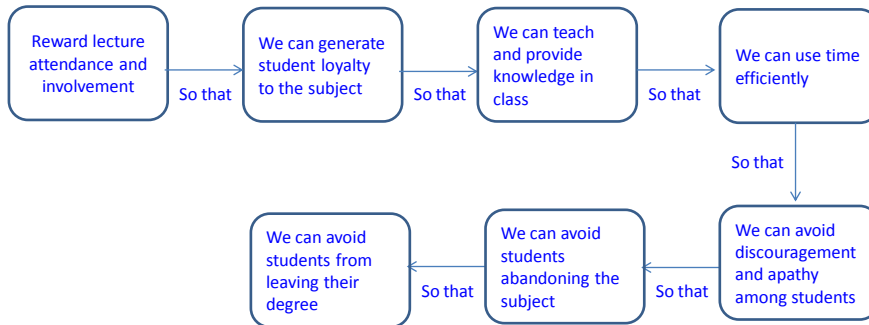
As a result, we have to seek solutions to prevent discouragement leading to a lack of class attendance.

This is the first sign preceding a dropout by a student.

The derived objectives involve defining methods and techniques so that we can:

- Foster student attendance and participation in lectures.
- Promote teamwork and research.
- Help students to make presentations and defend their work publicly.

## Objectives



Action sequence focused on achieving the final objective, which is to prevent the student leaving subjects, avoiding dropouts in a relatively near future.

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In this proposal we present some *techniques* and *methods* carried out to solve as much as possible, the problem relating to the lack of attendance of lectures.

This involves "*rewarding students for their assistance and participation in lectures*" with a "*prize*" that :

- Would count for the final class grade
- While involving more participation in lectures

When the student participates, he will feel more involved and confident in the educational system.



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In addition, we believe that:

- We have to teach students to use the lectures as part of their learning process in a non-passive way.
- The professor's work is fundamental in terms of how to convey:
  - The usefulness of the topics explained
  - The application they will have for their professional life in the future
- Consequentially, the student will be able to see for himself the use and importance of what he is learning.



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We propose learning based on attendance, student participation in lectures, group research work and public presentation of such work.

Next, we show how we have conducted the theory and practical lectures, within the proposed innovation project.

A Computing class has been used

*Theory lectures:*

- Presentations by the professor
- Student presentations

*Practical lectures:*

- Mandatory practical to learn.
- Non-mandatory practical to reinforce knowledge



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*Theory lectures: Presentations by the professor*

- The professor is not limited only to lecturing, but also, engages the students by asking questions focused on the practical application of the subject being discussed.
- The questions are aimed at incentivizing students "To think".
- Students should then be alert, and be able to assimilate and relate the question to what they have heard, and reply with a written solution.
- At the end of the lectures the professor then collects the responses from each student.





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*This will let professor know:*

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- The degree of attention in the classroom.
- The level of difficulty the topic represents for students.
- What students have understood and to compare that with what the professor wanted them to understand.
- Students' ability to express themselves in writing.

*Simultaneously, the students will self-evaluate:*

- Checking if they understand the subject.
- Not wanting to lag behind their peers.
- They have made an effort to stay alert in class, and have used time taken by the lecture in an active manner, and not as mere spectators.
- Having almost learned the lesson by the end of the class.



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*Theory lectures: Student presentations*

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- During the last 30 minutes of the lectures, these are complemented with work presentations made up by student groups.
- The works are assigned by the professor, regarding current topics related to the field studied, and are not mandatory.

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### Practical lectures:

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- Practical lessons are undertaken with a computer and involve mandatory practical assignments directed towards learning the various tools that are taught in the course.
- Non-mandatory practical assignments are proposed with the intention of securing newly acquired knowledge:
  - These assignments are done to student groups
  - The groups show their work to the entire class.

## Methodology

### On regard to Professor:

Undertaking these practical in class is highly valued, since it allows follow up the student's learning progress, in an ongoing evaluation.

### On regard to students

Rewarding students for their assistance and participation in lectures", leads students to:

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- To engage more actively in the subject.
- To study the subject on a daily basis.
- Use class attendance time to learn:
  - From educational materials offered by the professor.
  - From other colleagues work.
  - From their own work.

*The Presenting students develop different capabilities such as:*

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Students, who make up works	Students, who listen,
Searching for information,	Develop their critical thinking capabilities,
Structuring knowledge,	Evaluate their peers,
Summarizing concepts,	Compare student assignments,
Public presentation,	And learn to listen and to respect other students' work
Aside from learning to take criticism	

*Class grading system:* Traditional system

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*Theoretical part*

The theoretical exam is a multiple option test consisting of 40 questions with four possible answers each.

*Practical part*

The practical exam consists of one section for each and every tool studied: Word, Excel, and FrontPage. In order to compute an average grade, the students must score no less than a 4 on each section.

The final grade is the average of both parties.



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### *Innovative System : Non-mandatory work*

Non-mandatory work proposed by the professor, are two, one with theoretical and another with practical content.

The works are valued and count with no more than one point each over the final grade, taking into account the following parameters:

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Oral presentation in lectures is scored between [0 - 0.5] points. (*Confidence and firmness in the presentation, preparation, communication, etc.*).

Paper content is scored between [0 - 0.3] points. (*Consistency, definition and assumption accuracy, writing, etc.*).

Overall presentation of written assignment scores [0 to -0.2] points. (*Structure, cleanliness, title, index, etc.*).



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### *Distribution of points obtained*

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- The points obtained in the lectures, attendance and non-mandatory work, are added to the final grade of the theoretical exam.
- The sum of the scores corresponding to attendance and non-mandatory work, and obtained in practical lectures, will be divided into three equal parts that will be added to the scores obtained in each part of the practical exam.
- The additional grade points are used to increase the final grade. The final grade cannot exceed 10.

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### Results

Next, we will see the results obtained through the implementation of the proposed project.

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- The project itself has been applied in various degrees and on different subjects.
  - Data is taken from two consecutive years, and from the same degree programs and subjects.
  - In addition, and whenever possible, we have aimed to have the same professors teaching the subjects through the two consecutive years.
  - During the first year the traditional method was applied, while during the second year the proposed methodology was applied.

## Results

List of scores of two of the most representative groups for two consecutive years on the same subject. Keeping the same professors in each group during the two years (Year 1 and Year 2).

Group/Grade	Student No.	Absent		F Grade		C Grade		B Grade		A Grade	
		Total	%	Total	%	Total	%	Total	%	Total	%
Group A Year 1	108,00	10,00	9,26	41,00	37,96	22,00	20,37	31,00	28,70	4,00	3,70
Group B Year 1	100,00	11,00	11,00	46,00	46,00	21,00	21,00	22,00	22,00	0,00	0,00
Group A Year 2	88,00	8,00	9,09	7,00	7,95	13,00	14,77	51,00	57,95	9,00	10,23
Group B Year 2	67,00	10,00	14,93	16,00	23,88	9,00	13,43	28,00	41,79	4,00	5,97

## Results

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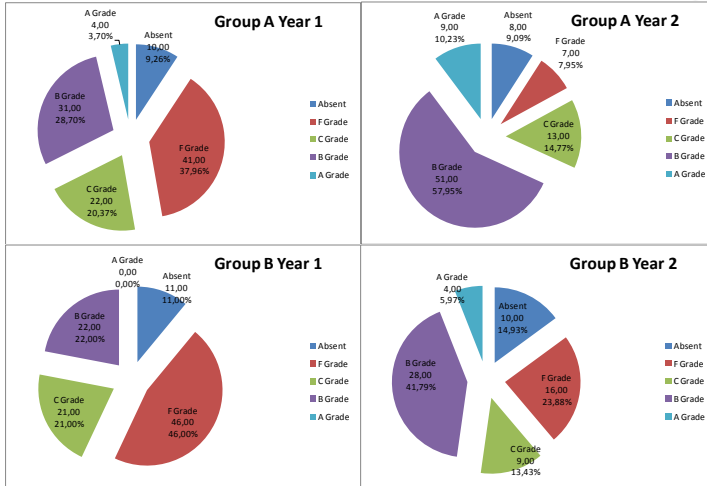
### *The A group in the first year:*

- Has a F grade rate of 37.95% opposed to 7.95% for the 2° year once the project is implemented
- Has a C grade rate of 20.37% opposed to 14.77% for the 2° year.
- Has a B grade rate 28.70% opposed to 57.95% for the 2° year.
- Has an A grade rate of 3.70% opposed to 10.23% for the 2° year.

### *The B group in the first year:*

- Has a F grade rate of 46% opposed to 23,88% for the 2° year once the project is implemented
- Has C grade rate of 21,00% opposed to 13,43% for the 2° year.
- Has a B grade rate 22,00%, opposed to 41,79% for the 2° year.
- Has an A grade rate of 0% opposed to 5,97% for the 2° year.

## Results



Comparative charts of groups A , B in two consecutive courses, it clearly reflects the improvement obtained by applying, during the second year, the method proposed.

## Results

List of scores for the entire group, with average grades in each of the two consecutive courses, over four different degrees.

	Student No.	Absent		F Grade		C Grade		B Grade		A Grade	
Group/Grade	Student No.	Absent		F Grade		C Grade		B Grade		A Grade	
		Totals	%	Totals	%	Totals	%	Totals	%	Totals	%
Year 1 Total	298,00	31,00	10,40	123,00	41,28	67,00	22,48	71,00	23,83	6,00	2,01
Year 1 Average	74,50	7,75	10,76	30,75	39,76	16,75	23,88	17,75	23,91	1,50	1,70
Year 2 Total	273,00	38,00	13,92	67,00	24,54	43,00	15,75	106,00	38,83	19,00	6,96
Year 2 Average	68,25	9,50	13,33	16,75	27,85	10,75	14,70	26,50	37,24	4,75	6,89



## Results



### The first year with 298 students

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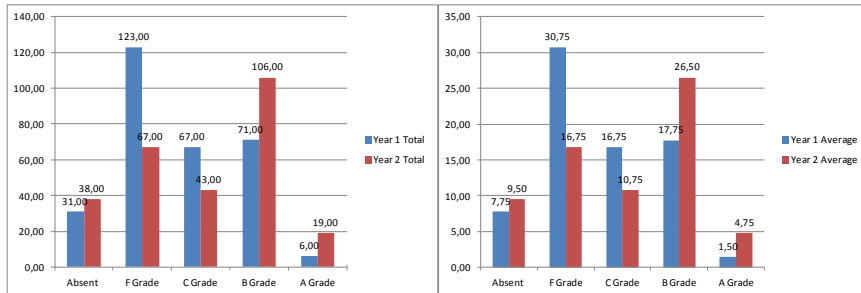
- Has a F grade rate of 41,28%, opposed to 24,54% for the 2º year, once the project was implemented.
- Has a C grade rate of 22,48%, opposed to 15,75% for the 2º year.
- Has a B grade rate 23,83%, opposed to 38,83% for the 2º year.
- Has an A grade rate of 2,01%, opposed to 6,96% for the 2º year.

### The first year, score average

- Has a F grade rate of 39,76%, opposed to 27,85% for the 2º year, once the project was implemented
- Has a C grade rate of 23,88%, opposed to 14,70% for the 2º year.
- Has a B grade rate 23,91%, opposed to 37,24% for the 2º year.
- Has an A grade rate of 1,70%, opposed to 6,86% for the 2º year.



## Results



Comparative graphs for two consecutive courses, several groups of four different degrees, taking the total number of students and the average of the scores.



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### Conclusions and Future Work

In summary, we have presented an innovative educational project, where *techniques* and *methods* are proposed:

*On the one hand:*

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We do emphasis on using the time taken up by lectures efficiently towards learning.

It is very important that students take an active part in their learning process and refrain from attending classes just as mere spectators.

With the aim of retaining students and have them continuing to attend lectures, we have established a series of tasks that are done during class time and are rewarded by adding to the final score.

## Conclusions and Future Work

*On the other hand:*

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We believe the professor's work is important, and we consider it is essential that he does not lose sight of the ultimate goal of any higher education program, which is the use of the acquired academic knowledge, in the workplace.

*It is necessary that we guide teaching towards a student's future line of work, bridging the gap between academic studies and the practical application of these in the workplace.*

## Conclusions and Future Work

In conclusion after applying our proposed:

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We observed the grades improved significantly, and that students, at the end of the course, were happy and motivated, and not afraid of taking the final exam as they were better prepared.

We think this initiative is interesting, because we believe that in order to prevent a student from dropping out, we must adopt a bottom up approach, considering little details, such as:

- Improving the daily lives of students
- Assisting them through the confrontation
- To propose new challenges to them
- To help them master the knowledge of the new classes taught in their degree

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Certainly there are many issues yet to be improved.

We know what it is hard to keep students' attention and make them enjoyable and participative classes.

Although we are happy with the results and it has helped us improve the prospects for future development in each course.

*Much remains to be done in order to achieve the educational excellence that we all desire.*

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## Study About the Problem of Dropping of Subjects by Students During an Academic Year at the University



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