

# THE ISSUE OF PLAGIARISM: AN EQUATION WITH MANY UNKNOWN VARIABLES

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**Abstract.** *Using new technology nowadays has significantly increased the possibilities for information and using information. These possibilities are also widely used in conducting studies, and so there is a risk to take over certain texts, data, ideas, etc. without referring to the original source. cea străină. The issue of plagiarism has been studied and analyzed by many experts, in the literature, both in Romania and abroad. The legislation regulating this wide-scale phenomenon has often been modified, as it tried to answer accurately all the aspects arising from the concept of plagiarism. The main goal of the research presented in this paper is to suggest measures designed to prevent plagiarism in students' written work. Using the opinion questionnaire as an investigational tool, addressed to a sample of students from the university investigated, the results obtained were used to calculate descriptive statistics. The values calculated led to the need to identify preventive measures regarding plagiarism.*

**Keywords:** *plagiarism, research, questionnaire, opinion survey, preventive measures*

## 1. INTRODUCTION

Plagiarism is an issue of great vastness, which may represent the overall objective of a research based on an analysis, conducted at a national as well as international level, or else at an entity level, a group level, or a population selected that can be representative of the analysis and the formulation of solutions to interpretation of results.

In terms of Romanian national law, plagiarism is defined by the Law no. 204/2006 on good conduct in scientific research, technological development and innovation, as subsequently amended and supplemented, as being "presenting, in a written paper, or an oral communication, including the electronic form, of texts, phrases, ideas, demonstrations, data, hypotheses, theories, results or scientific methods excerpted from written works, including the electronic form, belonging to other authors without admitting it, and without referring to the original sources". [1]. The law is considered incomplete by some authors in the Romanian literature, so, in the modification by Government Ordinance no. 28/2011, there are voices that penalize "an element of plagiarism has been removed, namely the intentional element, the intention to submit the texts, expressions, ideas, etc., excerpted from other works, someone's personal creation" [2].

With reference to the issues of plagiarism, specialized foreign literature reveals that they can be grouped into two categories: obvious issues, and hidden issues. The first category refers to definitions, typology and criteria for

identification, and the second one focuses on literary creativity, originality and literary craftsmanship [3].

From the perspective of international law, a definition of the Office of Science and Technology Policy of the United States, which occurs in foreign literature, points to three distinct notions concerning the deviation from the rules of good conduct, which, strictly translated, describe "fabrication", "falsification" and "plagiarism" as follows:

"a. Fabrication is making up data or results, and recording or reporting them.

b. Falsification is manipulating research materials, equipment or processes, or changing or omitting research data or results, so they do not accurately represent the research record.

c. Plagiarism is the appropriation of ideas, processes, results or words of another person, without mentioning the respective source"[4]. Comparing the two definitions, the one in the national literature and the one in the foreign literature, one can notice that both disapprove of copying other people's creations and appropriating them as their own creation. Unlike the definition formulated by the Office of Science and Technology Policy of the United States, the Romanian lawmaker wants the citations or takeovers of information from different authors, to "mention the fact", on the one hand and, and, on the other hand, to "refer to the original sources". There is an obviously more complex formulation by the Romanian legislator in the definition of plagiarism.

The concept of plagiarism is also found in the "University Charter", a public document by which educational institutions, selects, among other themes approached, and based on the principle of autonomy, and adopts, in the spirit of the valid legislation, definitions, specific terminology and types of plagiarism, which, in the authors' view, are serious deviations from the rules of good conduct.

Considering the importance of the issue of plagiarism, and knowing it, at all levels of the education system, and all the more so in academia, it seems necessary to conduct a study at an entity level, which aims at direct observation of reality, using an opinion questionnaire in order to identify appropriate solutions to prevent, in particular, and to reduce, up to disappearance, plagiarism in general.

Taking into account this perspective, a survey was conducted among students at the University of Pitești, trying to identify the proportion of the frequency of citing a text from a publication they read, as well as the proportion of the use, in reports, of other sources in an unethical manner. It also aims to establish the frequency of the main causes that lead to taking over somebody else's ideas and and the proportion concerning the opinion of respondent students to the two types of plagiarism, in whole or in part.

## 2. THE METHODOLOGY OF THE RESEARCH

Starting from the usual state of knowledge of the general theory in the statistical literature, as well as numerous studies in this country and abroad, an empirical sociological research is conducted, using the method of the opinion poll, based on volunteerism technique having, as a specific instrument of collecting information, the questionnaire with five closed questions, where the first question has the role of distributing the respondents in a study program (bachelor and master degrees).

The opinion survey, based on the principle of rational and voluntary selection of sample units, was conducted on a group of 60 students who agreed to answer the questionnaire. The quota sampling technique [5] was not a chosen one, because volunteerism can provide the most honest, sincere, and accurate results. The identifying characteristics for each statistical unit will be thus established: "BA year I", "BA year II", "BA third-year", (unfortunately without "MA year I or II" because their non-response was and still is obvious as well as the impact of the new status and disertation

contents). Distribution of the groups of students in relation to three identifying characteristics is made in keeping with the share or percentage of each group in total, according to the data in the table below.

**Table 1. Final distribution of the sample units in keeping with five identification characteristics**

Identification characteristic	Total	Share of group (%)
BA year I	24	40
BA year II	12	20
BA year III	24	40
Total	60	100

Source: Processing the real data centralized in the questionnaire.

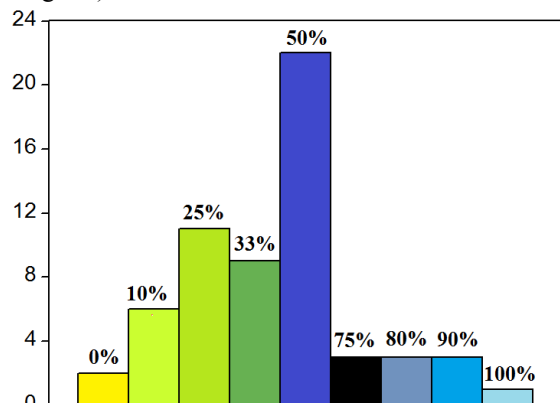
Simultaneous distribution of the statistical units of the sample, in keeping with the three identification characteristics, which answered all the questions in the questionnaire, and are summarized in Tables 2-5 below.

**Table 2. Distribution of the group units by quotas in keeping with answers to question no. 2**

Share of group (%)	Q2. To what extent in % do you quote a text from a publication read by you?									Total
	0	10	25	33	50	75	80	90	100	
40	2	4	7	3	5	0	0	2	1	24
20	0	2	1	4	5	0	0	0	0	12
40	0	0	3	2	12	3	3	1	0	24
100	2	6	11	9	22	3	3	3	1	60

Source: Calculation based on the data in the synoptic table.

Of all the respondents it can be noticed that as many as 22 respondents cited 50% of a text from a publication, and the distribution is rather normal than abnormal (asymmetrical histogram)

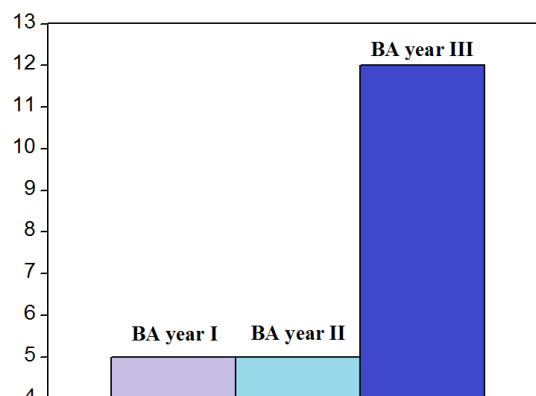


Source: Graph based on the last row of table 2.

Software used: EViews

**Figure 1. Distribution of the entire sample by quotas in keeping with answers to question no. 2**

As far as those who quote a text from a publication are concerned, most are students in the BA 3rd year program (12 respondents), who responded they quoted texts in a proportion of 50% (figure 2):



Source: Histogram based on the central column of table 2.

Software used: EViews

**Figure 2. Distribution of 22 units of the sample who responded they quoted texts in a proportion of 50%**

**Table 3. Distribution of the group units by quotas in keeping with answers to question no. 3**

Share of group (%)	Q3. Do you use other sources in the reports in an unethical manner?			Total
	100% (you take over the whole paper or its essential parts with no citation)	20-80% (you take over ideas in various texts and combine them)	0-20% (you rephrase, in own words, somebody else's ideas)	
40	0	20	4	24
20	2	10	0	12
40	0	21	3	24
100	2	51	7	60

Source: Calculation based on the data in the synoptic table

One can notice in the data in the table above that most respondents, in both study programs, take over ideas from various texts and combine them (51 respondents), and only 2 respondents in the second year BA study program responded

that they take over the full paper or its essential parts without citation, while 7 respondents, out of whom 4 in the 1st year BA program and 3 in the 3rd year of the same BA program said they wrote the ideas of other people in their own words.

**Table 4. Distribution of the group units by quotas in keeping with answers to question no. 4**

Share of group (%)	Q4. What is the main cause of the taking over other people's ideas?					Total
	a) lack of time	b) lack of practice in conceiving and writing a text	c) lack of expert knowledge	d) habit	e) other cause	
40	7	6	10	0	1	24
20	0	3	8	1	0	12
40	8	1	8	6	1	24
100	15	10	26	7	2	60

Source: Calculation based on the data in the synoptic table

Analyzing the data in the table above, the fact is apparent that most respondents (26 students), who were in the BA program in all three study years, take over the ideas of others from lack of expertise, and in sheer contrast, the fewer respondents (2 students), who were also in the first year BA and third year BA, take over the ideas of other people from

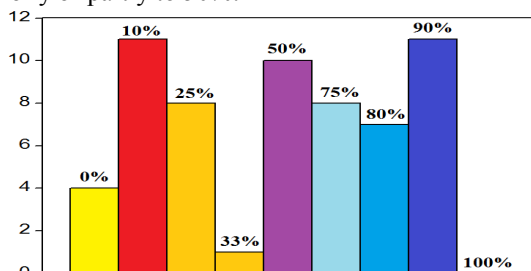
other causes. Lack of time, as the main reason for taking over the ideas of other people, was mentioned by 15 respondents, while, the lack of exercise in conceiving and drafting a text was mentioned as the main reason by 10 respondents, and 7 respondents motivated that habit was the main reason for taking over other people's ideas.

**Table 5 Distribution of the group units by quotas in keeping with answers to question no. 5**

Share of group (%)	Q5. What do you think is the proportion in % of your colleagues who plagiarize wholly or partly?									Total
	0	10	25	33	50	75	80	90	100	
40	2	6	4	1	2	3	2	4	0	24
20	0	2	0	0	2	1	3	4	0	12
40	2	3	4	0	6	4	2	3	0	24
100	4	11	8	1	10	8	7	11	0	60

Source: Calculation based on the data in the synoptic table

For question no. 5, two sets of answers, represented by 10% and 90%, belonged to 11 respondents (this 10/90 is another for the classical Pareian equilibrium 20/80) and 10 respondents put the number of their peers who plagiarize wholly or partly to 50%:



Source: Histogram based on data of table 5.  
Software used: EViews

Figure 3. Distribution of the entire sample by quotas in keeping with answers to question no. 5

The data series had two modal values (10% and 90%) and another two similar submodal values (25% and 75%). Only one respondent said 33% of their peers plagiarize wholly or partly.

Based on cross-section data, observations were collected about a group of 60 students in the BA degree program, and analysed as homogeneous data for a potential econometric model. Analysis of the causes that can generate plagiarism can start from defining plagiarism in Romanian and foreign law, starting from the alleged causes which determine infringement to the rules of good conduct "in a written paper or oral communication, including electronic format", and can be translated into a functional relationship between answers to the questions 2 and 5 (a matrix of correlation),

with respect to plagiarism based on the honest declaration of the own errors and of the errors of others [6].

Based on the data collected, the descriptive statistics calculated for the real frequencies of the selected variables

had shown abnormality and heterogeneity of the population opinions in the table 6:

**Table 6 Descriptive statistical table of the real frequencies of the specific variables**

	QUESTION NO 1	QUESTION NO 2	QUESTION NO 3	QUESTION NO 4	QUESTION NO 5
<b>Mean</b>	<b>12.00000</b>	<b>6.666667</b>	<b>20.00000</b>	<b>12.00000</b>	<b>6.666667</b>
Median	12.00000	3.000000	7.000000	10.00000	8.000000
Maximum	24.00000	23.00000	51.00000	26.00000	11.00000
Minimum	0.000000	1.000000	2.000000	2.000000	0.000000
<b>Std. Dev.</b>	<b>11.51086</b>	<b>7.035624</b>	<b>26.96294</b>	<b>9.137833</b>	<b>4.123106</b>
Skewness	0.000000	1.499689	0.679850	0.600039	-0.553587
Kurtosis	1.259416	4.256045	1.500000	2.202392	1.893815
Jarque-Bera	0.631173	3.965219	0.512348	0.432576	0.918555

Source: Calculations made by means of the EViews software with data from the synopsis of the questionnaires for the sample of 60 respondents.

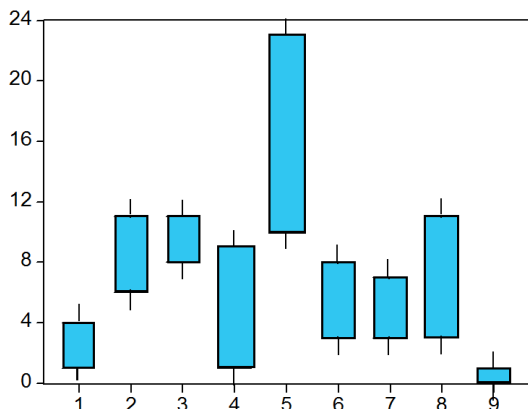
A matrix of correlation based on the R from coefficient of determination  $R^2$  (Rsquared) can offer different values in the closed interval between 0 and 1. The closer to 1 the value is, to more honesty in relation to oneself is equivalent to honesty in relation to the others, in the case of the investigation conducted in this paper.

**Table 7. Matrix of correlation for honesty**

	QUESTION NO 2	QUESTION NO 5
SER01	1.000000	0.323180
SER02	0.323180	1.000000

Software used: EViews

A major remark resulting from the confrontation of the honesty of students in declaring their own plagiarism, compared with assessing the others' plagiarism shows there is a weak correlation, below the opportunity to econometrically model, in a valuable and realistic manner, in accordance with what was reported in the questionnaires [7].



Source: Histogram based on data of table 5. Software used: EViews

**Figure 3. Distribution of the entire sample by quotas in keeping with answers to question no. 5**

The spread between the frequencies recorded for the variables defined by questions 2 and 5 is major in the central (modal, median and average) area, which highlights a much lower standard of honesty in personal and general position as to the topic of plagiarism. [8]

### 3. CONCLUSIONS

After evaluating the results of the data collected through the investigational instrument, the opinion questionnaire, the value of  $R = 0.32318$  between question 2 and question 5 (honesty with himself and honesty with others) and with a gap of more than half of the respondents placed in the central part of the distributions[9], there is a noticeable tendency to exaggerate speaking about others and in using false responses. It would be recommendable to better inform the students about using citation styles, as well as getting a more precise knowledge of legislation on the issue of plagiarism.

Although in the question no. 3 of the opinion questionnaire it was stated explicitly that using other sources means resorting to an unethical way, 85% of respondents admitted that, in writing their essays, they made use of ideas from various texts, which they combine, in a proportion of 20-80%, and 3% of the respondents confided that they take over full essays, or essential parts of them, with no citation, which means an alarming case in the complex issue of plagiarism at all levels of the study programs. A small percentage of the 12% falls within the category of those using sources in an ethical, and writing the ideas taken from various sources in their own words. The need is proved again to initiate measures on preventing plagiarism. A great help in this regard would be posting on the website of the institution of specific instructions, with many "models" to formulate the sentences or phrases, for each single section of the scientific paper [10], in accordance with current legislation regarding plagiarism, and for each single type of scientific paper. Such a measure has been undertaken by many UK universities, including the University of Manchester [11], which has an important research activity in the UK, producing graduates endowed with a globally superior training.

The results of the answers to the question that identifies the main causes leading to taking over other people's ideas do

not surprise by the fact that 43% of respondents recognized their lack of expertise as the main cause, and 25% their lack of time. These results reinforce the need of plagiarism prevention measures, through instruments that can be quickly accessed, that are effective and understandable by any student, regardless of the year of study attended. The proportion of the respondents who recognized their lack of practise in designing and drafting a text as the main cause was 17%, and the remaining 15% of students participating in the survey ticked habit and other unspecified causes as a primary cause, which confirms that there apperas not to be a tendency towards a phenomenon of intentional plagiarism.

In terms of the respondents' opinion to the proportion of their colleagues who plagiarize wholly or partly, the norm of honesty is not good in the entire sample in terms of plagiarism.

If the issue involved is considered from the perspective of the central tendency of the respondent statistical group, and given that it represents a statistically robust value, a critical condition was designed for 90% of those who quote a text from a publication they read, but the fact that their number represents only 5% of the sample does not generate a major problem in the sample. Another critical condition generated from the same perspective can be noticed with the respondents who ticked the main cause in taking the ideas of others, lack of exercise in designing and drafting a text, but which represents a share of only 17% of the statistical sample.

As a general conclusion resulting from the acceptance of the null hypothesis, there is the confirmation of the fact that the program and the study level do not influence citation and taking the ideas of others, which explains that it is not always the program and study level (the dependent variable) that can influence the issue of excessive citations, and therefore, the problem of plagiarism. So the fact is acknowledged that plagiarism can be met with in any educational program and at any level of study.

In the context of the national situation, where "the state to date of Romania's plagiameter" [12], conducted by the Group of the Association for Reform and Alternative University in Romania, based in Cluj-Napoca, presents a ranking of the total number of plagiarized papers identified, corresponding to a number of universities and research institutions, which does not however include the University of Pitești. That proves that solutions addressed in finding more accurate measures on the issue of plagiarism in that entity is limited to measures of a preventive order, which

will also implicitly determine a decrease in, and the disappearance of the probability of plagiarism of any kind.

The problem of plagiarism will not be likely to be solved unless the standard of honesty is improved at a national, institutional, and only and eventually then at an overall education level.

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