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INVESTIGATION INTO PRACTICES, REASONS, ATTITUDES OF ENGINEERING STUDENTS TOWARDS CHEATING IN EXAMS

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Abstract

Cheating, plagiarism and other forms of academic misconduct are a significant and pervasive issue in higher education. This paper includes the findings from a small part of a larger study on academic dishonesty. The main objectives of this study were to investigate the frequency of cheating behaviours practiced in examinations, the reasons for cheating and students' attitudes towards cheating in a university context. The study was conducted through a questionnaire distributed to 204 students enrolled at the initial training program in the three years of study as future teachers. The study indicates that cheating is a quite common behaviour among students, while the need to increase students' attitudes to combat this misbehaviour has been identified. Students felt that passing exams was strong reason for cheating. The practices were caused by the stress, fear of failure, time pressure, difficulty of the course content, the pressure to obtain good grades or unpreparedness of students for assessment. This paper highlights the existence of cheating in university exams, so additional research, the implementation of active and interactive teaching strategies and increased attention to cheating are needed. The findings provide some pedagogical insights for a better understanding of the problem among students and teachers from the university.

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Keywords: Academic integrity, academic dishonesty, cheating, behaviours, reasons, attitudes



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1. Introduction

The European Network for Academic Integrity defines academic integrity as compliance with ethical and professional principles, standards, practices and consistent system of values, that serves as guidance for making decisions and taking actions in education, research and scholarship (Tauginienė et al., 2018). A literature has grown up over the last ten years looking at approaches for developing academic integrity related to policy (Bretag, 2016), teaching and learning (Morris, 2016) or the use of technology (Okada et al., 2019). Being the opposite of academic integrity, by cheating we can understand unethical practices, against institutional regulations, dishonest academic behaviours in different manifestations. It includes, among other things, copying from another student, using crib sheets (unauthorised notes used on exam), getting the exam questions in advance or impersonation. Cheating involves a misrepresentation of the use of students' knowledge and skills. It takes place only when there is an intention to commit this act. Also, cheating usually takes places during examination or other assessment processes by providing or obtaining information from an unauthorized person. As suggested by Awoniyi and Fletcher (2014):

Examinations are summative assessment events usually designed to help make a (final) judgement about a learner's achievement on a programme, and potential subsequent achievement, certify achievement and award a qualification, help make decisions about entry to other learning programmes, provide information that will help others make selection decisions and provide formal evidence of a learner's competence. (as cited in Amua-Sekyi, 2016, p. 56)

If the evaluation does not measure well what it intends to measure or claims to measure, then it can be misleading, so it is not valid and does not give value to rewards.

Teixeira and Rocha's studies (2010, p. 691) show that favourable cheating environments, familiarity with someone who cheats regularly and students' opinions about cheating are associated with more frequent illegal acts. Cheating persists across class, race, gender and national boundaries and none of the study disciplines is spared. Practicing ethics is essential to the integrity of the engineering profession. However, the research of Finelli et al. (2012) show that engineering students are more likely to engage in academic dishonesty. This is problematic because it can lead to insufficient skills and knowledge in new engineers and can lead to behaviours that threaten the integrity of the profession. Engineering faculties and its members have an important role in facilitating academic integrity among its students.

A European project shows that the level of development of academic integrity policies in universities in many European countries is quite low (Glendinning et al., 2013). Romania is ranked 22nd out of the 27 EU countries by the rates of academic integrity maturity, noting that some measures are being taken to discourage cheating in examinations, especially acoustic jamming, and video cameras. In Romania, some research has looked at specific features of academic dishonesty (e.g., Andrei et al., 2009; Ives et al., 2017). Researchers have argued that a culture of academic dishonesty is deeply embedded in Romanian higher education. In all Romanian universities, according to the ministerial order, ethics and academic integrity courses have been introduced compulsorily at master's and doctoral level and optionally at bachelor's level (Order of the M.N.E. no. 3131/2018). It is a change that originates from the start of public discussions about doctorates plagiarized by politicians, questioning academic moral values.

2. Problem Statement

By studying behaviours, reasons, attitudes towards cheating, students can realize the risks and consequences of practicing unethical behaviours. On the other hand, such a study can help teachers and educational institutions to limit the growing trends of academic dishonesty. By doing so, it can subsequently provide a support structure for members of the university and other higher education institutions in identifying and overcoming the increase in cases of deviations and in developing students' skills of critical thinking, reflection, exam preparation, coping with stress, time management etc.

3. Research Questions

Research questions that direct the study are:

- 3.1 How frequently do students cheat during exams?
- 3.2 What are the reasons for students to cheat during exams?
- 3.3 What are the attitudes of students towards cheating during exams?

4. Purpose of the Study

The main objective of this study was to explore the perspectives of engineering students on cheating in exams. Understanding students' opinions about cheating can significantly help teachers to communicate and implement ethical standards.

5. Research Methods

Participation in the study was open to all first, second- and third-year students enrolled in the initial training program as future teachers. The participants were students enrolled at a variety of faculties from the Technical University of Cluj-Napoca, Romania. The sample included a total of 204 students, of which 91 were males (44.6%) and 113 females (55.4%), 69 (33.8%) students were enrolled in first year, 85 (41.7%) in second year, 50 (24.5%) in third year of study. 134 students were from urban residence and 70 students from rural residence. Regarding the ethics of data collection and publication, the questionnaires received by the students protected the confidentiality and anonymity of the participant by eliminating the factors that could have revealed their identity. The data were collected before the pandemic situation caused by COVID-19, at the beginning of the second semester of the academic year 2019-2020. A questionnaire was used to investigate and analyse students' practices, reasons, and attitudes towards cheating in the academic context. The survey was based on a Likert scale, with closed questions that were grouped into four categories: demographic factors, frequency of cheating behaviours in assessment, reasons why students might cheat and attitudes towards cheating during exams. We asked students about the frequency of cheating behaviours on a scale between always (1) and never (5). For cheating reasons and attitudes towards cheating the response format was the Likert type on a scale from strongly agree (1) to strongly disagree (5). Statistical Package for Social Sciences (SPSS, v. 23) was used to analyse the quantitative data. The results for the Cronbach's Alpha showed that the internal consistency of the whole questionnaire was 0.867 (good).

6. Findings

The quantitative data from the questionnaire will be presented descriptively, through some statistical analyses in order to examine the distribution of responses where this is seen as throwing light on issues arising from the data. Results are presented in the form of tables and accompanied by comments.

Students used some techniques to cheat during exams as seen in Table 1. Thus, the majority stated that their colleagues ($M = 2.79$, $SD = 1.150$) copied the answers from a colleague's work during a test or exam, whispered and signalled answers to someone ($M = 2.90$, $SD = 1.140$), used unauthorized electronic devices ($M = 3.01$, $SD = 1.276$), allowed another person to copy from them ($M = 3.03$, $SD = 1.245$) or used unauthorized material (crib notes, handwriting, sheets with written resolutions etc.) ($M = 3.15$, $SD = 1.033$). The items were used in another study by the author (Peculea & Peculea, 2020).

Table 1. Cheating behaviours of students

No.	Behaviours	Mean	SD
1	“Using unauthorized material (crib notes, handwriting, sheets with written resolutions etc.) during a test or exam.	3.15	1.033
2	Copying the answers from a colleague's work during a test or exam.	2.79	1.150
3	Unauthorized using of electronic devices (mobile phone, computer, headset, smartwatch etc.) during a test or exam.	3.01	1.276
4	Whispering and signalling answers to other colleagues during a test or exam.	2.90	1.140
5	Allowing another person to copy from them during a test or exam.	3.03	1.245
6	Failure to follow the instructions related to the test or exam time (e.g., continuing to write after the allotted time has ended).	3.59	1.269
7	Taking a test or exam instead of another person.	4.78	0.543
8	Reproducing a test or exam questions and sharing them with friends.	4.05	1.132
9	Finding an excuse to temporarily leave the exam room in order to have access to outside help.	3.91	1.143
10	Reporting cheating practiced by a colleague.”	4.68	0.702

Mean of means = 3.58

Technology has an important role in increasing the incidence of cheating, from the use of mobile phones and social networks to hacking to have access to online solutions. Thus, today's students have more skills in technology than even some of their teachers. According to Starovoytova et al. (2016), students always find many ways to cheat in exams through today's mobile phones. Although technology is an important factor in the occurrence of misconduct, older cheating methods are still used and, consequently, should not be underestimated. Thus, having discussions with students about the types of techniques used and raising awareness of dishonest behaviours could be beneficial in creating appropriate remedial opportunities.

After analysing the reasons for cheating, as can be seen in the Table 2, passing the exams is the most common reason cited by students ($M = 1.72$, $SD = 0.979$). The results reinforce the conclusions of Teixeira & Rocha (2010) who show that cheating in order to pass an exam or to get a better grade is a significant factor for cheating. In other words, it is an academic environment in which there is no balance between rewarding for cheating (passing the exam) and imposing sanctions on students who are caught (failing an exam) (Teixeira & Rocha, 2010). As shown in Table 2, although most students agreed that cheating is not

ethical behaviour, a significant percentage of students is exposed to stress, fear of failure (M = 2.05, SD = 0.993), time pressure in the evaluation (M = 2.04, SD = 1.015), pressure to get good grades (M = 2.04, SD = 1.044).

Table 2. Reasons for cheating

No.	Reasons	Mean	SD
1	Time pressure in the evaluation	2.04	1.015
2	Increased difficulty of evaluation	2.09	1.015
3	Ignorance, unpreparedness of students for assessment	2.09	1.099
4	Cheating as a common behaviour, acceptable among students	2.71	1.105
5	Passing exams	1.72	0.979
6	Helping a friend	2.07	0.826
7	Lack of interest in completing the task	2.67	1.179
8	Too much workload	2.03	1.009
9	Course content irrelevant/ unimportant for the exam	2.28	1.086
10	Encourage and facilitate cheating using technology and the Internet	2.85	1.081
11	Misunderstanding the issue of cheating	3.31	1.118
12	The pressure to get good grades	2.04	1.044
13	Tolerance of dishonest behaviour	2.84	1.065
14	Stress, fear of failure	2.05	0.993
15	High expectations from parents	2.11	1.076
16	Failure to apply penalties	2.92	1.128
17	Unimportant sanctions	3.04	1.160
18	Lack of study time due to employment	2.43	1.082
19	Laziness	2.27	1.284
20	The student simply cannot respond to the given tasks	2.63	1.116
21	Too many exams during the session	2.25	1.098
22	The difficulty of the course content	2.06	1.005
23	Poorly designed assessment tasks	2.67	0.974
24	Great temptation and ease of cheating	2.49	1.172
25	Ignorance of teachers	2.80	1.234

Mean of means = 2.41

Students are under pressure not only to pass exams, but also to get good grades (these are generally associated, in society, with the potential for success), therefore, some students are determined to get good grades, with any possible price, resulting in cheating. As suggested by Stan (2008):

Starting from the finding that a large part of the school failures originates in the faulty adaptation to the often-tense situation of the examination, currently the efforts of specialists are focused not only on eliminating subjectivity from grading, but also in the direction of removing the harmful effects that even an objective assessment can generate at the student level. (p. 58)

In addition, there are situations in which some parents constantly demand better grades from their children. On the other hand, students engage in cheating to please family members that their investments (financial, social etc.) in the students' education have paid off. These findings mean that cheating is a complex problem, with long-term consequences beyond the academic environment. Many of students (68.7%) stated that cheating is a common behaviour, acceptable among students. When some students learn but fail in exams, this may be due to poor learning skills or unfavourable environmental conditions. Thus,

not wanting to go back through this process again and observing their colleagues who cheated during the exams as successful, they learn such dishonest behaviour that they implement during the exam. 31.4% of respondents also suggested laziness as a source of motivation for cheating. This indicates student apathy towards course content and may point to a need for teachers to encourage student engagement and to highlight the relevance of what is being taught to the future careers of their students. The lack of strict policy implementation, the low risk of punishment or poor classroom management allowed students to engage freely and easily in a conspiracy to cheat. In addition, ineffective teaching could have contributed to students' poor knowledge and understanding of the study subject, which somehow led them to misbehave. Then, the student's incompetence in a certain area gives him/her no choice but to commit an act of cheating. Poor cognitive ability and comprehension skills leave the student far behind other better colleagues, despite the effective pedagogical processes used by the teacher.

From the Table 3 the majority of respondents ($M = 2.01$, $SD = 1.009$) agreed that “It is wrong to cheat, even if the teacher gives them too much work”. In the same vein, most students agreed that “It is wrong to cheat, even if the course content is difficult” ($M = 2.04$, $SD = 0.984$) or “It is wrong to cheat, regardless of the circumstances” ($M = 2.20$, $SD = 1.121$). Also, the most students agreed that “It is wrong to cheat, even if the student is in danger of failing the exams” ($M = 2.21$, $SD = 1.042$). Almost half of the respondents ($M = 2.64$, $SD = 1.340$) agreed that they would cheat if the teacher did not teach well. Then, almost half of the students ($M = 3.24$, $SD = 1.307$) disagreed that they would cheat so not to disappoint their family; similarly, most students ($M = 3.31$, $SD = 1.271$) disagreed that they would cheat if other colleagues in their year/group did the same thing, or if there was too much work ($M = 3.23$, $SD = 1.191$). The answers indicate ethical positions that see cheating negatively and are inconsistent with stress, fear of failure, time pressure in the evaluation or pressure to get good grades that are among the most frequent reasons for cheating. These answers show that students' ethical beliefs and actions are in dissonance, and the perception of the former does not determine the prevalence of the latter. Some items were adapted from the study of Amua-Sekyi (2016) on Students' Attitudes towards Cheating (items 1 to 7 and 11 to 14) and were used in another study by the author (Peculea & Peculea, 2020).

Table 3. Students' attitude towards cheating

No.	Statements	Mean	SD
1	“I would cheat if the exam questions were too difficult.	2.79	1.257
2	I would cheat to obtain a higher grade.	3.02	1.266
3	I would cheat to avoid failure.	2.90	1.286
4	I would cheat so as not to disappoint my family.	3.24	1.307
5	I would cheat if other colleagues in my year/ group did the same thing.	3.31	1.271
6	I would cheat if the teacher did not teach well.	2.64	1.340
7	I would cheat if there was too much work.	3.23	1.191
8	It is wrong to cheat, even if the course content is difficult.	2.04	0.984
9	It is wrong to cheat, even if the teacher gives you too much work.	2.01	1.009
10	It is wrong to cheat, even if I am in danger of failing the exams.	2.21	1.042
11	It is wrong to cheat, regardless of the circumstances.	2.20	1.121
12	I would report the incidence of a cheating committed by an unknown student.	4.11	0.932
13	I would report the incidence of a cheating committed by a friend student.”	4.21	0.941

Mean of means = 2.91

Students' attitudes towards cheating, on the other hand, appear to be neutral ($M = 2.91$). It would be even more important to change attitudes and norms so as to modify student behaviour in the direction of honest classroom practices. Changing students' behaviour cannot only be the responsibility of academic institutions, but also the whole families or communities must be involved. Assessing students' attitudes is a challenge, especially as students can change their attitudes toward academic dishonesty over time, including by identifying cases where students are caught cheating. Despite their beliefs, many students are willing to violate these values to get a better grade or help their classmates. The idea of students to justify cheating by providing help can be associated with the new culture of "sharing" among students (Kolker, 2012). The conclusions of this study are also supported by the findings of Rettinger and Kramer (2009, p. 296) who show that "having peers who cheated in college" is not only "correlated with an individual's cheating behaviour", but "knowing people who cheat (or have cheated) is a risk factor for starting to cheat."

Support is needed to help teachers in identifying cases of cheating, taking appropriate measures, preventing dishonest behaviours, and encouraging academic integrity among students. For example, Ormrod (2003), Kisamore et al. (2007) offer a number of recommendations including among others: organizing dialogues within and between the different departments; providing opportunities to disseminate up-to-date information on cheating to both teachers and students, such as electronic means; discussing the incident with the alleged cheater; providing training in academic integrity issues; creating opportunities to discuss ethical issues with students, after cheating, to hold them accountable for their behaviours, to develop their moral judgments; careful design of authentic, innovative and meaningful assessments; learning to identify signs of stress at students; building a relationship of trust and mutual respect between educational actors, identifying students' learning styles, increasing self-awareness, time management; emphasizing the usefulness of knowledge and skills in real life; emphasizing in-depth learning rather than surface learning; severe sanctions for those caught cheating, etc. Furthermore, the use of systems for student authentication and authorship verification, tools for automatic logging and locked browsers, complete online surveillance systems, content analysis software systems for authorship checking or biometric systems are other solutions proposed in the literature or practice to support the detection of cheating and plagiarism using technologies in the evaluation. The teachers play a crucial role in helping students to develop academic integrity. By teaching courses on ethics and academic integrity, teachers tend to form and develop pedagogical competences of academic ethics that represent a complex structure of knowledge, skills, values, and attitudes that support "the complex ethical role of the teacher as a moral model for his/her students" (Ghiațău, 2015, p. 389). It is a competence that aims at both aspects of the teacher-student relationship in the classroom and aspects of scientific research. In a research by McCabe (2005) he states that widening the gap between teacher and student, rather than narrowing it, can change the university classroom culture, putting the teacher and the student in adverse positions. Thus, McCabe (2005) advises educators to "find innovative and creative ways to use academic integrity, as a building block, in our efforts to develop more responsible students and, ultimately, more responsible citizens" (p. 29).

7. Conclusion

The aim of this study was to examine the engineering students' perspectives about cheating in exams. Students consider copying and allowing to copy answers, whispering, and signalling answers to

someone, using unauthorized electronic devices and other materials among the most common behaviours of cheating. Although there are obvious factors why students cheat, passing exams seems to be the main reason for cheating. Most participants perceive cheating as unethical, yet they will not report offenders. Although the results provide a better understanding of the perception of cheating, caution is required to formulate firm conclusions because of the descriptive nature of this study. All parties in an academic institution are responsible for minimizing the incidence of cheating, especially students, teachers, and management staff.

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