ETHICAL PERCEPTIONS OF ENGINEERING STUDENTS ABOUT CHEATING AND PLAGIARISM

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Abstract: *Academic dishonesty is an important issue in education that continues to be a worldwide problem in the academic field. This paper embodies the findings from a small part of a larger study on academic dishonesty. Its purpose was to investigate the frequency of cheating and plagiarism behaviours, reasons, attitudes towards cheating and plagiarism and to find out ways to prevent and reduce cheating and plagiarism. This study was conducted through a 5-point Likert scale questionnaire completed by 466 engineering students at the bachelor and master level at a university from Romania. The study indicates that cheating and plagiarism are sometimes common among students, while the need to increase attitudes so as to modify students' behaviours toward honest classroom practices has been identified. Students felt that passing exams was a strong reason for cheating and plagiarism. The study also proposes several recommendations to mitigate levels of academic misconduct.*

Keywords: *academic dishonesty; cheating; plagiarism; awareness; behaviours; reasons; attitudes.*

1. Importance and motivation of the study

Cheating, plagiarism and other forms of academic misconduct are a significant issue in higher education. Besides intellectual development of students contributing to the prosperity of society, universities should have a simultaneous influence on the development of students' moral competences. Moreover, some research suggests a link between student academic dishonesty and later workplace dishonesty. To ensure that the university fulfils its purpose to increase the academic integrity of their students as one of the core values of higher education, it is necessary for students to

understand what constitutes academic dishonesty, such as cheating and plagiarism, their practices, reasons and attitudes towards these unethical issues. The objectives of the present study were as follows: to determine the frequency of the behaviours practiced by students regarding cheating and plagiarism; to examine reasons for cheating and plagiarism among respondents; to identify students' attitudes towards cheating and plagiarism; and to find out ways to prevent and reduce cheating and plagiarism. University members should understand the perceptions of academic dishonesty that engineering students have. The results can be used to determine the potential action strategies to be considered in the university where the study was conducted and, possibly, in other Romanian universities, to increase students' awareness and appreciation for academic integrity.

2. Theoretical foundation

Academic integrity includes values, principles, norms and regulations for managing appropriate behaviours in education and research. It is based on these six core values: "honesty, trust, fairness, respect, responsibility and courage" (International Center for Academic Integrity, 2014, p. 16). Carefully constructed university policies are essential to promote a culture of academic integrity. They provide value-based frameworks to manage acceptable and unacceptable practices in academia (Morris & Carroll, 2016), support student learning (Bretag& Mahmud, 2016) and explain how content is adopted in the curriculum (Bretag et al., 2011). On the other hand, academic dishonesty is the antithesis of academic integrity; it is characterized by different ways in which students are dishonest in their academic practices. It has been a constant problem for years at all educational levels. It is a fact and is a challenge to the integrity of higher education and its reputation. However, in the fight against academic dishonesty, what is being witnessed is an increasing number of educational institutions that publish and disseminate widely codes of ethics, written statements, policies or procedures for members of their university. The positive effect of a code of conduct/ ethics on university members can subsequently create positive influences on students' academic behaviour (Noddings, 2002).

There are eight broad areas of academic dishonesty (OECD, 2011): obtaining unauthorized aid or information; giving unauthorized aid or information; committing plagiarism from written, electronic or internet sources; misrepresenting facts or data; offering bribes; using the library resources unethically; using computer resources unethically; and knowingly assisting in any of the above practices. Cheating can be described as an act of evasion, thus influencing the result by fraudulent means. On the other hand, plagiarism refers to the act of imitating the ideas, thoughts, language, methods or dates of a person's activity without the authorization or acknowledging the original author.

Some causes of cheating and plagiarism identified in the literature include among others (Carpenter et al., 2006; Anderman & Murdock, 2007): time pressure; hard courses; laziness; competition with others; coping with stress; difficult exams; chances of getting caught are minimal; punishment is not serious etc. The findings of Teixeira & Rocha's (2010) study suggest that cheating favourable environments, familiarity with someone who cheats regularly and students' opinion regarding cheating stand out as conditioning factors in the development of cheating acts. De Lambert, Ellen & Taylor (2006) identified the form of assessment as being a contributing factor in the incidence of cheating, suggesting that teachers who used predictable and unimaginative assessment techniques, were more likely to find their students engaging in dishonest practice. Gross (2011) considers that students' cheating has become more acceptable because there is a "different, post-millennial, value orientation" about the meaning of education and how it is acquired. Millennials are characterized by a preference for decisions "based on personality, relationship and expediency, rather than abstract rules about right or wrong" (Gross, 2011). Ethical practice is central to the integrity of the engineering profession. However, research shows that engineering students are among those most likely to engage in academic dishonesty in higher education (Carpenter, D.D. et al., 2011). Engineering institutions and faculty members play a key role in facilitating academic integrity among engineering students.

In the study of Ives &Giukin (2020) researchers identified in the literature review three problems of academic dishonesty: first, the problem is widespread, most reviews finding that more than 70% of students in higher education cheated or plagiarized (e.g. Gallant et al., 2014; Ludlam et al., 2017); second, cheating and plagiarism invalidate the results of academic assessment (Munoz-Garcia & Aviles-Herrera, 2014) and may be associated with poorer learning (Brimble &Stevenson-Clarke, 2005), as well as damage to universities' reputations (Engler et al., 2008); third, students engaged in academic dishonesty may be more likely to engage in dishonesty in the workplace (Desalegn &Berhan, 2014).

In two European projects that examined the state of academic integrity within universities (Glendinning et al. 2013; Foltýnek et al. 2018), it was concluded that all the participating institutions viewed plagiarism and academic dishonesty as a serious issue and that there were many examples of innovative practice. One of the few comprehensive studies on this topic (Foltýnek& Glendinning, 2015) shows that Romania is ranked 4th in Europe by the rates of plagiarism (over 50% of the Romanian respondents believed that they might have plagiarized accidentally or deliberately at least once). In Romania there are several studies that have found high levels of acceptance of plagiarism among medical students (Badea-Voiculescu, 2013) and university students in general (Teodorescu & Andrei, 2009). A survey

conducted with over 1000 students from six universities in Romania found that more than 90% reported engaging in a certain type of academic dishonesty (Ives et al., 2017). Recently, the Ministry of Education and Research (Order of the Ministry of National Education No. 3131/2018) decided to promote mandatory courses (both at the Master's Degree and Doctoral Degree) and optional courses (at the Bachelor's Degree) of ethics and academic integrity in all Romanian universities.

Consequently, studying behaviours, reasons and attitudes toward cheating and plagiarism can help students to realize the risks, dangers and consequences of engaging in unethical behaviour at the academic level, while helping teachers, decision makers and educational institutions to overcome or, at least, to limit the growing trend of academic dishonesty. To address this issue, the study is expected to explore views on behaviours, reasons and attitudes towards these academically incorrect behaviours and to find out ways to prevent and mitigate cheating and plagiarism.

3. Research questions

The purpose of this study was to examine the frequency of cheating and plagiarism behaviours, reasons and attitudes towards cheating and plagiarism and to find out ways to prevent and diminish cheating and plagiarism amongst the undergraduate and graduate students of Technical University of Cluj-Napoca from Romania.

We seek to answer the following basic research questions:
• How frequently do students cheat and plagiarize?
• What are the most important reasons for cheating and plagiarism in university?
• What are students' attitudes towards cheating and plagiarism?
• What ways to prevent and reduce cheating and plagiarism do students propose?

4. Methodology

To evaluate perceptions of cheating and plagiarism by undergraduate and graduate students, a designed self-report questionnaire was used as the main instrument for this study. A sample of 466 students - 252 males (54.1%) and 214 (45.9%) females - participated in this study. Over 50% of students were undergraduates with 69 (14.8%) students enrolled in first year, 85 (18.2%) in second year, 50 (10.7%) in third year, 62 (13.3%) in fourth year. At Master's level, the distribution of the surveyed population was made between 96 (20.6%) first year students and 104 (22.3%) second year students. In terms of age, the students were aged between 18-20 years (28.3%), 21-23 years (36.9%), 24-26 years (28.3%) and over 27 years (6.4%). 340 (73%) students

are from urban residence and 126 (27%) students from rural residence. More than half (51.3%) were working at the time of the study.

The questionnaire consists of two sections, first is the demographic characteristics of the subjects and the second is the main body of the questionnaire. A 5-point Likert scale from 1 ("strongly agree") to 5 ("strongly disagree") was used to assess the reasons and students' attitudes towards cheating and plagiarism. The frequency of students' behaviours towards cheating and plagiarism was measured on a 5-point Likert scale, ranging from "always" (1) to "never" (5). Some questions have been adapted from the measurements that are used to examine students' attitudes (e.g. Amua-Sekyi, E.T. et al., 2016). The results for the Cronbach's Alpha showed that the internal consistency of the whole questionnaire was α = 0.887. The answers to the open-ended question, provided by the students, were analysed using a content analysis technique for qualitative data: the data were unitized, coded and grouped into themes. Descriptive statistics was used, to analyse both qualitative and quantitative data.

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. Data were collected between January and February 2020 by the authors of the study.

5. Results and findings

The quantitative data from the questionnaire will be presented descriptively, through some statistical analyses will be presented in order to examine the distribution of responses across the contexts where this is seen as throwing light on issues arising from the data.

Table 1 highlights the frequency of cheating and plagiarism behaviours of students. Under this category, asked how often colleagues have used cheating and plagiarism in the last six months, engineering students responded saying that their colleagues used often the electronic devices (mobile phone, computer, headset, smartwatch etc.) during a test or exam (M = 2.82, SD = 1.174), copied the answers from a colleague's work during a test or exam (M = 2.83, SD = 1.065) or whispered and signalled answers to someone during a test or exam (M = 2.85, SD = 1.113). Rarely students take a test or exam instead of another person (M = 4.68, SD = 0.664).

Table 1. Cheating and plagiarism behaviours of students

No.	Behaviours	Mean	SD
1	Using unauthorized material (crib notes, handwriting,	3.02	1.04

	sheets with written resolutions etc.) during a test or exam.		7
2	Copying the answers from a colleague's work during a test or exam.	2.83	1.065
3	Unauthorized using of electronic devices (mobile phone, computer, headset, smartwatch etc.) during a test or exam.	**2.82**	1.174
4	Whispering and signalling answers to other colleagues during a test or exam.	2.85	1.113
5	Allowing another person to copy from them during a test or exam.	3.05	1.180
6	Failure to follow the instructions related to the test or exam time (e.g., continuing to write after the allotted time has ended).	3.57	1.286
7	Taking a test or exam instead of another person.	**4.68**	0.664
8	Reproducing a test or exam questions and sharing them with friends.	4.11	1.114
9	Finding an excuse to temporarily leave the exam room in order to have access to outside help.	3.86	1.146
10	Reporting cheating practiced by a colleague.	4.64	0.759
11	Presenting a work as its own that has been copied, in whole or in part, from the Internet or from another source without using proper citation.	3.60	1.170
12	Writing a work for friends which uses as its own work.	3.73	1.093
13	Presenting a work as its own that has been written/ completed, in whole or in part, by others (colleagues, companies/ specialized sites etc.).	3.72	1.129
14	Reporting plagiarism practiced by a colleague.	4.57	0.83

Mean of means = 3.65

It is obvious that technology plays a major role in intensifying cheating and plagiarism. Whether it is the use of mobile phones and social media, or hacking to have access to online solutions manuals, today's students are often more tech savvy than some of their teachers. Thus, Curtis and Vardanega (2016) suggest that, through technological and educational initiatives, we can counteract the potential of cheating and plagiarism. Though technology seems to be a major factor in academic misconduct in the study institution, older methods of cheating are still used and should not be underestimated. Raising awareness of the techniques being used and having discussions with students about the types of activities could be beneficial to creating appropriate remediation ways. For students' assignments, plagiarism can be reduced and prevented by constructing policies made by the universities to detect plagiarism such as Turnitin or iThenticate. These kinds of tools or software can also be used to improve students' academic writing skills and to develop their citation skills.

A large majority of students also responded that they had never reported their colleagues for cheating (76%) and for plagiarism (72.1%). This implies that there is not only limited practice of reporting the incident, but also the limited practice is probably addressed to friends who do not take any measure. It is important to consider students' opinions of cheating and plagiarism by others because students' perceptions of their colleagues' behaviour have a strong effect on their own behaviour. The implications of these findings must be considered in relation to the research by McCabe et al. (2001) and Rettinger and Kramer (2009), which found, that when students believe others have cheated, they are more likely to choose to cheat themselves. The fact that others are cheating may also suggest that, in such a climate, the non-cheater feels left at a disadvantage. Thus, cheating can be regarded as an acceptable way. On the other hand, giving plagiarism a considerable place in an educational program, focusing on prevention rather than penalty and stressing out the importance of academic integrity need to be part of the university's plagiarism policy.

An examination of the reasons for cheating and plagiarism showed in Table 2 that passing exams is the most common reasons cited by respondents (M = 1.67, SD = 0.920) followed by the pressure to get good grades (M = 1.98, SD = 1.030). This is consistent with Teixeira and Rocha's (2010) findings that cheating to pass an examination or to get a better grade is a significant incentive to cheat. This finding may also indicate an academic environment in which the rewards for cheating (e.g. passing the course) are

not counterbalanced by the application of appropriate sanctions when caught (e.g. failing the course) (Teixeira & Rocha, 2010). While most students agreed that cheating is unethical, a substantial proportion are subjected to stress, fear of failure (M = 2.02), too much workload (M = 2.05), ignorance, unpreparedness of students for assessment (M = 2.06) or helping a friend (M = 2.09), as seen in Table 2. Almost 40% of students disagreed that misunderstanding the issue of cheating and plagiarism is a reason for academic dishonesty. 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), with any possible price, resulting in cheating. These findings corroborate with the conclusions of Lucifora and Tonello (2015), who reported that pressures for good grades, stress and ineffective deterrents were some of the determinants of cheating.

Table 2. Reasons for cheating and plagiarism

No.	Reasons	Mean	SD
1	Low information organization skills	2.40	1.079
2	Time pressure in the evaluation	2.29	1.093
3	Increased difficulty of evaluation	2.25	1.080
4	Ignorance, unpreparedness of students for assessment	2.06	1.072
5	Cheating as a common behaviour, acceptable among students	2.61	1.074
6	Passing exams	**1.67**	0.920
7	Helping a friend	2.09	0.854
8	Low academic writing skills	2.97	1.081
9	Lack of interest in completing the task	2.51	1.124
10	Too much workload	2.05	1.032
11	Course content irrelevant / unimportant for the exam	2.12	1.035
12	Encourage and facilitate cheating using technology and the Internet	2.66	1.096
13	Misunderstanding the issue of cheating and plagiarism	**3.18**	1.193
14	The pressure to get good grades	1.98	1.030

15	Tolerance of dishonest behaviour	2.65	1.040
16	Stress, fear of failure	2.02	1.001
17	High expectations from parents	2.22	1.132
18	Failure to apply penalties	2.62	1.144
19	Unimportant sanctions	2.73	1.155
20	Lack of study time due to employment	2.34	1.093
21	Laziness	2.25	1.208
22	The student simply cannot respond to the given tasks	2.72	1.082
23	Too many exams during the session	2.40	1.117
24	The difficulty of the course content	2.17	1.039
25	Lack of attention when writing a paper	2.67	0.975
26	Poorly designed assessment tasks	2.62	1.002
27	Misunderstanding the idea of intellectual property	2.74	1.130
28	Too tight deadlines for works	2.40	1.071
29	Great temptation and ease of cheating	2.38	1.105
30	Ignorance of teachers	2.56	1.160

Mean of means = 2.41

Table 3 depicts the third category of questions that aimed at exploring the level of students' attitudes towards cheating and plagiarism. The majority of respondents agreed that it is wrong to cheat even if the course content is difficult (M = 1.94, SD = 1.001) and if the teacher gives them too much work (M = 1.94, SD = 1.018); similarly, the majority agreed that it is wrong to plagiarize, regardless of the circumstances (M = 1.89, SD = 1.043) and even if they do not understand the subject matter or the teacher's instructions (M = 1.97, SD = 1.059). Majority of respondents disagreed that they would plagiarize if they knew a colleague was also plagiarizing (78.8%) and that they would report the incidence of a cheating committed by a friend student (76%). The answers indicate ethical positions that see cheating and plagiarism negatively and are inconsistent with stress, fear of failure or pressure to get good grades that are among the most frequent reasons for

cheating and plagiarism. Results show a difference between students' beliefs and their actions. Most of the students believe that these behaviours are wrong, yet they still report that they do. Despite their beliefs, many students are willing to sacrifice these stated values to get better grades or help fellow students. The idea of explaining that they do these behaviours to help and not to cheat or plagiarism can be attributed to what Kolker (2012) who refers to the new culture of "sharing" among today's students. Respondents' ethical values and actions are therefore completely in dissonance. Students' attitudes toward academic dishonesty appear to be neutral. 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.

Table 3. Students' attitude towards cheating and plagiarism

No.	Statements	Mean	SD
1	I would cheat if the exam questions were too difficult.	2.89	1.245
2	I would cheat to obtain a higher grade.	3.12	1.249
3	I would cheat to avoid failure.	3.04	1.261
4	I would cheat so as not to disappoint my family.	3.44	1.304
5	I would cheat if other colleagues in my year/ group did the same thing.	3.37	1.245
6	I would cheat if the teacher did not teach well.	2.61	1.319
7	I would cheat if there was too much work.	3.24	1.216
8	It is wrong to cheat, even if the course content is difficult.	**1.94**	1.001
9	It is wrong to cheat, even if the teacher gives you too much work.	**1.94**	1.018
10	It is wrong to cheat, even if I am in danger of failing the exams.	2.09	1.079
11	It is wrong to cheat, regardless of the circumstances.	2.08	1.139
12	I would report the incidence of cheating committed by an unknown student.	4.03	1.023

13	I would report the incidence of a cheating committed by a friend student.	**4.16**	0.992
14	I would plagiarize if I knew I would not be caught.	3.79	1.139
15	I would plagiarize if I did not have enough time to do the work.	3.61	1.200
16	I would plagiarize if I did not know how to quote, how to mention references.	3.67	1.137
17	I would plagiarize if I knew that severe sanctions would not apply.	3.81	1.120
18	I would plagiarize because it is easy to copy and insert from the Internet.	3.84	1.105
19	I would plagiarize if I knew the teacher would not care.	3.50	1.316
20	I would plagiarize to accomplish the task and get a better grade.	3.73	1.174
21	I would plagiarize when I could not express another person's ideas in my own words.	3.75	1.151
22	I would plagiarize if I knew a colleague was also plagiarizing.	**4.12**	0.971
23	I would plagiarize because it is easier than working on a topic.	4.08	0.980
24	It is wrong to plagiarize, even if I do not understand the subject matter or the teacher's instructions.	1.97	1.059
25	It is wrong to plagiarize, even if I do not pay importance to the idea of intellectual property.	2.00	1.026
26	It is wrong to plagiarize, regardless of the circumstances.	**1.89**	1.043
27	I would report the incidence of plagiarism committed by an unknown student.	3.88	1.117
28	I would report the incidence of a plagiarism committed by a friend student.	3.96	1.107

Mean of means = 3.20

The open-ended question asked students to suggest any ways and means of preventing and eradicating cheating and plagiarism in examinations. The given suggestions were assorted and after coding, they were divided into 6 major themes and highlighted, as follows:

Table 4. Students' suggestions on methods to prevent and reduce cheating and plagiarism

Suggestions	Frequency	Percent
1. University policy	78	17.33
Training at the beginning and at the end of the courses/ exams (on the rules of honest conduct in academia, on the causes and consequences of cheating and plagiarism)	36	8
Compulsory ethics courses and workshops in the early stages	14	3.11
Campaigns to raise awareness and promote academic honesty (the idea of originality, the idea of intellectual property)	12	2.67
Personal development courses	7	1.55
Providing a strict, appropriate, clear, detailed, up-to-date code of conduct and assigning tasks on ethical issues to specialized people	4	0.89
Courses or trainings for the elaboration of academic works	3	0.67
Prevention and mitigation measures taken at the level of the Ministry or university	2	0.44
2. Teaching and learning processes	142	31.56
Clearer, more pleasant, more practical and more interesting teaching	46	10.22

Diminished, structured, organized, useful and updated volume of information	34	7.56
Improving the quality of teachers in the university (psycho-pedagogical, specialized and ethical training of teachers in a responsible, updated and involved way)	30	6.67
Complex and well-made courses/ seminars/ laboratories with interactive, unique, attractive and useful topics specific to the group/ student	13	2.89
Collaboration and communication between teachers and students	7	1.56
Improving adequate teaching resources, extensive learning resources (accessible bibliography, sites, platforms)	7	1.56
Providing and solving subject models before exams	3	0.67
Increasing students' motivation	2	0.44
3. Evaluation process	103	22.89
Modern and diversified evaluation methods and means (e.g. oral examination, practical exams, projects, using the learning management systems, computer tests without internet access, problemsolving)	25	5.56
Checking the works using plagiarism detection software by specialized persons	21	4.67
Exams with medium difficulty, with fewer, realistic and varied requirements	14	3.11
Scholarships and accommodation on students' campuses without taking into account the grades obtained at exams	9	2
Fewer tests/ partial exams during the semester	8	1.78
Assessments in accordance with the level of students and the content taught	6	1.33

Consultations, training courses before exam sessions	4	0.89
Exams based on the student understanding and effort, not on memorization	4	0.89
More attention in correcting works/ projects, elimination of distracting factors	3	0.67
Fewer exams at longer intervals	2	0.44
Serious and sincere evaluations of teachers, measures taken against teachers who received negative feedback	2	0.44
Faculty admission based on evaluation tests, not on files competition	2	0.44
More opportunities to take an exam	1	0.22
Chance for students to express opinions related to exams	1	0.22
Rewarding the student for new solutions or ideas	1	0.22
4. During the examinations	57	12.67
Closer supervision during the exam, vigilance	20	4.44
Prohibiting the use of mobile phones or other technologies during the exam, strict control at the beginning of the exam	17	3.78
Higher number of teachers during the exam	8	1.78
Exams in rooms without internet access, jamming devices	5	1.11
Giving students enough time to complete their work	3	0.67
Installing surveillance cameras	2	0.44
Long distance between students, multi-line evaluation, randomizing seating orders	2	0.44
5. Sanctioning cheaters and plagiarists	63	14
Strict enforcement of existing rules and regulations, not just threats (from verbal or written warnings to	60	13.33

exposure of student to the university community and expulsion from the institution)		
Developing and revising the existing rules and regulation in line with the sophistication of recent cheating and plagiarism strategies	3	0.67
6. Social and financial aspects	7	1.56
Accommodation on student campuses provided for everyone	3	0.67
Several social scholarships	2	0.44
Tax increases	1	0.22
Reducing the number of students	1	0.22
TOTAL	450	100

In order to discourage cheating and plagiarism, the faculty must establish a strong and clear policy, inform students about this policy and apply the policy with strict consequences. Thus, in order to avoid any confusion in understanding exactly what cheating and plagiarism mean and how to avoid them, it is imperative that expectations of academic integrity be communicated explicitly, directly and repeatedly. Regarding sanctions for cheating and plagiarism, engineering students agreed with re-writing the paper, verbal or written warning and lower grade for work and less with expulsion from the program, suspension for one year or repetition the entire year of study. Students should be made aware of the consequences from the beginning of higher education through direct training or designated programs. Such programs should ensure that the students see the relationship between cheating, plagiarism and academic punishments, respectively, so that the exposure could reduce the possibility of what Yeo (2007) stated as the act of defying authority. One of the problems relating to the intention of cheating and plagiarism is clearly due to the uncertainty about the concepts and consequences of cheating and plagiarism.

Teachers play a key role in helping students to develop academic integrity. There are many situations in which the teachers can explicitly teach students what academic honesty means, for example: at the beginning of the semester, when they present topics of study and the learning rules; before a learning task; when students have to face evidence of dishonesty; or when they form the integrity of students in their own teaching. Consistent with students' opinions, teaching, learning and evaluation activities can be

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considered effective in increasing academic integrity as long as the following conditions are met: ensuring a stimulating, activating, interactive, dynamic educational environment; careful analysis of the knowledge that students need to acquire, what is their stage of knowledge; imagining and elaborating didactic strategies as coherent and open systems to the unforeseen; the role of the teacher as a guide, facilitator, mediator of student information and training activities, of interactions and interpersonal communication; overcoming conformist models and multiplying sources of information, causing students to master them; operationalization of knowledge, favouring the acquisition of systematized, structured knowledge with increasing complexity; engaging students in the development of cognitive, psychomotor, affective-attitudinal competencies, both disciplinary and transdisciplinary; increasing the intrinsic motivation and higher cognitive motivation of students; involving students in an autonomous, independent manner in the activity; ensuring a formative, systematic, continuous, dynamic, analytical, flexible and creative evaluation focused on the learning process, integrated with teaching and learning; providing formative, permanent, continuous, structured and effective feedback etc.

Many students proposed that the plagiarism detection software be used to check academic papers and that teachers check the cited references. Various and increasingly sophisticated programs are, now, available, to help teachers to find out information, without doubt, the uniqueness of the work submitted. Tools such as Turnitin or iThenticate can be used to enhance students' academic writing skills and to develop their citation skills.

Many students felt that more supervision was needed during the exam, but also prohibiting the use of mobile phones or other technologies before the exam, a strict control at the beginning of the exam, including the exam sheets. In addition, teachers should be encouraged, to not hesitate reporting immediately cheating cases, to the competent authorities.

McCabe (2005) in his research found that widening the gap between teacher and student, rather than limiting it, can change the university classroom culture, because it pits the teacher against the student. McCabe 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" and stresses that "campuses must become places, where the entire "village" – the community of students, faculty and administrators – actively works together, to achieve this goal" (McCabe, 2005, p. 29).

The data from this study can be used to develop local and institutional programs to improve preventive and educative strategies to minimize cheating and plagiarism, while also improving students' understanding of the academic culture. It is strongly recommended for faculty and students to engage in extensive conversations about academic honesty, to organize

seminars, workshops and symposia to educate students about cheating and plagiarism, their consequences and tools and techniques to avoid cheating and plagiarism and to write academically correctly.

6. Conclusions

Concerned about frequency of cheating and plagiarism among university students, this paper sampled engineering students through a questionnaire. Closed and open-ended questions were administered that focused on students' practices, reasons and attitudes towards cheating and plagiarism. The results indicated that, although most students acknowledged that cheating and plagiarism were unethical conduct, they would still sometimes engage in cheating or plagiarism during examinations or assignments. This was probably due to pressure to pass exams and get good grades, being reasons behind what constitutes acts or practices of cheating and plagiarism. While the study found that cheating and plagiarism were sometimes a common offence among some students who displayed indifferent attitudes towards the immorality of these practices, the results suggest that faculty and university management should allocate resources and address the reasons behind academic dishonesty.

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