



## A SHORT NOTE ON E-CHEATING AND ONLINE PLAGIARISM AND POSSIBLE SOLUTIONS

Breve nota sobre el engaño a los exámenes y el plagio en línea, y posibles soluciones

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### KEYWORDS

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Academic Integrity*

### ABSTRACT

*Recent events, by making necessary online classes and exams, are raising plagiarism and cheating practices among students. I offer strategies to deal with both issues at the stake. I argue that institutions and educators should not only focus on how to detect bad practices and punishments, but rather on preventing despicable behaviours through the construction of a more sophisticated educational system.*

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### PALABRAS CLAVE

*Exámenes Orales  
Plagio  
Cursos Online  
Integridad Académica*

### RESUMEN

*Los eventos recientes, al hacer necesarias las clases y los exámenes en línea, están aumentando las prácticas de plagio y trampa entre los estudiantes. Ofrezco estrategias para hacer frente a ambos temas en juego. Sostengo que las instituciones y los educadores no solo deben enfocarse en cómo detectar malas prácticas y castigos, sino en prevenir conductas despreciables a través de la construcción de un sistema educativo más sofisticado.*

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## 1. Introduction

Plagiarism and cheating are raising practices among students. The recent outbreak of COVID-19 by made necessary to switch online both classes and exams, and this has open up a new market for education that institutions may exploit in the near future. But online exams together with always better and smaller technologies are destined to exacerbate this problem. The ease of use of Internet technology has been, in fact, recognized as the primary cause of the increase in academic cheating and the huge number of digital papers is the cause of the increase in plagiarism (Vernon et al., 2001).

Thus, although the growth of online education comes with big financial benefits, it also presents big challenges as students, by being separated from their instructor, find easier to cheat during the exams and they can find online limitless material to plagiarise without being caught. But the Internet and the new technologies are also the main tools used to detect the students' misconduct.

Thus, what it is causing the problem is also used to solve it. In fact, on the one hand, students helped by both the new technological device, which are always smaller and more difficult to detect, and the incredible amount of information sources on the World Wide Web, which are almost impossible to account for, find both easier to be undetected when cheating and less likely to be exposed to punishment for plagiarism. On the other hand, institutions and educators rely on both the Internet and the IT to detect bad practices, like plagiarism detection tools or the use of artificial intelligence to spot cheating. All the emphasis on the IT and the Internet, as the origin of the problem and its solution, even though very appealing, has diverted the attention from a more complex issue at the very core of this problem, the education of students (Ashworth et al., 1997).

In fact, in the majority of the cases students are aware that cheating at the exams and plagiarize material is immoral, but personal and situational factors may affect the students' behaviour. As plagiarism and cheating are both very difficult behaviours to detect and even to define, it is necessary an educational strategy able to incentive students to do not pursue inappropriate behaviour (through punishments) and seek good practice (through education and incentives). In other words, it becomes necessary to adopt new educational models: an educational strategy based on the punishment of such behaviors may not be very efficient. On the contrary, seeking good practices through education and incentives would be a much more effective educational strategy. As instructors we should not simply focus on the reasons why students cheated at the exam or how they did it, but rather we should find strategies that reduce and discourage academic misconduct in the first place.

In this paper I present a case for the adoption of oral exams jointly with written tests for university students. Using my own experience and using research literature on plagiarism and cheating in higher education, the aim of this paper is to explicitly present two strategies that, if implemented by institutions and instructors, prevent cheating and plagiarism. I outline strategies to deal with both issues at the stake. I argue that the system of punishments is not sufficient to prevent bad practices in academia. Institutions and educators should not only focus on how to detect bad practices but to prevent them by creating a more sophisticated educational system and a collaborative environment between students and educators.

I argue that there are two main advantages to adopting oral exams. The first advantage is that the adoption of oral exams - jointly with written tests - mitigates the incentive to cheat students and it also makes cheating easier to discover. The second one is related to the use of public discussion of dissertations. Students, by holding a public discussion about their dissertations, will have less incentive to plagiarise as they will be required to argue their dissertation main conclusion and answer questions over it. This strategy also has an advantage for the students, as students publicly discuss the work they have conducted under their professor's supervision, the same professor will have higher incentives to help her students as the student's work will be seen as the result of the professor's efforts too.

The type of research developed in this paper is projective. It is based on the description and the analysis of the phenomenon to then propose a model. For this purpose, I carry out a small literature review to analyze the different approaches to the different types of academic misconduct in order to describe, analyze, and draw conclusions about the implementations of oral examination highlighting both the challenges and the results. Then, based on the literature and my personal experience, I find criteria and practical tips to carry on oral examinations in an effective way.

The adoption of oral examinations is mainly based on two arguments. First, regarding the exams, if after the written test students take an oral examination, it would be easier for the instructor to evaluate the students' knowledge and find out whether she has been cheating. With respect to the plagiarism of dissertations, public and oral discussion of the work will decrease the students' incentive to mindless copy material and, by increasing peer pressure, it incentivizes them to actively work on their own dissertation.

I will argue that these two strategies by considering the incentives of both the students and the faculty members, can allow us to effectively deal with the issues at the stake.

## 1.1. Related Literature

Different forms of e-cheating (from now on cheating), i.e., cheating by using computer/Internet technology, have been investigated by Baker and Papp (2003) who described four ways in which students may cheat online during the test: *i)* access to websites, *ii)* communication with others through messages and emails, *iii)* using not allowed material on disk, *iv)* sending the answers to the test to other students. Among the most proposed solutions to e-cheating there are: *1)* install a security program that allows the instructor to control the terminal and blocks other software than the test one to be run on the terminal (Baker and Papp, 2003); *2)* set up a controlled environment like a test center (Carlson, 2000).

A long-standing literature on these topics has focused on students' motivation to pursue bad practices rather than on the tools to prevent cheating. McCabe et al. (2002) show that there exists a strong relationship between students' cheating practices and the perception of their peers of academic misconduct and the severity of the penalties.<sup>1</sup> While Bowers (1964) and Sowden (2005) focus on the how cultural background affect the propensity of students to cheat at the exams, Fox (1994) argues that the perception of ownership right as much as identity and individualism may lead students to unconscious plagiarism.<sup>2</sup> Overall this studies affirm that cultural background and moral rules to affect the perception of academic misconduct among students.

Le Ha (2006) and Liu (2005) challenge those studies by arguing that the main reason for plagiarism is to be found in students' lack of language and content understanding. Thus, he implicitly suggests that the adoption of an educational system in which students' language abilities are stimulated and a deep knowledge of the topic is required would reduce the two phenomena, cheating and plagiarism.

Scholars have also pointed out the importance of a proactive approach to incentive good practices. On the institutional level, Ashworth et al. (1997) suggest that faculty members should contribute to the creation and implementation of policies and procedures related to plagiarism and cheating, while helping students in recognize bad practices and develop their cognitive and writing skills.

Vernon et al. (2001) and Born (2003) focus their work on possible strategies that instructors can implement in order to reduce cheating ad plagiarism like more frequent and differentiated tests, group activities, etc. These strategies, by increasing the variety and the number of the tests make more 'costly' to cheat and plagiarize, but do not modify the student probability of being caught. In other words, as long as the effort to cheat at the exams and/or plagiarize someone else work is low enough (which is actually the reason why the IT technologies are taking most of the blame) and the probability of being caught in such behavior is low, students will have incentives to cheat at the exams and plagiarize their works.

The paper has the following structure. In the next section I define and analyze the cheating behavior. Then I present a strategy to deal with this type of academic misconduct and my personal experience. In Section 3 I define and analyze the phenomenon of plagiarism. Then, as before, I present a strategy to deal with this type of academic misconduct and my personal experience.

The last section concludes.

## 2. Cheating

Cheating is generally defined as one or more of the following acts: taking unauthorized material into an exam, communicating with other students during an exam, copying the exam output of another student.

Cheating is the most difficult act to detect as it needs to be caught at the time in which happens in order to be proved. The punishments in case a student is found taking one or more of the actions above, are usually stated in a regulation document of the institution, but these actions are often very difficult to catch, and during an online test it becomes nearly impossible to catch and prove cheating.

Standardized and written exams have the quality of being mostly unbiased, but at the same time they do not allow instructors to verify if the test result was the outcome of cheating or students' effort. Consider a written exam test and suppose that a student by cheating can obtain a medium/high mark. If the cheating is detected then the student fails the exam and pays a sanction, otherwise he obtains a high note without having previously studied. Obviously, lower are the probability of being caught higher are the students' incentives to cheat.

The relevant question should be, then, is there a way to increase the probability to find out if a student is cheating and at the same time decrease her incentive to pursuits such behavior?

### 2.1. Oral exams: the game changer.

What about the instructor? Is this the optimal strategy for an instructor too?

If after the written exam the student is asked to orally answer to few questions on the exam's topics the probability that a cheater will be discovered by the instructor increases and so it increases the probability that who cheats at the exams will be suspended. Then, a student that has to orally defend his written answers has less

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1 See also McCabe (1992) and Davis et al. (1992) for further discussions on students ethics and academic misconduct.

2 For a review of quantitative studies of students plagiarism see Scanlon (2003)

incentives to cheat during an exam, as the instructor, by directly checking the preparation of the student, may infer whether her preparation is sufficient and eventually change the final grade.

The adoption of oral examinations has two major advantages. On the one hand, the student foreseeing that her grade will be lowered - or she may even fail the oral exam - has less incentive to copy and, this way, higher incentive to understand and study the course material. On the other hand, the student also has higher incentive to participate during the classes in order to improve her preparation and even to be able to predict possible exams' questions (written and oral).

But the introduction of oral examination also has some drawbacks. First, oral exams can be intimidating for students, so a friendly approach it would be necessary. Second, during an oral exam there is a possibility of being unfair, or of being accused to be unfair. After all the oral examinations have been replaced by written tests in the last few decades in many institutions to avoid any bias in the students' evaluation. But this is a problem of easy solution, by having more than one professor/TA during the oral exam the fairness can be guaranteed and by carrying both written tests and oral examination would decrease the evaluation's bias, for example allowing the oral examination to lower the grade at the written test of no more than 10% of the grade and not setting any upper limit in case of raising the grade above of the one of the written test.

## **2.2. Oral exams and instructors.**

What about the instructor? Is this the optimal strategy for an instructor too?

Written and standardized exams have the advantage of being faster to grade than oral exams (especially for topics like mathematics, economics, physics, etc), thus failing a student (who will re-take the exam the next term) has a relatively little cost in term of time for the instructor. But if the exam is in two folds, written and oral, the time-cost of a student retaking the exam is not negligible to the instructor. This extra-cost would incentives instructor to better prepare their classes and to pay closer attention to students preparation during the course. Obviously, given the greater amount of work and time to invest in teaching instructors need incentives in order to put in place such system. Institutions should, in fact, set up and reward a new educational paradigm, otherwise this system would never be implemented. An easy solution would be to have smaller group of students assigned to each professor, which would lower the number of students sitting at the oral exam.

## **2.3. Oral assessments: Tips**

The main goal of carrying an oral examination should be to enable students to demonstrate the understanding of concepts used for the problem solving in the written test, hopefully in a low-stress environment. A secondary, but not less important goal is to develop a better measure of students' competence and limit cheating during the written test. Finally, oral exams have been proven to develop students' communication skills, which are necessary in the modern job market, thus focus on the clear communication of ideas and concepts it is extremely important.

Public speaking and discussion are skills, so they must be trained. According to my experience, knowing students' names and directly asking them questions during classes (this avoids that only the usual few students answer the questions in class) it is extremely helpful for those students who may experience public speaking anxiety. The main trick to avoid that student refuse to answer not put much emphasis on wrong answers as much as on the right ones. An extremely important way to alleviate anxiety is to build trust in the classroom. For this reason I make sure that my students know that a wrong answer during the class is an opportunity to understand better the topic. I also use the last 10 minutes of the theoretical classes to discuss with my students about relevant real-life events and ask them to give me their opinion and how they formed them, so to eliminate some of the tension due to the 'public speaking situation'.

It is important to make clear how the oral exam will measure students' competence. Students need to know in advance what is expected from them, and they must have the possibility of practicing it.

Oral examinations are usually not a standing alone exam, they follow the written test. Traditionally the written tests have several questions of different difficulties, and the oral exam may depart from one of those questions, in this way it can serve two purposes: 1) make feel the student comfortable, 2) reduce the probability of undetected cheating.

Lastly, oral exams may be graded unfairly (or the professor can be accused of grading them unfairly), to prevent this possibility it would suffice to conduct the exam together with a colleague, better if it is the TA of the course as the students will not be exposed to the stress of talking in front of a total stranger.

## **2.3. My personal Experience. The Case of Economics Courses.**

In economics, as in many other science courses, the written exams are characterized by the adoption of the Problem-Based Learning (PBL) approach. This approach is based on the use of problems to encourage students to acquire knowledge and develop critical thinking and problem-solving skills.

But can economics be reduced to the ability of performing derivatives and solving more or less complex system of equations? Economics is a social science, and as social scientist and economic students must be able to apply

their knowledge even if there are no equations to solve. Economics exams cannot be simply mathematical exams, and although open questions may allow students to show somehow their knowledge of the topic, those type of questions are often limited to basic definition. I believe that the oral exam is a richer and more flexible alternative to the open response type of questions.

A part for my direct experience with oral exams when I was a student, I never had the chance to carry oral exams in my courses as faculties' regulations are somehow strict in this respect. As result I had to find other ways to implement this strategy as I believe oral discussion is an extremely important skill of future economists. Thus, during my classes I present to my student real-life examples and problems related to the topic we are working on and then I ask them few questions on how they would behave if they were one of the agents involved in the economic problem at stake. Once collected few answers I ask them to justify and try to incentive a discussion among them over the different strategies that have been proposed. This type of interaction, on the one hand, makes students more interested in the topic and in understanding how to use the mathematical tools to solve the problems, and on the other hand allows me to understand how improve my classes and if I need to spend more time over a specific topic.

### **3. Plagiarism**

One of the main problems in detecting plagiarism is that it is "often difficult to distinguish between poor scholarship ... or carelessness and deliberate intent ..." (Larkham, 2002). This is true, in particular, when the only contact between the student and the instructor is when the essay/dissertation is handed or few more times.

A common practice of institutions is to offer courses that teach to their students about plagiarism. Those courses are mainly focused on what plagiarism is, how to cite source, and finally they outline the punishments in case of detected plagiarism. Even if very useful, the knowledge of the rules (Park, 2003) has proved not to be enough, and nowadays with the limitless amount of sources plagiarism goes easily undetected. We should focus on the source of the problem (why students plagiarize) and then try to solve it.

Students, in particular higher education students, often experience stress, peers and family pressure, and anxiety, which jointly with poor organizational skills, and often also with poor linguistic skills, may drive the students to plagiarize. Often students are left unsupervised for long periods of time and the instructors are unaware of their difficulties in the drafting process (Lea and Street, 1998). As result, stressed students tend to rely more on external sources than on their supervisors.

A possible solution may be an educational strategy based on higher interaction between the supervisor and the students which can be outlined through a system of checks and balance. When students interact with their supervisors two main things are expected to happen. First, the student by gaining confidence and by having a cardinal point in her academic career feels more motivated and less prone to plagiarize. Second, the supervisor by being more aware of the issues of the student and can guide her in a specific and effective way, so to lower the student's anxiety and motivate her to advance in her academic career without needing to cheat or plagiarize.

#### **3.1. Checks: a minimum number of meetings.**

In order to increase the interaction between students and supervisor, the easier and more straightforward way to proceed it would be to require a minimum number of meetings to be held on regular base. I believe that introducing a minimum number of meetings between the student and her dissertation supervisor every few weeks has many advantages. First, the student, by sharing her progresses and difficulties on regular base, will be able to discuss with her supervisor not only whether she is overwhelmed, but she may choose topics that are interesting to her and not simply easy to develop or plagiarize.

Second, the instructor has the opportunity to tailor his advice and guidance to every single student, trying to motivate her and check time by time whether the work is plagiarized. By avoiding last minutes checks, that are often ineffective and do not pursue any educational scope, the supervisor can actually guide her student. One way to easily implement this system is to think about the dissertation as a collection of tasks for both the student and the supervisor. At each step the supervisor has the duty to revise the work and give guidance to the student, while the student has the duty of deliver the work and the chance of asking for 'personalized' advice, tailored to her dissertation and her learning/writing style.

#### **3.2. Balance: two-ways responsibility.**

Students' dissertation should be not only the outcome of the student's academic career but also the result of instructor's effort of passing knowledge. To incentive instructors to not undervalue their students' work a good practice would be to hold a public discussion in which the student presents her work, and a committee (not necessarily large) is allowed to ask questions to the student. This setting, by pushing students to work harder

because of peer pressure, will also have a secondary effect: the student will require better guidance, higher engagement, and serious commitment from her supervisor.

### **3.3. My personal Experience.**

During the first year of lockdown, due to the recent events, I have moved all my students' meetings online. At first, students responded very well to this change, they felt they had more flexibility, and that the presence of a screen somehow was putting them in a position in which it was easier to express their concerns. But that came to a cost, although they liked the flexibility, they were taking less seriously the meetings postponing them continuously as 'virtual' meetings are always possible. I soon realized that this was clearly due to a lack of strategy to deal with deadlines if they felt unsupervised (Sterngold, 2004). The lack of a clear strategy and the isolation in which the lockdown put the students were actually making their writing harder. As response I started to schedule regular updates about their dissertation. Once every fifteen days I was holding a meeting with each of them in which I was asking what their main issues were, and once a month they were asked to submit a draft of their work, which I commented so they could implement the changes for the next meetings. Students did work a lot in developing their own ideas, once I implemented the new schedule, and the plagiarism percentage of their works fell between the 2% and the 5%, which is extremely low.

By increasing my interaction with students, I drastically changed their way of working, thus I have kept the same system also for my off-line TFG students.

Moreover, by talking with them about their issues I have noticed that their main difficulty is to write their thoughts. By having many meetings over the academic year, they become more confident and simply talking about their ideas and problems in most cases it was enough to stimulate them to use their own words rather than plagiarize someone else work.

It is time consuming? Extremely! But I from my experience it is also very clear that this strategy works. My students do not only avoid plagiarizing other sources, they also (clearly) avoided to look for external helps knowing that in maximum two weeks' time they were able to solve any issue by directly discussing it with me. Moreover, as they are receiving very clear instructions and a list of tasks to implement, they were never totally lost, even if they encounter a major issue in a specific task they could have skipped it and go to the following task.

## **4. Conclusions**

The instructors play the main role in the creation of the collaborative environment, given that they are the ones that can directly act to morally educate students. But being a good educator is not always enough.

Incentive to cheat and plagiarize in the new information society and thanks to the recent events are very high. In order to decrease those incentives, I have suggested two strategies. Those strategies, although not perfect, may be a first step toward an educational environment able to take into account the technological revolution we are witnessing. In particular, by adopting oral exams and public discussion for the student dissertations, increase both the probability of catching misbehavior and the sense of responsibility of the instructors toward his students.

As pointed out by Davis and Karunathilake (2005) many scholars have found several advantages in carrying oral examinations. Among others Sandars (1998) and Wass et al. (2003) point out that oral examinations allow the instructor to assess students' problem solving, they also provide the opportunity to test deep knowledge (Cox, 1982; Gibbs et al., 1998;) and the ability of the student to move from one topic to another (Deale, 1975; Wakeford et al., 1995). But institutions cannot be left outside of the picture. They must participate more to students' education by not dodging their responsibilities.

Moral education requires time. Time, a very scarce resource, is actually the main problem institutions have to solve. For academics the time invested in research activities has higher return than the time invested in teaching activities. One way for institutions to increase the incentive of their professor toward teaching activities would be to design courses with smaller groups, reduce the administrative load for professor (through a reduction of bureaucratic procedures), and eventually implement a new system of incentives for teaching achievements.

To conclude, the education of the students must be pursued by all actors, institutions, and instructors, to forge the new generations. Clearly an educational paradigm based only on a system of punishment it is extremely inefficient. A new paradigm must be created through the effort of each academic actor.

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