

PLAGIARISM: WHAT KIND OF IMPLICATIONS IN HIGHER EDUCATION?

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Abstract

This research aims to reflect on ethical issues in the teaching-learning process in portuguese higher education in the context of Bologna, in particular the troubling reality of plagiarism practiced by students.

To relate this issue with information literacy (IL) is inevitable, as at several international standards of IL, the question of ethics, copyright and plagiarism recurs. We highlight in the literature review, some investigations that focus on these matters, although of crucial importance, but wich don't have had, in our view, adequate attention or the most appropriate practical action to deal with them.

From a PhD research, carried out in a portuguese polytechnic higher school, focusing on eight undergraduate degrees in the areas of Accounting, Information Science, Human Resources, Design, Hotel Management and Engineering, we will stand out some results and interpretations of a study on IL and training for IL, highlighting, among others, the question of ethics and plagiarism, wich are regarded by different actors of the educational process.

Through data gathering instruments - online questionnaires applied to teachers and students of these undergraduate degrees - and interviews ministered to the course coordinators and the librarian of the institution, there is enough material to conclusions betting on the need for a formal and continuing training, with collaborative actions between the educational agents and institutional reinforcement and impact.

Key words: Plagiarism, Ethics, Education, Information Literacy, Training

1-INTRODUCTION

This research took place as part of a wide range study that supported the the Ph.D thesis entitled "Information Literacy in the Polytechnic Higher Education System: skills and practices in a Higher Education School", presented in 2014, within the Universidade de Aveiro and the Universidade do Porto Faculty of Humanities joint doctoral programme in Information and Communication in Digital Platforms.

Research was carried out during 2010 at Porto Polytechnic Management and Industrial Studies Faculty. Eight undergraduate programmes were analysed: Management and Accounting, Information Sciences; Human Resources, Design, Hotel Management, Engineering and Industrial Management, Mechanical Engineering, and Biomedical Engineering.

The main purpose of this research was to assess the contribution of higher education to an increase of Information Literacy (IL) levels amongst polytechnic students, according to the Bologna Declaration determinations and the International IL standards.

Specific goals focused, e.g. on a) the identification of students' and teachers' expectations regarding IL and b) how IL training was incorporated by the curricula.

This paper will focus on one of the IL skills surveyed – The secure, legal and ethical use of information and technology – and on a reflection on the possibility that the escalation of academic and social plagiarism may be partly due to the lack of emphasis provided by higher education.

This subject is of the utmost importance for those directly involved in the teaching-learning process in higher education (and even earlier) and has been analysed previously by the author [1]. Though considering the perceptions of students and teachers, this paper will focus mainly on the perception of those teachers appointed for the coordination of undergraduate programmes.

This specific approach on the course coordinators' perception on ethics and plagiarism is being subject to analysis for the first time, as formal constraints prevented this analysis within the doctoral programme.

2- METHODOLOGY

We have chosen the quadripolar method, recuperated by authors Armando Malheiro da Silva and Fernanda Ribeiro from a study by Paul de Bruyne, Jacques Herman, and Marc de Schoutete in the 1970', with the title *Dynamique de la recherche en sciences sociales de pôles de la pratique méthodologique*.

A positive aspect of the quadripolar method, when associated with qualitative research – and overcoming the imposed scission between qualitative and quantitative research – it enables a rather desired interdisciplinarity that allows the four poles – epistemological, theoretical, technical and morphologic - to interact with the above mentioned method in a non-linear flexible way. (Silva et al.) [2].

The epistemological pole, defined by (Silva et al.) [2] as “a superior entity imbricated in the theoretical and institutional apparatus”¹ (p. 87), will be one of critical surveillance within the research, comprehending the author, given her role as a teacher within the institution under analysis and thus requiring a redoubled sense of objectivity as well as the truthfulness and validity that characterise any scientific research.

Contextualising the problematic surrounding the IL research, we should point out that the Information and Education Sciences scientific area, upon the contamination originated by the epistemological change endured by Information Sciences, are now part of the new post-custodial scientific paradigm that sets focus on the information rather than in the document itself (Silva et al.) [2]. The research at hand is set upon this premise.

The theoretical pole relies on the analysis of existing theories, the description of operational concepts, and the formulation of a hypothesis regarding the subject of research for posterior verification or refusal. (Silva et al.) [2]. Hence, the primary research question: “Which skills and strategies in IL are being developed for undergraduate students attending the Management and Industrial Studies faculty of Porto Polytechnic as a result of their academic programme?”.

The theoretical pole also comprehends the hypothesis. This research has two: 1st hypothesis – The training provided during the undergraduate programme improves IL skills; 2nd hypothesis – Providing a syllabus that comprises subjects related to Research methodology increases IL skills.

Of the analysis of the available literature, as part of the theoretical pole, several international standards on Information Literacy stand out, e.g.: NETS-S [3], The Australian and New Zealand information literacy framework (Bundy) [4], Information Literacy Competency Standards for Higher Education (ALA) [5], and Information Literacy Standards for Student Learning: Standards and Indicators (ALA) [6].

From these guidelines we extracted seven IL skills of particular recurrence and significance, that shall be analysed in the empirical study: i) Learning Autonomy; ii) Team Work; iii) Development of critical thinking; iv) Communication of information via the appropriate means; v) Secure, legal and ethical use

¹ Our translation

of information and technology; vi) Research of information as a means to problem solving; vii) Assessment of the quantity, quality and relevance of the information selected.

From these, we will focus on the “Secure, legal and ethical use of information and technology”.

The study of non-compliance with the ethical use of information and plagiarism, namely in higher education, as existed for long. Two books have been published in Portugal, recently (2015 and 2016) by Almeida (et al) - *A fraude académica no Ensino Superior em Portugal: um estudo sobre a ética dos alunos portugueses* in 2015 [7] and *Fraude e plágio na universidade: A urgência de uma cultura de integridade no Ensino Superior* [8], published in 2016, both resulting from a research project focused on academic fraud. The earlier, on academic fraud in Portuguese higher education, introduces empirical results regarding students and teachers, presenting a practical approach on the matter. The latter, on fraud and plagiarism in university, is a more theoretical nature and introduces the contribution of several of the researchers involved in the above-mentioned project.

Almeida (et al.) [7] claim “academic fraud perpetrated by students is an institutional and social problem. It compromises the solidity of society’s basic structures, such as the reliance on institutions and interpersonal trust”², p.19. Upon this statement, the authors list the causes for this undesirable phenomenon, highlighting a) student massification in higher education and b) a low quality of education due to the increase of the student/teacher ratio that lead to a more impersonal teaching process. The greater distance between teacher and students facilitates a lesser commitment of the student towards the teacher, promoting undesirable attitudes such as deceit or pretending. Though unjustifiable, such feeling may be easily understood in a work context with a lower job offer rate and increasing student competition.

On the other hand, the authors also point out the factors that undermine the pedagogical work and preventive actions by the teachers: a) a continuously increasing number of students per class; b) the increasing number of curricular units per teacher; c) student absenteeism; d) the increasing number of hours teachers are requested to devote to administrative bureaucratic tasks; and e) the overestimation of the scientific role of the teacher in detriment of the pedagogic role. (Almeida et al.) [7].

According to these authors, there is a classification of student fraud that falls into four categories: “misappropriation of another’s work; simulating work not completed; enabling third party fraud; non-disclosure of fraud”.³ (Almeida et al.) [7] , pp-22-23.

To find a solution for this undesirable phenomenon will require a deeper awareness and understanding of the reasons that lead students to committing academic fraud. We should like to highlight the three reasons most often cited by students: “to ensure approval to a discipline that had already been failed, academic workload, and insecurity: fear from not achieving success any other way”⁴ (Almeida et al.) [7] , p. 64 . We can extract that there is a critique to the increasing workload in course plans as well as personal insecurity.

The authors have grouped institutional anti-fraud policies in three classes: i) dissuasion strategies ii) training/ education strategies, and iii) pedagogical support strategies. The first group focuses on dissuasive strategies and is based on the delation and punishment of fraud; the second group focuses on training and educating students in good academic practices, and the third group emphasizes the quality of the pedagogical relationship with actions that will increase awareness on the significance of student – institution commitment and proximity relationship. Results indicate that the punitive character of aggravated penalties is the most effective measure to prevent fraud amongst students, while, simultaneously, indication that nurturing a close relationship between student and institution acts as a key discouraging element against fraudulent practices (Almeida et al.) [7].

According to teachers, the main cause of student transgression originates in previous fraudulent behavior in secondary education - “teachers tend to justify fraudulent student practice with insecurity, a culture of fraud, and the apparent lightness of punishment.”⁵ Almeida et al.) [7] , p.107-108

² Our translation

³ Our translation

⁴ Our translation

⁵ Our translation

According to teachers, the most effective means to combat this university scourge would be the aggravation of fraud penalties, dissemination of good academic practice amongst students, and the existence of a Code of Conduct, emphasizing an institutional dimension that would value both punishment and information. On the other hand, students claim a closer teacher/student relationship as the most deterrent factor and value the assurance of anonymity in fraud delation far more than the teachers. (Almeida et al.) [7]

In the 2016 book, Almeida et al. [8] reported that one of the ways to implement plagiarism prevention is based on the role of information and awareness of this unwanted phenomenon through ethic, specifically through the adoption of a code of ethics, which as already been adopted by several universities for the last fifteen years. These documents have a regulatory function within the university, eg, creating codes of conduct (professional and ethical) to be respected by all parties of the institution: students, teachers, managers, researchers, and staff.

The use of quality Plagiarism software is also effective, as 21st century most common plagiarism happens via unreferenced Internet copy-paste. Thus, the same technology that is unwillingly enabling fraud may be put to its deservice via specific software, some of which user-friendly and open-source. Some teachers and researchers find this to be an effective dissuading measure while others argue that software can always be tampered with and that only systematic permanent monitoring of students' work by teachers / thesis advisors and student involvement at all stages. (Almeida et al.) [8]

According to Bradley [9] plagiarism is currently one of the most important issues of the academy, raising key questions. The adoption of Plagiarism software has led students to raise question: would the presumption of guilt create a culture of mistrust that would consequently undermine the teaching-learning process? Would the entry of students' work in plagiarism software databases violate copyright and/or intellectual property? Furthermore, plagiarism softwares are limited to their databases, which would mean that should teachers and evaluaters rely solely on it they would be risking that failing to identify transgressions that exist but are not detected by the program.

On a rule compromise strategy perspective, Bradley [9] states that universities recommend that teachers ensure that, at the beginning of each course, students be punished in case of plagiarism. The sanctions range from a written warning, verbal repetition of institutional sanctions for plagiarism violations, being compeled to repeat the course, lowering of grade, removal from class, and expulsion from the institution. Another strategy based on integrity points to honor codes, according to which students make public statements regarding their moral character. Finally there is the "turn a blind eye" strategy, which carries no official sanction, since violations are ignored.

Bradley [9] also advocates the benefits of specific training, which should be an independent discipline. Bradley points out that there are several institutions trying to provide research and writing skills and that, given the diversity of areas, many institutions focus on the common points of different areas of study. This author cites programs like "writing across the curriculum" but still points out the difficulties in associating these approaches with plagiarism training strategies. The author also refers the essential role of the librarian in the context of information, though focused on the aspects common to different areas, and advocates the need to transform this type of homogeneous service into a heterogeneous service, comprehending several areas.

For the implementation of empirical research, we have used different data collection techniques and observation instruments, which integrate the technical pole, described by Armando Malheiro da Silva and Fernanda Ribeiro (Silva et al.) [2].as that in which "the investigator makes instrumental contact with the objectified reality (...) [in it, the theoretical pole] the probative capacity (verification or refutation of the "theoretical context") of the methodological device is duly verified" ⁶ p.88

At this stage, we proceeded to collect information through document analysis, from the syllabus of the undergraduate programmes' curricula provided at ESEIG, in order to make a list of courses that, given their name and content, focused on LI and Research Methodology.

We conducted a survey based on online questionnaires (generated by QuestionPro software), obtaining 506 valid responses and a 76.6% response rate from students, and 77 valid responses from teachers, having registered a 81% rate of response. The questionnaires were presented and

⁶ Our translation

completed directly by the respondents. The content addressed different issues as well as some common questions regarding LI, to enable comparing the possible perspectives of teachers and students.

The use of semistructured interview was applied to the librarian of the institution to confirm and allow for a more in depth exploration the *a priori* perception of the library on IL training and assess the degree of combined training with teachers and students.

We also used a semistructured interview on eight course coordinators and on members of Extraordinary Supervisory, Monitoring, and Development Commissions for Undergraduate Activities, who are generally the most experienced and skilled teachers in their professional category, and, also, in many cases, responsible for the adaptation of the undergraduate curriculum during the Bologna Process in 2006.

The teachers responsible for the Coordination of undergraduate programmes, being proficient on the curricula, courses, fellow teachers and students, were able to provide key information regarding teaching and learning aspects that contribute to IL formation, and to identify the most important skills that are usually not explicit or in the curricula nor on the syllabus.

During the interviews with the course coordinators, there was an emphasis on issues related to the presence of training for IL in formal learning, assessment of IL skills, training contexts, teaching strategies, interaction with students through ICT and the results of training for IL, among others.

At the beginning of the interviews, after the customary acknowledgments and explanation as to the purpose of the research, the coordinators were read the definition of IL according to the perspective of the research at hand. This definition is an adaptation of CILIP as included in the questionnaires:

"Information Literacy is the ability of individuals to recognize a need of information, to search for the information they need through consultation of several informational sources, printed and electronic (using Information and Communication Technologies) to know evaluate this information and use it critically. It is also the ability to communicate information in an ethical manner, that is, understanding and respecting the issues of copyright and intellectual property." (CILIP) [10]

In the course of this article, we will attention will focus on the testimony of these actors - program coordinators - though some of the data collected from the interviews and the corresponding interpretation can be crossreferenced with that of other "actors" of the teaching-learning process.

3- RESULTS

The presentation of research results falls under the last stage of the quadripolar method – the morphologic pole, during which the data collected through various techniques is organised, analysed and presented.

Underlying the data organisation and presentation is the analysis technique chosen for this investigation, qualitative – content analysis for interviews and open questions in the questionnaires, and quantitative – statistic data analysis applied to the questionnaires through SPSS – Statistical Package for the Social Sciences –version PASW Statistics 18.0.

From the script of the semi-structured interview conducted to the coordinators of the eight undergraduate programmes, those directly related with the research at hand were:

1. Have you ever received any formal reports of plagiarism?
 - a. If so, what steps did you, while coordinator, take?
2. Did you promote ethical behaviours in the undergraduate programme under your coordination, within IL training?

Thus, through the content analysis conducted on the answers from the coordinators, we have organised the results in five major categories: i) formal plagiarism complaint submitted to the course coordination; ii) steps taken by the coordinators upon detecting plagiarism; iii) promotion of ethical behaviours; iv) detecting plagiarism: means and difficulties according to the teachers; and v) causes of plagiarism.

Formal plagiarism complaint submitted to the course coordination

Regarding the 1st question, in most cases – six of the undergraduate programmes (EM, GAH, CTDI, RH, EGI, and CA) – the Coordinators attested formal complaints of plagiarism; in one of these there was an informal report of the situation (EBM); and one coordinator, though not answering the question objectively, speaks on the generalisation of plagiarism throughout the course and on the institutional disregard for the matter (Design).

As for the teachers, most of those who answered (77) claim to have detected plagiarism in student assignments/reports (74%). When enquired about the frequency of plagiarism in student assignments, 55 of the teachers (54,6%) estimates that it as not very frequent or not frequent at all.

Steps taken by the coordination upon detecting plagiarism

When questioned about the steps taken when formally informed of plagiarism situations, the Coordinators dive into two groups, each with its specific variants. On one end, the most radical group advocates the student should fail the course, on the other end, the benevolent teachers who allow students to rewrite their assignments.

In most cases (six courses), we found that the most common response is to reprimand students though allowing them a chance to rewrite their work.

One of the coordinator goes further in his choice: 1) determines how the reformulation of the assignment should be made, pointing out the need to include bibliographic references in the plagiarised work; 2) though the coordinator clearly considers that failing the student would be the proper course of action, he sees the request to redo the assignment as a “lesser evil” that prevents the rate of student failure from escalating enormously.

An intermediate approach would be the enforcement of a penalty that could go as far as failing the class altogether.

We have come across five cases of coordinators that advocated failing the class as the proper measure towards plagiarism. Three of those answers focus on the reason for this procedure – gravity. Of these, two focus on the manner by which the reproof is conducted implying awareness of harder institutional regulations that could be enforced but simply aren't. In fact, one such regulations states that students may be allowed to re-enrol in the curricular unit they have failed for plagiarism in the following year; yet, another answer suggests that despite the compulsive failure, in serious cases, no disciplinary measure are taken.

A fourth response, also referring to the underlying causes of reproof mentions the occurrence of similar assignments - the same work being handed in by different students. And, finally, a fifth answer mentions the occasions when the coordinator advises the teacher reporting a plagiarism situation to annul the assignment though stressing that it is strictly up to the teacher to make that choice (GAH).

Table 1 - Steps taken by the coordination upon detecting plagiarism

Student reproof	Nº	Re-writing the assignment	Nº	Penalty	Nº
Gravity	3	Reprimand with a second chance to rewrite the assignment	6	Facing possible reproof	1
Detection of similar work	1				
Suggesting the work annulment though burdening the teacher with the sole responsibility	1				
Total	5		6		1

On this same question, posed to teachers, after having detected plagiarism in student papers, through a questionnaire with multiple response, is found that the most chosen option is to request paper reformulation (44.6%), while the disapproval sum a total of 32.1%. It is noted that in this percentage are included two options: Student disapproval -12.5% and disapproval but with repeating possibility for that academic year - 19.6%.

It is concluded that in the group of teachers, there are more teachers to adopt a less extreme measure - the possibility of reformulation of papers -, a situation that is also found in the responses of the coordinators. As for the most stringent option for the student - the disapproval - it is adopted by smaller percentage of teachers and coordinators. In the case of teachers, face two types of failure, a higher percentage opts for a measure less onerous, ie, one that allows students to repeat the assessment in the same academic year.

Promotion of ethical behaviours

When the coordinators were asked to answer the question on the promotion of ethical conduct within the IL teaching in undergraduate courses, it is clear that the issue of awareness transversal to this issue occurs in six of the nine statements on the subject.

In these six responses, two of them focus on raising awareness of the ethical and two on the need to avoid plagiarism. One answer is complemented with a cause for this strategy adopted in the course: students of higher education do not have much notion of ethics. While the 5th answer touches on the theme more indirectly, stating that, in several courses and projects, teachers speak of the attitude and responsibility of the future professional in the area. The 6th answer describes how is the practice of teaching and learning in the course concerning assessment: 10% of the allocation of assessment refers to the behavioral part, which includes ethical issues .

In the remaining three answers are given specific examples of promotion of ethical conduct in the course: *i)* course ethics and other course where ethics must be present (RH); *ii)* In certain unit course there is a component of the evaluation on how to make a presentation of a paper (EM) and *iii)* in the 1st year, 1st semester, there is an alert to the need to cite references and the 2nd image hand (Design).

Table 2 – Promoting ethical behaviour

Transversality in the course	Nº	Particular cases	Nº
Focus on ethics	2	Unit course about ethics	1
Focus on plagiarism	2	Unit course about presenting papers	1
Responsability of the future professional	1	In the 1st year, 1st semester, awareness of the use of bibliographic references	1
10% of the assessment in each unit course for the of student's behavior	1		
TOTAL	6		3

Detecting plagiarism: means and difficulties according to the teachers

With regard to the detection of plagiarism of papers completed by students, there are two distinct groups of responses: the case of teachers who have detected plagiarism and the case of those who evoke difficulties to detect plagiarism.

In the group of plagiarized work / detected by teachers, we can identify the ways in which this has been achieved. There is only one case where reference is made to the use of specific software for the purpose. The other two cases fall within the knowledge / memory that teachers or Juries have about equal papers, in one case, a equal paper evaluated by the teacher himself, and in another case, the recognition of a thesis, by a jury.

By the course coordinators are referred a number of reasons for the detection and fight against plagiarism, by teachers, is difficult. The most pointed reason (by three of them), is related to technology issues and lack of institutional support in this matter: it is the absence of a plagiarism detection software, in the institution. One of these coordinators states that "There is no system perfect to take the students to do as a copy." Also related to technologies, there is an answer that states the use by the students, of multiple sources of information on the net and the consequent difficulty of control by the teachers.

Another cause indicated which difficult plagiarism identification is related to the formal structure of the papers and their extension.

Finally, two coordinators make statements in this regard that could be framed in the behavior of teachers. Thus, a coordinator says that there has never been much concern about the control of plagiarism [by teachers] in the course, because it is difficult to do so, while another coordinator has doubts about the occurrence of formal verification by teachers, when papers are concluded by students, despite awareness of ethics be made.

Causes of plagiarism

In coordinators responses is still observed a common tendency to some of them, which is to refer the causes of plagiarism, identified below: *i)* students wish to write their papers in a rapid manner with excellent results (HR); *ii)* students feel the source of information as something very depersonalized (CTDI) and *iii)* favorable conditions for the occurrence of plagiarism since the paper is often done out of school / classroom(Design).

It will be also interesting refer to results already explored in previous paper (Braga) [1] about the causes of plagiarism, according to the perceptions of students and teachers. So, for students, the main cause is the "mismanagement of time for students to perform the requested paper" (30.2%), while for teachers is the "devaluation", by students, of ethical issues related to information "(37,1%). Interestingly, the 2nd cause more pointed by teachers is also the "mismanagement of time for the students to perform the requested paper" (18,5% *Ex aequo*) with the "lack of training for IL" (18,5% *Ex aequo*).

Taking up a central issue on the seven skills being studied, it should be noted the relative position that this one - **the ethical use of information** - occupies face to the others, according to the perception of students and teachers. In both groups, in the context of teaching and learning, this competence of IL, although considered as well developed (as indeed all the others) is not occupying the top positions. On the contrary, in said group of seven skills, it holds for both groups, the 5th position, in descending order, considering the average, on a scale where 1 value is the lowest and 5 the highest value. For students, the average is 3,70 and for teachers the average is 3,92. Still, the average of teachers is higher than that of students but there is no statistically significant differences between the two groups of respondents.

Regarding the aspects on which more lies evaluation of academic papers of students, among the 317 responses from the group of teachers, the most chosen option is "Critical use of consulted information." As for the issues more directly related to the "ethical use of information" (16,1%) and ways to operationalize it in practice, such as "Use of quotes and bibliographic references " - 15,4%; "Use of recommended literature about standards of bibliographic referencing" - 10,7% are the least valued, and the sum of the percentages of the remaining options totals a majority of 57,8%. It seems, therefore, that in the group of teachers, although there is some appreciation of the ethical use of assessment, it does not heads their priorities when assessing students papers.

Table 3 – Assessement of student papers

Evaluated aspects by teachers	Freq.	Valid %
Diversity and credibility of information sources used	55	17,4
Critical use of consulted information	63	19,9
Use of quotes and bibliographic references	49	15,4
Use of recommended literature on standards of bibliographic referencing	34	10,7
Ethical use of information	51	16,1
Paper structure	57	18
Others	8	2,5
Total	317	100

4- CONCLUSIONS

The ethical use of information, though considered by teachers and students as a well-developed IL skill in the process of teaching and learning, ranks, overall, as one of the least developed.

We have concluded that, while reviewing students' academic work assignments, teachers struggle with the difficulty as they detect plagiarism situations, despite the "good" average results given by teachers and students the "ethical use of information" skill - considered to be "well developed" in teaching-learning process.

Although most teachers consider plagiarism situations to be scarce or not frequent, they do in fact exist and it is necessary to provide answers to face and fight this unwanted reality.

Though the manner by which teachers and course coordinators act against this reality is not entirely convergent, most chose a not extreme penalty as solution - the majority allows a reformulation of the plagiarized work, followed by those who advocate failure to that class. Still, the vast majority would enable the repetition of the course unit in the same academic year.

Teachers and coordinators identify several degrees of difficulties in detecting and fighting plagiarism, from the absence of specific plagiarism detection software, to the recurrence internet use in student assignments, the extension of papers, the absence of institutional disciplinary regulations, the lack of willingness of teachers to monitor and verify final assignments regarding the ethical use of information. There are, therefore, both institutional and personal difficulties.

There are several causes that can constitute the basis for students' plagiarism. One of the most cited is the lack of time (academic overload). This would lead us to question the students' time management skills, and their ability to establish priorities within their academic performance. Should they learn or be trained in time management in higher education? We could also consider that there might be an excessive concentration of courses units in each semester. Is there a lack of coordination between the moments of evaluation of different curricular units each semester? Indeed, several other question could emerge, such as: is there adequate training for IL at the institutional level?

As for promotion of an ethical conduct within IL teaching/training, it does exist in different courses, but, our analysis is that they are provided in a dispersed form, far from consolidated and without the desired impact. The question of the crossrange of awareness in undergraduate programmes seems to be the most frequent. Although this global approach in the undergraduate programmes might be very useful, we wonder how can the results of this awareness be monitored *de facto*. Important as it may be, couldn't it become easily diluted amongst the several courses units without obtaining the desired effects for each of them?

These teachers, together with the Librarian, will be the mediators of students' knowledge building process, who will obtain far much more advantage from their training if presented with a motivating programme that responds directly to the immediate academic needs.

We could mention several examples where students could be accompanied by these professionals in the preparation of academic assignments, thus being able to understand the content taught in that training, not only from a theoretical point of view, but most of all by being offered a much more practical approach, witnessing how their assignments positively reflect the training provided. We could also cite good practice courses on writing, such as courses called "writing across the curriculum."

Having been placed at the center of the learning learning, students should be working together and articulately with the librarian and with teachers on IL issues and materials of different scientific areas: this is a collaborative work that we can already witness in various higher education institutions. Hopefully soon to be generalized and increased a great deal more to achieve teaching excellence. If students are indeed the engines of their own learning, it is important to give visibility to the role of the librarian, who should be a proactive element, but is so often overlooked and undervalued. This is a role to be (re)discovered for its usefulness and one that should be provided with all institutional support, by those responsible for higher education institutions. Those to whom falls this responsibility will have to pursue a marketing strategy for the promotion of the education for Literacy, which includes, of course, the ethical use of information. It is our understanding that institutional regulations on ethics can and should exist, that students and teachers should be made aware of this, but, alas, that these regulatory instruments have a very limited effect if not accompanied by other institutional measures whose touchstone is training.

We would say, using a medical metaphor, the wager should not restrain to the treatment but invest in preventing disease, diagnosing patients / users of information, knowing their individual information needs, knowing their weaknesses, and providing appropriate training to enable them to overcome and enhance the strengths to achieve excellent results.

Maybe so, acting upstream, - from the first moment of engagement with the institution, until graduation, and beyond– we will be able to fight this problem, or disease, called plagiarism, with adequate human resources, collaborative work, and appropriate technological means.

Through sustained and continued action, with support and institutional regulations, with emphasis on training, recovery and accountability by all concerned educational actors (and stakeholders – why not?), we may gather the tools that will contribute to end a serious problem that should concern not only the academy and society but also the labor market that higher education students will soon become a part of.

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