



PLAGIARISM POLICY AND PRACTICE IN FLEXIBLE LEARNING IN SWEDEN

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Summary

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We discuss plagiarism detection and prevention strategies, introduce the Swedish context and exemplify the combination of these using two courses at the Department of Computer and Systems Sciences of Stockholm University and KTH. Discussing the characteristics of the courses and the solutions chosen by the teachers involved we present recommendations for these specific cases and in general as well as suggestions for future work.

Background

Today, the use of information and communication technology is a completely integrated part of our social and academic daily life. It is easily observed that the dramatic spread of Internet is affecting our ways to relate to information and more importantly our ways to elaborate and reflect on it. While a variety of social actors welcome the possibility to access and easily distribute information via the Internet, most of our educational institutions regard such a possibility as one of the main challenges higher education face today. For instance, Henriksson (2008) shows a steadily increasing number of disciplinary actions. The increase in the number of students that replicate, copy, translate or borrow ideas or text, without making reference to the original source is associated to two main reasons (Nilsson 2008):

- 1) the use of Internet by students inside and outside universities and,
- 2) the adoption of software and services for detecting various kinds of plagiarism in text-based assignments.

Sweden, as the USA and other Europeans, are undergoing a process of change with a sharp increase in the amount of students. On top of that Sweden is also attracting more students from a non Swedish educational background which puts higher demands on the information provided to the students.

We believe the problem of plagiarism is strongly related to the particular way teachers construct examinations forms as well as the ways in which they regard formative and summative assessment and reconsider learning outcomes and create individual tasks.

Carroll and Appleton (2001) claim for a balanced approach combining rethinking the design of the course, and considering how best to inform students about regulations and teach them skills of academic discourse and citation.

Carroll (2007) describes four aspects of plagiarism; the form of assessment, information about plagiarism and expectations, the skills of academic writing, and detection of plagiarism. With plagiarism we mean:

Deliberately copying others' work (either from a book, the web, from another student etc) and then handed it in as one's own work.

This article presents two cases, each describing a course at our Department. The courses presented differ in size, educational strategy, and assessment forms. We discuss the main characteristics and plagiarism issues involved in each of these courses, using the plagiarism aspects described above. To give a flavor of the local context we also summarize the results of a recent survey at Uppsala University regarding plagiarism.

Facets of plagiarism

In (Carroll 2007) the author describes four aspects of plagiarism. In this section we summarize the detailed descriptions from (Carroll 2007), in its turn based on various sources.

Assesment formulation, management and control

Assessment issues connected to the dangers of plagiarism are of two kinds; the product and the process. In general the problem with originality of the assessed is all the more an issue the less insight we have in the production of the assessed work. Thus the least issue is with exams written by students under scrutiny and the largest problem is with hand-in assignments where students have ample time to collaborate, use sources, outsource the work etc. The wording of the assignment can diminish this problem. If answers to the assignment are easy to find or easy to produce without specific knowledge the risk is high that students get tempted to find a shortcut. Reuse of precious assignments is also problematic as is a high degree of freedom in choosing topics for, e.g., essays. Other problems include the amount of collaboration permitted, individual grading of group work, etc. In case of online exams the assurance of identity is a major problem.

Information on plagiarism

Different views on plagiarism exist in different scholar domains or even within a subject area. Thus, student insecurity regarding plagiarism is not hard to imagine. Clear unambiguous rules and explanations of what external help is allowed, be it access to information and knowledge or collaboration, are hard to formulate and require attention.

Student skills

Plagiarism is about writing and assessment formulation. How and where during the curriculum students learn and train to write academic texts and study techniques has consequences for the expectations we can put on the students abilities and the level of texts we can expect.

Detection

The use of ICT-based plagiarism detection tools is a side effect of the ICT developments in general. Tools to detect text plagiarism and computer code plagiarism are available. However these are never the only answer to the problem of detection. Partially because they rely upon the corpus used which teachers have to make up for by using their common sense and partially because students can optimize their assignments if they know and understand the detection tools used.

The Swedish context

Recent research conducted by Henriksson (2008) and Nilsson (2008) provides useful insights about how teachers and students regard plagiarism in the context of Swedish universities.

Henriksson (2008) presents two surveys conducted in 2006 and 2007 aimed at investigating teachers' and students' perspectives on the question of plagiarism in academic settings. A summary of the results presented by Henriksson (2008) suggests that plagiarism is a complex case where there is uncertainty among teachers and students about what plagiarism is and where the line between acceptable and unacceptable conduct is traced. The author points out, that Swedish teachers in her study rather than relying on plagiarism software rely on detecting the varying levels of language used in the student's text, recognizing parts or the whole text belongs to another author, or incredible progress between previous and current work are made by the student (e.g. comparisons between previous and recent grades).

Nilsson (2008) presents four studies aimed at investigating how students reason about using existing texts and asking other for help when writing research reports. Nilsson's work illustrates how exams/graded assignments and assessment in general introduce dilemmas for students. These dilemmas need to be solved in practice according to the author before making assumptions about technology use as cheating.

DSV cases

Case 1 Programming for multimedia production

This course is part of the first year of a 3 year bachelor program in digital multimedia (joint programme between our Department and the Department of Education). It is a fundamental course in computer programming with a strong focus on controlling media elements such as digital sound, images, video, and interaction for approximately 60 students per year. The course consists of traditional lectures, practical assignments, and seminars. During the course the students have to apply their knowledge in a practical assignment, a small audiovisual computer game and an oral exam in pairs.

One problem with the course is students' lack of motivation among the students to learn fundamental computer programming; the students seem to lack the ability to what Pintrich (2002) call "self-knowledge". It is usually very easy to find similar assignments on the web, and very difficult to detect which is tempting for less-motivated students.

Assessment and detection issues

The students are assessed throughout the whole course emphasizing the process instead of evaluating the students' knowledge in a test after the course. During the learning process there were many activities involved such as documentation, diaries, supervising, peer-review, evaluation etc. After the course each student had to conduct an oral examination on course objectives, based on his/her documented learning process and his/her final product

We designed a wiki, based on the open source platform MoinMoin (see <http://moinmo.in/>), for the course. This forum gave the students the possibility to share information between each other. Secondly, since every modification in the wiki is stored in a history list we have the possibility to monitor the activities with a time-stamp.

The course was also redesigned to meet the students' personal objectives. At the beginning of the course the students in pairs sketch on paper a small audiovisual interactive computer game, as the course proceeded the students programmed a new feature in their game based on the preceding lecture. When the course ended all the students had created a small computer game, which increased the students' self-esteem and their "self-knowledge" of what is possible.

Since the assessment focuses on the learning process, from idea to final product, there is hardly any need to suspect plagiarism. The only cases have been students that suddenly, the day before final deadline, changed their initial idea to another completely new computer game found on the Internet.

All the documentation, diaries and most of the peer-review, supervising, evaluation, seminars, and the final oral examination were conducted using a wiki that also allowed for version control and history-list for each individual student.

Information issues

Instead of focusing on plagiarism the students are allowed and encouraged to search the Internet for programming code and inspiration as long as they refer to the source inside their own code. They are also allowed and encouraged to cooperate and help each other since the focus is on the learning process rather than the actual product.

Teaching the skills issues

No special teaching about plagiarism and to avoid it during the course.

Result

This course has been running since 2005 and each year approximately one student group hand-in an assignment that is found on the Internet. It is very easy to detect these groups since they need to explain the process of constructing the assignments. In these cases the students realizes this during a seminar and starts all over.

Assessing the progress of student learning instead of the students' knowledge at the end of the course enables the teacher to continuously change the course accordingly to improve the quality of learning. Formative assessment demands more resources, cost more, since it is difficult to know in forehand the amount of resources needed.

The wikis have definitely increased the student collaboration and relevant discussions in our perceptions and students also mention this in the course evaluation. In the course evaluation the students' also mentioned increasing self-esteem.

Case 2 online course in project management

Another course at our Department is an online course in project management with over 3000 students yearly. The overall goal of the course is to give the students the necessary tools and knowledge about how to plan, run, monitor, and evaluate a project once completed. This course is given as a pure self-study course where students study at their own pace (they have 8 months to complete the course once they start) with help from teachers and teaching assistants via mail and discussion forums. The course consists of two parts that build upon each other. Part one is theoretical; the students read course material and are assessed using multiple choice questions. The second part is practical where the students have to write parts of a project plan and a mailbox exercise where they assume the role of a project manager and asked to solve day-to-day issues. Both practical assignments are then graded by a teacher. (Wettergren et al., 2008)

The problems faced in mega course are mainly connected to assessment which easily can be become a resource hog.

Assessment and detection

As mentioned above, in online examination identity checking is problematic. We have not yet solved this problem but consider using electronic ID systems provided by banks, live video feeds of the student taking, or specific locations for online examinations requiring students to travel.

Preventing student cooperation and answer sharing to questions in the theoretical and practical sections is another issue. The multiple choice questions are randomly drawn from a larger set of questions so no two students will have exactly the same question set. The mailbox exercise is run in the same way. Since the mailbox exercise is teacher graded similarities between different students work can be detected by the teacher.

Detection of plagiarism of texts in the written part of this course is left to the teacher who grading the assignments. We have put a conscious effort into designing the assignments in a way that would limit the possibility of cheating but it is still possible for students to cooperate and hand in similar answers.

Information issues

Students are requested to acknowledge that they will follow the rules on how to behave w.r.t. honesty and individual work. Furthermore, in each assignment it is clearly stated what the students cannot do w.r.t. plagiarism. For example that they cannot elicit help from anyone else while taking the exam or working on individual assignments. Using the internet for extra information etc. is allowed, while copying answers posted on a website is not.

Teaching the skills issues

No time is spent on teaching the students about plagiarism and how to avoid it. The main reason for this is that we predominantly cater to students with study experiences that have taken courses in scientific methods etc. The other reason is that the papers that are turned in are more of a business nature, the need for referencing and using external sources is very limited, if not unnecessary. Students create original work that is very hard to find on the internet unless someone posts the answers to these specific questions, which we have not found so far.

Result

This course has been running since 2006 and we have had two cases of students handing in similar assignments caught by the teacher. Further evaluation must be made in order to evaluate whether this is since students are not plagiarizing or if our tools to detect plagiarism are failing.

Conclusions

Since technological developments enable students to easily reproduce results from others the time needed for examination design and follow up to check student results and real learning outcomes. This reflects the shift in focus from teaching to learning.

The wiki-based examination model in case 1 decreased plagiarism, increased student cooperation, and made the learning process transparent. This model also motivated student interest in the subject and provided a broader empirical basis for grading.

For mega courses such as case 2, semi-automatic assessment systems are necessary to find plagiarism and identify dubious responses for further scrutiny. A large variety of different assignment tasks randomly distributed between students reduces the risk for plagiarism. An alternative way is to design the assignments in case 2 so that students need to analyze and compare pieces of information in specific, recent cases rather than from a set of precompiled cases.

Examination periods of mega courses require teacher teams to cope with the huge workload, and to discuss and validate responses. Traditionally teachers work alone but with large number of students and a demand for rapid feedback on exams, a teacher team approach is beneficial. Working together is also a means of coping with the sometimes tedious task of checking assignments.

To find out what the attitudes regarding plagiarism, spread of plagiarism, and how we can improve knowledge about plagiarism issues at our Department we will conduct a survey study. comparable to (Henriksson 2008) so we can compare our results to that setting. We also plan to analyze the exams of case 2 using a plagiarism detection tool to check the reliability of our plagiarism screening and prevention strategy.

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