

This document is one five chapters in the KTH Handbook for preventing student plagiarism.

Other chapters are:

Chapter 1: the issues and defines plagiarism

Chapter 2: suggests six ways to set examination questions that reduce the opportunities for copying

[Chapter 3: course-design strategies]

Chapter 4: identifying cases of plagiarism

Chapter 5: policies and procedures for managing plagiarism cases

The document remains in draft form. It is designed to be read by both students and teachers.

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A final agreed version is due in 2009.

CHAPTER THREE: A SIX-STEP COURSE DESIGN STRATEGY TO DETER PLAGIARISM

The suggestions in this chapter complement those in Chapter 2 which suggested how to set examination questions and tasks so the answers are hard to copy and/ or hard to find. In this chapter, the emphasis is on course design and teaching strategies. Ideally, teachers will do all six activities as they address different aspects of the problem of student plagiarism. However, any one action of the many listed below will be a good starting point for deterring students from plagiarism.

A Summary of the six-step strategy for deterring plagiarism

1. Early practice, early 'wake-up'

At the start of all programmes, teachers need to check students' understanding about plagiarism. Teachers also need to alert students to the need to avoid it. Early checking helps teachers and students know what the students need to learn. However, checking cannot be done by just asking students, '*What do you know about plagiarism?*' Instead, it is best done through giving students a practice piece of work.

2. Teaching students the skills they will need.

For **written assignments**, students will need many skills, including (but not only) knowing how to reference their work. Other necessary skills include: how to identify good sources, to take notes, to use ideas and words from sources appropriately, and to use conventions for in-text citation. The students will need to learn how to structure their work and must become familiar with discourse styles used in their discipline. Although a few students can teach themselves these things, most will need a more structured learning process.

For practical tasks and project work, students will need a range of skills such as programming, problem solving, use of technical equipment and how to complete appropriate reports. .

Teaching students these skills is as important as teaching them the content knowledge which they need in order to apply them. Teachers will also need to design in opportunities for students to practice these skills so that, over time, students become confident and independent in their use of these skills.

3. Structuring the assessment process itself

Instead of just setting work and hoping the student will use efficient and effective strategies for completing an examination task, it is much more helpful (especially at the start of a programme) if teachers find ways to get students started and to track the students' efforts as they complete home examinations.

Suggestions for managing the process include using staged demands (*a title this week, then an outline next week, then a literature review etc*); requiring peer feedback on interim writing; and breaking large tasks into sections with interim deadlines. Effective supervision of large tasks also verifies that the submitted work is, indeed, that of the student.

4. Authentication

This means checking who did the work that has been submitted. There are many ways to check if the work which the student submits is the real ('authentic') work of that particular student. Authentication is especially important if the suggestions in section 3 above (concerning making the process visible) are not used or if students learn at a distance.

5. Formative use of software to check for copying

Chapter Four describes the use of software to detect plagiarism after submission. However, the same software can be used to check for copying in written assignments and in computer code before it is declared a final version. Use before final submission can draw students' attention to where their work is not yet acceptable and make the teacher's requirements for changing the text even more significant.

There is developing best practice when using tools such as Urkund and Turnitin to support teaching of writing skills. There is evidence to support the belief that formative use of text-matching software is helpful – if certain steps are followed. See below for more advice.

Course design strategy 1: EARLY DIAGNOSIS

Many, if not most, students arrive at KTH after many years' experience in doing assignments. Some habits will be unacceptable at KTH. Perhaps new KTH students are used to copying other students' solutions or to downloading text as a way of 'writing'. Perhaps they expect to borrow others' computer code because this is how they operated in employment. Perhaps new students have long experience of working very closely with friends to produce a single answer. Now, new expectations are placed on them.

Unfortunately, if teachers just tell students what KTH expects, this often has little or no effect on students' understanding and/or on their work habits. This is especially true if the 'telling' only covers what not to do [*Do not cheat. Do not copy. Do not work too closely with friends.*] Some students can 'learn the hard way' by receiving negative feedback from teachers. (*Johan, this is bad work!*). However, many teachers ignore unacceptable actions in the early days, hoping students will pick up the right habits over time. Other teachers give students feedback (*'You must show your sources'*) which students either ignore or misunderstand.

A suggestion: instead of telling students what they must do or offering brief feedback on what they did wrong, teachers could assign students small tasks, early in their studies, which require students to use any necessary skills. These could be short writing tasks, simple programmes, or introductory designs. Tasks could require a mix of independent and collaborative work, with a view to identifying if the students can distinguish correctly between the two.

Small tasks have learning value in themselves. Students are practicing skills which are relevant to the course and they are using discipline-specific content. However, the main function of early tasks is to allow both teachers and the students themselves to discover whether or not students know about plagiarism and whether those who say they know can act on this knowledge.

Teaching through practice work

If a student submits unacceptable work, the teacher's feedback needs to be very explicit. Usually, feedback is common across many students' work, such as:

- whether or not the student used too many phrases from the original source in their summary without indicating them as direct quotes
- whether they copied directly from texts or lecture notes
- which kind of statements require citations
- when in-text citations would strengthen the argument

and so on. If the teacher created documents which addressed such points plus suggestions on how to correct such faults, then relevant ones could be emailed or stapled to the student's submission.

Early diagnosis means students can correct misconceptions before they tackle large or significant pieces of work.

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Examples of early diagnostic tasks at KTH:

<p>An early diagnostic task</p>	<p>A teacher asks her students to identify and summarise a recent media article related to the topics covered in lectures. They must comment '<i>in their own words</i>' and they must support any comments about the article by using the literature on the reading list .</p>
<p>An early diagnostic task</p>	<p>A teacher asks Masters students soon after arrival to write a short paper on a straightforward issue linked to the course. In this case, students must use at least three sources of information beyond their reading list.</p> <p>Students then hand in their work electronically.</p> <p>All scripts are posted anonymously on BILDA and students allocated three scripts to review against criteria linked to KTH regulations on independent work, referencing and attribution.</p> <p>Each student gives the paper a mark based only on those criteria.</p> <p>Each student's own grade depends on how closely their judgment and their marks of their fellow-student's work match that of their teacher. The closer the match, the higher the mark.</p>
<p>An early diagnostic task</p>	<p>Student's draft work is submitted to the text-matching tool, Urkund, and the results are discussed individually with each student. [See approach number 5 below for more on this form of diagnostic activity.]</p>

Course design strategy 2: TEACH WRITING SKILLS SO THAT STUDENTS CAN AVOID PLAGIARISM

Students at KTH are expected to use referencing and citation systems. Often, 'learning the referencing' can seem to be little more than the mechanics of applying the formatting conventions of a specific system. In fact, students will need a range of skills to become adequate writers at KTH and the issues relating to whether or not to place a comma in the citation or how to include page numbers are trivial aspects of a much larger issue. Nevertheless, covering these aspects is necessary and several KTH departments offer explicit guidance. For example, the Land Management (ABE) department provides guidance on how to write references and provides a sample piece of student work that shows good use of footnotes. This is showing writing skills in action.

Showing skills helps students learn. Some will gain these skills by reading and by noticing how others write. However, many will need to set aside previous writing styles (such as copying large chunks of others words without citation) and then adopt some new ones for KTH. In general, all students will need both explicit teaching and they will need feedback on their skills as they practice KTH academic writing.

Saying that a skill 'needs teaching' does not mean it needs to be covered in a lecture, perhaps using time that the teacher wishes to devote to content-teaching instead. Skills can be taught much more 'along the way' as teachers and students discuss topics and issues in their discipline.

Specific skills requiring teaching or covering 'along the way' include:

- How to locate good sources ('searching beyond Google')
- How to judge the authority and credibility of sources
- How to collect information from a wide range of sources, usually via taking personal notes of their content.
- How to use others' ideas in the student's own writing text (direct quotes, paraphrases and summaries)
- How to indicate that words, ideas and other material are derived from others, and are not the student's own work. Usually, this is done by means of in-text citation).
- How to collect and create a reference list.

There are many excellent publications that cover these issues, too, which students can be pointed to consult.

Examples of KTH activities designed to teach referencing and citation skills

<p>An example of one way to teach skills</p>	<p>One KTH teacher uses his own publications as examples to show students the components of academic writing. [<i>Here is a paper I wrote where I.....</i>]</p>
<p>One KTH teacher's way to cover skills</p>	<p>Many teachers use journal articles and research reports for review and discussion. One teacher who is responsible for teaching writing uses this specifically to discuss the author's use of citation and referencing with students. <i>What are the citations doing? Where are they placed? What sort of sources are used to support the author's arguments? etc.</i></p>
<p>One idea on how to teach students about citations</p>	<p>Retype (or request it be retyped) a section of a discipline-relevant article without the in-text citations. Tell the students how many citations were present in the original and ask them to replace <i>only that many</i> citations. <i>Where do they go and why?</i></p>
<p>Teaching students about authority and credibility of sources</p>	<p>In addition to the usual aspects which students are asked to consider when evaluating research papers or journal articles, ask them to analyse the credibility and authority of each source cited. <i>Why is a refereed journal more authoritative than a book? You could even ask speculative questions: Which is more credible: a blog or an interview transcript? How does Wikipedia compare with an article in the <u>Economist</u> when judging authority?</i></p>
<p>Teaching students how to use quotations</p>	<p>Find different ways that direct quotes are used in a discipline-relevant article or in previously submitted student work. Ask students to rank the best three examples of using quotes: <i>Which are best and why?</i></p>

Teaching students how to paraphrase	Select a piece of text which is not itself a paraphrase – so, avoid text books and summary articles. The most useful examples are short descriptions of investigations or small scale studies. Create four paraphrases of the original, some acceptable and some unacceptable. Ask students to judge each as to whether it retains the ideas of the original but in the second author's 'own words'.
Using Urkund to teach academic writing	Ask students to analyse an Urkund report from a piece of student work – <i>what advice would they give this student author to improve his or her academic writing? What advice would they give this student about 'doing your own work'.</i>

Course design strategy 3: TRACK AND STRUCTURE THE STUDENTS' WORK-IN-PROGRESS

Suggestions in this section have two aims:

1.) **to get the students started** promptly on assignments (since those who delay until the last minute can see plagiarism as one of their few remaining options)

and

2). to **value the process** by which the student creates his or her work along with valuing the student's final product. Presumably, the student is doing the work in order to learn and by showing students how this learning occurs and how the work progressed, the student may be better able to recognise and value the learning involved.

'Get them started'

As a way of making sure students are not leaving work to the last minute, teachers could:

- 3.1 **Break the task down to several sub-tasks, each with a deadline.**
Then check the deadline has been met.
- 3.2 **Ask students to present 'findings so far' orally in class**
- 3.3 **Ask for an outline** to be brought to a specific class then sign and date the outline. Later, when the students hand in their final work, require the students to hand in the signed outline as well.

Teachers and students need to remember that 'ensuring activity is occurring' is not the same as assessing it. Formative assessment can be time-consuming and unrealistic, given teachers' workloads. However, verifying that work has started can help students develop their own time management skills – perhaps.

'Track students' progress'

Many teachers say that if they see the work being done, they are sure it is the student doing the work. Several ways this could be done are:

3.4 **Set aside class time** for the work. Students could be asked to actually progress the work in class with teachers watching this happen or they could discuss their progress with others.

3.5 **Set up an on-line discussion** where students review and comment on each other's work. The software will show the dates when this happens. Note: students are not likely to do this unless it is designed into the course as a required learning activity.

3.6 **Ask others to comment on the work.** Include in the examination brief the requirement for others with knowledge of the content should read and comment on the text. This is especially important if KTH students are writing about experiences which contributed to their learning and assessment.

For example, one teacher asks students on a placement to have the report read by the placement supervisor who adds his or her own comments.

3.7 **Seek comments on group members' contributions.** If the work was done jointly with other students, ask the group members individually to comment on the process of making the work.

Examples from KTH where teachers have tracked and verified the student's work.

One teacher who uses the strategies designed to organise and structure students work comments: *'It works because I make them work'*. Here are some suggested ways:

Organise peer review of students' own work.	A KTH teacher provides students with a checklist of what they should look for (<i>'Look for this.... This.... This'</i>). He has noticed that this step is crucial to them doing it well. He also gives them the peer review task outside of class time.... so they do it carefully. To make the students take comments seriously, he asks them to incorporate suggestions into their final work. Feedback for peers also goes to the teacher so he can check this has been done where appropriate.
Give teacher feedback on student's drafts and examples	Many teachers do this. Teachers have found time-efficient ways to give feedback: they use macros & templated answers; note faults with an underline but only correct it once; limit the issues / topics for feedback (for example, only commenting on the use of

sources); and use whole-group feedback (*'I noticed these five mistakes most often in all of your work....'*)

... probably the most effective technique in the whole chapter
... But also the most time-consuming.

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Using BILDA to track work

Putting students' work on BILDA makes it public and for some students, that in itself will make them more likely to make rather than fake work. This is especially true if reading and reviewing each other's work becomes part of the course design. One teacher said (perhaps not completely seriously), *'The best person to spot plagiarism is another student'*.

BILDA also create a corpus of past submissions so students know if they copy from previous work, it is more likely to be spotted.

BILDA is the portal for using Urkund, a text matching tool, so if students begin to equate use of the two, this can help steer them towards doing their own work.

3.8 Organise discussion groups for large projects and important pieces of work

Students would only use these if required to do so but if reporting on progress and discussing any difficulties became part of the task, then a BILDA-based discussion would allow a watching teacher to see how active people were on the task. BILDA can also be used to track work.

Course design strategy 4: AUTHENTICATE THAT THE WORK IS THE STUDENT'S OWN WORK

Teachers can plan in ways to check on who actually did the work which a student has handed in for a grade: authenticating the **process** by which the student did the work; or authenticating the final **product**.

Checking for authentication is less important if some of the other strategies in this chapter have been used. However, sometimes authentication becomes more important. For example, teachers need to check the work's authenticity if:

- the student's work has largely been 'out of sight', perhaps even done far away from KTH
- a class is so large that it is not possible for the teacher to know the students individually or to know each one's usual standard of work
- distance or e-learning packages are used to set work
- systems put in place to monitor work have broken down or have not been used (for example, if the student has not attended supervision sessions or has decided to work in his or her home country).

Ways that KTH teachers authenticate the process

4.1 Using workshop situations where teachers see the product emerging

This strategy is used in many design programmes. In some, teachers will not accept work unless the student attends group workshops and creates the piece in that format, sometimes over several weeks. The argument here is that work presented afterwards, with no evidence of process, cannot be authenticated as that of the submitting student.

4.2 Regular meetings and supervision

Many KTH teachers do this regularly as part of their role plus regular meetings reassure teachers that the student is doing the work and is actually developing. It is important that meetings are regular. One-off encounters, well before the final hand in date may just show the student how far away he or she is from an acceptable standard – such encounters can encourage students to consider asking others to do the work instead of trying to reach the standard themselves.

One KTH teacher does not allow students to change their topics except right at the start of the project/dissertation. Another has learned to be wary when students select their own topics. Occasionally, a student's choice is more influenced by finding a finished piece of work

than by personal interest. Where self-selection of topics is allowed, supervision becomes even more important.

Ways that KTH teachers authenticate the product

4.3 Oral examinations

A KTH Computing course includes a five-minute discussion with all students after they have submitted their programming assignments. The discussion asks students to explain how they solved certain problems in the programme and asks them to orally 'annotate' their work.

4.2 Practical labs to check that students can change their work

Computing students are asked to submit their programmes then, in a practical lab with teachers watching and within a designated time, students are asked to make a small change to their programme. The rationale for this request is that students who wrote the programme can change it and those who copied or relied too heavily on others, cannot. This strategy therefore assesses students' understanding as well as confirming the work's authenticity.

4.3 Examinations which are observed by officials

In some cases, examinations can be more about authenticating learning than they are about measuring learning. In distance learning courses, there is often no alternative but to require students to come to an invigilated examination in order to prove their identity. Invigilated exams require known students to demonstrate their learning. Examinations can also be used to verify the content of home examinations. For example, students can be asked questions about their home examination work in order to check their understanding.

4.4 Short-scheduled laboratory reports

Copied lab reports are a common worry for teachers. One way to ensure they are authentic is to ask students to complete them during the practical session, handing in the result as they leave. This means the results will be rough although many argue this, too, is more realistic as it equates with the way findings are reported outside of Higher Education. Students could be given a standard template to simplify their reporting and could be encouraged to provide analysis and

discussion in note format or bullet point lists. If this approach is taken, it is important to teach discipline-specific writing skills elsewhere.

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Course design strategy 5. Use Urkund reports for formative feedback

The primary reason why most universities pay for using a text-matching tool such as Urkund is to identify instances where the student has copied text and to check whether that copied text has been correctly acknowledged. This use is described in detail in Chapter 4 of the Handbook. Here, an additional use of software such as Urkund is suggested: to provide students with formative feedback as they are learning correct referencing and attribution skills. Studies have shown this to be a useful addition to other ways of teaching academic writing¹ as long as certain guidelines are followed.

Good practice guidelines

5.1 The teacher should show the report to the student but not give a copy to the student.

This means the teacher can point to examples of acceptable and unacceptable work and make general learning points. If a student has the report, there is some evidence to show that he or she is tempted to make minor changes to text to 'make the colours go away' and is less likely to learn the generic points for future work.

5.2 Provide more formative feedback on drafts and less on the final result.

Re-allocating the teacher's time to comments on drafts helps students learn whereas feedback on graded work is often ignored as 'past history'. Focusing on drafts only means teachers need not spend more time on students' work but can spend the same amount more effectively.

5.3 Do not expect Urkund to teach.

Discussing the report should be additional to usual skills teaching. Often, a report can have the effect of getting the student's attention so that they do start to pay attention to academic writing requirements. But it cannot replace teaching.

¹ Davis (2006) etc.....

Ensuring formative use fits with KTH policy

5.4 'Feedback is for now only'

KTH teachers who have tried this use of Urkund (as well as other ways of giving feedback on draft work) have reported that some students do not make the changes to their work which teachers have told them to make. Perhaps students assumes that, since unacceptable work caused no problems at the formative stage, then nothing bad will happen when they submit, either.

Teachers offering formative feedback need to make clear to students that these are not suggestions but rather, that the student must make the changes to avoid a fail and indeed, now that they have been given this feedback, to avoid being reported for disciplinary action.

5.5 Keep a record of the feedback event

Teachers need to note when the feedback was given along with the warnings of consequences if they were not implemented in final submissions.