

Project STAF: Technology supporting assessment and feedback

Three recommended processes for coursework assessment *with amendments in June 2011*

We are grateful for the many and varied comments on the earlier draft from individuals and school and faculty LTCs. We have taken account of them where we can. Significant new text is italicized.

Diagrams have been added that may help explain the processes.

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After discussions with all academic schools and an analysis of actual practices for coursework assessment, this paper outlines three recommended processes. They are designed to provide a framework that allows staff to make the best use of existing technologies while allowing for some variation for the preferences of programmes, modules or individual markers. The goals of the project have been to address our institutional priorities for assessment while saving staff time and other institutional resources like paper, printing and storage space for archives. The three processes do not apply, *for example*, to examinations, class tests, *face-to-face assessments* or computer-based tests, *nor to intrinsically paper materials like field notes, or types of information like arithmetic notation that can be managed adequately in our current systems.* They could apply to *most* textual coursework assignments.

This framework of processes is not intended to detract from one-to-one meetings with students where feedback can be reviewed and any issues the students have addressed in more detail. They are designed to produce more effective and efficient processes to manage student assignments from submission to archiving, whilst also allowing for flexibility and the incorporation of technology into marking and providing feedback.

Despite being subject to the same institutional regulations, academic schools (i.e. subject departments) and programmes have adopted different processes historically, with different implications for student satisfaction, the use of resources, and for the ease of adoption of new technologies.

The benefits of using technology in assessment and feedback are well documented in the literature. For example, the October 2010 issue of *Technology in Learning Journal* discusses the substantial evidence supporting the concept “that technology can support assessment in several ways”. These include “removing the burden of managing assessments freeing up staff to focus on setting effective assessment tasks and giving effective feedback” (Cook and Noss, p10)¹. *Effective Assessment in a Digital Age, A guide*

¹ Cook, J. & Noss, R. (2010). *Technology in learning*. Retrieved 21/02/2011.
<http://repository.alt.ac.uk/839>

to *technology-enhanced assessment and feedback* (JISC²) provides detailed examples from a national programme of the potential benefits of technology in assessment and feedback.

Another part of the STAF project has been to support individual staff with innovative uses of technology particularly audio, video, and screencasts for giving feedback. These innovations can slot into this process and best work with process B in terms of returning rich media files to students. *Other innovations using Grademark slot into process A.*

The Assessment Process Modelled

Initially the assessment process was modelled graphically, but it is more simply represented as thirteen activities that are largely sequential:

1. Teacher sets task
2. Teacher supports student work on task
3. Student submits work
4. Student receives receipt
5. Students' work is collated (with paper submissions this is done by administrators, checking against registers and sorting into order)
6. First marker reads work and produces feedback
7. First marker produces provisional grade
8. Feedback returned to student (no more than 3 weeks after submission)
9. Provisional grade returned to student
10. Second marking: Select student work for second marking, second marker marks work, checks feedback and agrees marks; second marker writes report
11. Students' work is selected for the external examiner to read, with the feedback on it and possible second marker comments and mark on that work
12. The exam board with the external examiner confirm the final grades, which can then be returned to the students
13. An archive is made of student work and feedback on it, and plus possibly a copy of feedback is placed in the paper student file in the School Office.

This process involved a number of design decisions. For example, the separation *in principle* of the return of feedback (8) from the return of a provisional grade (9) is important. Although currently the grade is normally returned with the feedback, there is a growing literature that shows the value of delayed return of grades so that students use the feedback first, possibly returning a reflection upon it (William³, Parkin and Holden⁴). The process must allow this as it is likely to be promoted in future. *A recent project at Sheffield Hallam University*⁵

² Joint Information Systems Committee (2010). *Effective assessment in a digital age*. Bristol: JISC

³ William, D. (2007). *Assessment for learning*. London: Institute of Education.

⁴ Parkin, H. & Holden, G. (2010). *Feedback to feed forward: Enhancing student engagement with feedback*. Solstice Conference, Edge Hill University UK. Retrieved 11 February 2011.

http://www.edgehill.ac.uk/solstice/Conference2010/docs/Session_21b_Parkin_Holden.pdf

demonstrated advantages for the student experience in sending grades and feedback electronically (as all three of our processes do), and in sending feedback initially without grades.

Although presented as a linear process for simplicity, the process need not be strictly sequential. The return of the feedback and provisional grade after first marking, rather than after second marking/moderation may be necessary in large cohorts in order for feedback to be timely (the institutional maximum is three working weeks) – processes 8,9,10. However, it may well be possible for second marking to be done before the feedback and a provisional grade are returned (10,9,8). In that case the provisional marks available to students will represent moderated marks (with marks possibly adjusted for the whole cohort, not just for individual students in the moderated sample).

Second marking or moderating of electronic submissions (or paper copies in process C), is better represented as a separate report for all second-marking, rather than additional comments on electronic scripts. This report is then available to the external examiner and the exam board. The report could be text or it could be a spreadsheet of student names and their marks, with comments added.

Three assessment processes were designed, *recognising as far as possible* the diverse needs and preferences of different programmes. The first and second are paper-less, using either a Turnitin assignment drop-box to use the Grademark tool or a KLE assignment drop-box. Students will typically submit MS Word documents, but other formats are possible. The third process requires one paper copy and an electronic copy of the same work to be submitted. This allows examiners to read the paper copy, while retaining many of the advantages of an electronic submission. It is also important to note that in this document we differentiate between the KLE assignment drop box and a Turnitin drop box. This is for the purposes of clarity. From a student perspective, all submissions of digital assignments, and collection of all feedback will be through the Institutional VLE.

Feedback to students in all cases is on a proforma which includes fields such as, how the work was assessed against the criteria, what were the strong and the weak features of the work, and how future work could be improved. Schools and programmes typically have their own feedback proformas. For the first two, wholly electronic, processes the student inserts an electronic copy of the proforma onto the start of the Word document, where it will be completed by the marker before the file is returned.

Academic schools will provide a file-store with structured folders for each year and module, for a permanent (in line with the university records disposal schedule) archive of student work and other documents related to an assessment.

5 *Technology, Feedback, Action! The impact of learning technology upon students' engagement with their feedback*, Sheffield Hallam University, 2010, accessed 22 June 2011 <http://evidencenet.pbworks.com/f/guide+for+senior+managers+FINAL.pdf>

Recommended processes

See also Figure 1

A. Grademark

A Grademark assignment is an assignment created in the KLE as a Turnitin assignment with settings to use Grademark. At no extra trouble or cost the settings can also include generation of an originality report that may be useful in relation to deterring or detecting plagiarism etc. (Please see the 2010 university policy on the use of Turnitin originality reports.)

1. The assessment task is set in any way
2. Support for students *could* use Grademark for submitting a draft and giving feedback on it (using the same method used later for the final submission)
3. A Grademark submission is made by students
4. No manual receipt for students is needed, as students see a printable receipt on submission and can always check their work has been submitted, through the KLE assignment icon
5. No collation is needed; Turnitin sorts the submissions
6. The first marker reads the work in Grademark and writes feedback onto it, using the drag-and-drop comment features, the rubric functions, the general comments box, or any of the above. (See note 1)
7. The first marker produces provisional grades and puts them into Grademark, from where they are sent to the KLE Grade Center. From there, they can be released at any time, and tutors or administrators can download them as a spreadsheet for later use
8. Feedback is returned through the Grademark assignment icon on the specified release date. *Any additional feedback such as rich media can be returned through the Grade Center in Blackboard 9.1*
9. Provisional grades *(in this process) are returned with the feedback as this is much simpler when using Grademark. The grades in Grademark are visible with the annotated work and the feedback, and are copied automatically to the KLE Grade Center, from where they can be downloaded for exam boards*
10. On the basis of the calculated module grades, select students' work for second marking and for checking feedback, agree the mark or make a note in the second markers report about a disagreement
11. Some students' work is selected for the external examiner to read, with feedback and the second marker report. The external examiner accesses the selected students' work, and any others they wish to see, through the KLE link to the Grademark assignment
12. Final grades are returned to students after the external exam board
13. Archive the Grademark assignments, with embedded feedback, through the batch download process, to be stored in structured folders on the pool network drive.

Note 1: Feedback using existing proformas can be made in two ways. A The contents of the proforma can be placed into the text comments section of feedback, or a criteria matrix (rubric) can be placed into a Grademark Rubric. Grademark Rubrics, and Quickmark sets of comments, can be customised and shared between staff electronically. They could be generic or specific to an assignment.

Note 2: on anonymous marking: Anonymous marking can be achieved in all processes as both Bb9.1 and Turnitin support anonymity, as long as the student uses their student number as the name of their submitted file.

B. KLE (Blackboard 9.1) assignment

1. The assessment task is set in any way
2. Support for students could use a KLE assignment for submitting a draft and giving feedback (using the same method used later for the final submission)
3. Students submit their work to a KLE assignment, probably as a Word document including the module's feedback proforma embedded at the start of the document.
4. No manual receipt for students is needed, as students see a receipt on submission and can always check their work has been submitted, through the KLE assignment icon.
5. No collation needed, the submissions are sorted in various useful ways.
6. First marker opens the student files either one at a time, or download them in bulk for offline reading. The marker reads the work as Word files and enters feedback to the submitted proforma. Optionally, the marker can write feedback into the student text in a variety of ways and embed different types of rich media into the document**.
7. The first marker produces provisional grades and puts them in the KLE Grade Center, from where they can be released at any time. Tutors or administrators can download these grades as a spreadsheet for later use.
8. *Feedback is returned through the KLE assignment icon on the specified release date.* Typically, feedback will be a Word document of the feedback proforma.
9. Provisional grades are returned *now or earlier with feedback.*
10. On the basis of the calculated module grades, select students' work for second marking and for checking feedback, agree the mark or make a note in the second markers report about a disagreement.
11. Some students' work is selected for the external examiner to read, with feedback and the second marker report. The external examiner accesses the selected students' work, and any others they wish to see, through the KLE link to the assignment.
12. Final grades are returned to students after the external exam board.
13. Archive the assignments from the KLE, with embedded feedback, through the batch download process, to be stored in structured folders on the pool network drive.

* The Grade Centre in Blackboard 9.1 has more functionality in terms of marking features and the management of marking assignments than its predecessor, the WebCT Gradebook. The process above outlines the Grade Centre in its basic use. This process could be built on using the additional functionality available dependent on staff and School practice.

** For example, Word 2007 allows the marker to highlight text, insert new text using track changes, add a Word Comment, insert an audio file, and insert Quickparts from the building blocks library. With Quickparts a customised collection of standard comments can be inserted easily, including links to further advice.

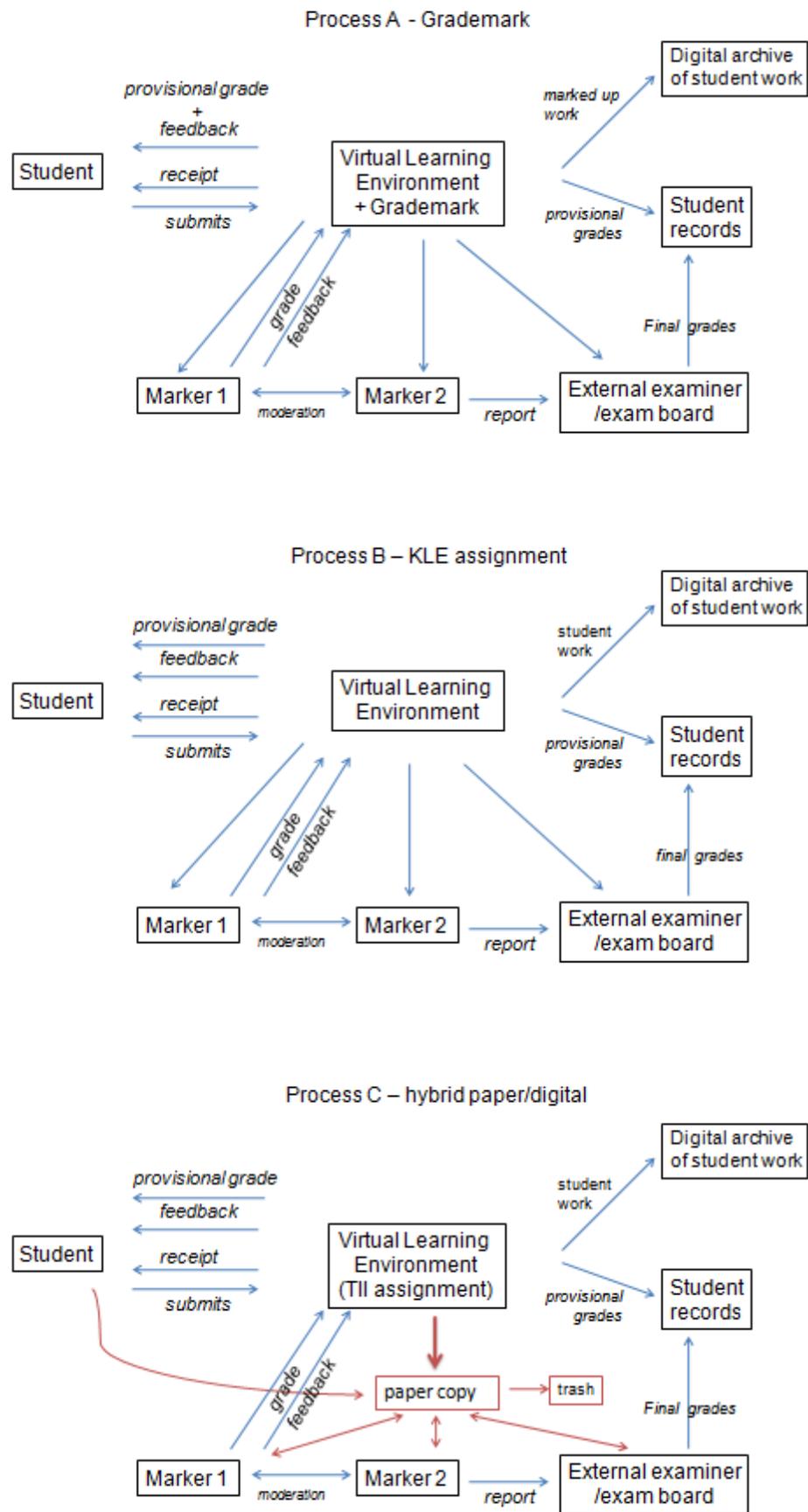
C. One paper copy plus Turnitin

This process uses one paper submission for marking by first, second and external examiners. It is not returned to the student. Feedback and grades are sent electronically. This process is likely to be preferable for large pieces of work like dissertations.

1. The assessment task is set in any way
2. Any drafts are likely to be submitted on paper, but they could be Word documents or Turnitin submissions for originality checking or Grademark; feedback could be by any process depending upon the form of submission.
3. Students submit an electronic copy to a Turnitin assignment (see Keele policy on the use of Turnitin). The electronic submission meets the deadline. *Either the student submits a paper copy within 24 hours or the school administrators print copies from the electronic submissions.**
4. Receipt is automatic through the Turnitin assignment. (In rare cases where parallel electronic submission is not possible, SCIMS can be used to send email receipts, although this needs setting up in advance.)
5. Collation of the paper copies is necessary *or printing as a batch job on a networked printer.*
6. First marking is done by reading the paper copy. The feedback for the student should be in a Word document of a feedback proforma, or digital audio or video or a screencast. Handwriting on a paper proforma *can be scanned using new scanner/printers and the digital copy returned to students. (Where paper copies have been scanned for return, the originals are available with the student work on paper for the external examiner.) Handwriting on the student work could continue where this is useful for examiners but it cannot be used to give feedback to the student, in this process, as the paper assignment is not being returned to the student, being needed for second marking and external examining. (Photocopying it would cost more staff time and resources.)*
7. The first marker *produces provisional grades* and puts them into the KLE Grade Center, from where they can be released at any time. Tutors or administrators can download these grades as a spreadsheet for later use.
8. *The feedback is returned through the Grade Center in Blackboard 9.1 on the specified release date.*
9. Provisional grades are returned through release in the KLE Grade Center.
10. On the basis of the calculated module grades, students' work on paper is selected for second marking and for checking feedback. Second markers write a report. The second marker can alternatively or additionally see any student work in the Turnitin assignment, and see the feedback in the KLE Grade Center.
11. Students' work on paper is selected for the external examiner to read, with feedback and the second marker report. The external examiner can alternatively or additionally see any student work in the Turnitin assignment, and see the feedback proforma documents in the KLE dummy assignment.
12. Final grades are returned to students after the exam board.
13. Archive the assignments from the KLE, with embedded feedback, through the batch download process, to be stored in structured folders on the pool network drive. There is no need to archive paper copies as the electronic originals, feedback, second marker and external examiner reports are archived,

**While for some assignments such as dissertations it may be best for the student to submit the paper copy, for most assignments the student should make only the electronic submission and the school should bear the cost of printing. Additional admin staff time in downloading and printing a batch of files is offset by not needing to collate any submitted paper copies.*

Figure 1



Annex1 The range of existing processes

Following discussions with each school in relation to actual practice of processing assessments, analysis showed that there was a broad range of different processes adopted. The main processes are listed below with a brief explanation. Differences across schools also existed in the processing of assignments from submission to archiving, resulting in differing levels of efficiency. The methods of submission have been used to show the variety of practice but each school processed these submissions differently, therefore each school could be considered as having a different assessment process

- **1 paper* plus 1 electronic copy submitted via Turnitin**
When using this process feedback was typed or handwritten or handwritten on to carbon copy sheets, and then printed / photocopied and returned to students either attached to a paper copy of the assignment or not. In this situation the electronic copy was used primarily for plagiarism detection, the penalty and time frame for not submitting the electronic version varied between schools. Variance in the way the paper copies of this work were dealt with also varied between schools. Many Schools retain the paper submission for the second marker, external examiner and archiving. The electronic copy in most cases is not used once it has been checked for plagiarism but it remains in Turnitin. The recommended processes make more use of this stored electronic version.
- **1 electronic copy submitted via Turnitin**
This process operated within a few schools either wholly or across certain programmes or years. This method is an entirely online process. The marking, second marking and external examining is all completed online. The students are provided with feedback via Grademark.
- **Two paper copies submitted to the office / reception**
This process is an entirely paper based system. When using this process feedback was typed, handwritten, or handwritten on to carbon copy sheets then printed / photocopied and returned to students, either attached to a paper copy of the assignment or not. The students submit paper copies to the school office or reception. The feedback proformas are collected by students from the school office, reception or via student pigeon holes usually attached to a copy of the assignment. The proformas themselves varied between schools and within programmes.
- **Two paper one electronic**
This process is generally adopted on a module by module basis when the school accepts two paper copies but the member of staff marking wants to use Turnitin as a plagiarism detection tool. The process for handling these submissions is the same as two paper copies submitted to the office / reception, as described above.
- **Submission to the KLE assignment dropbox**
This was a relatively under used facility in the current VLE. However a process has been written to support this method of submission as the upgraded Blackboard 9.1 has better functionality in this area. This process is already used to deliver rich media feedback and can do so in future.

Other areas where a difference in practice was found were the second marking processes adopted by schools. The recommended processes offer a more streamlined second marking process. The external examining processes and receipting processes used by schools also varied; the recommended processes offer a more consistent way to complete these tasks.

*Note: practice also included the option for students to submit two paper copies. This allowed for the student to receive a copy of their assignment back if they wished.

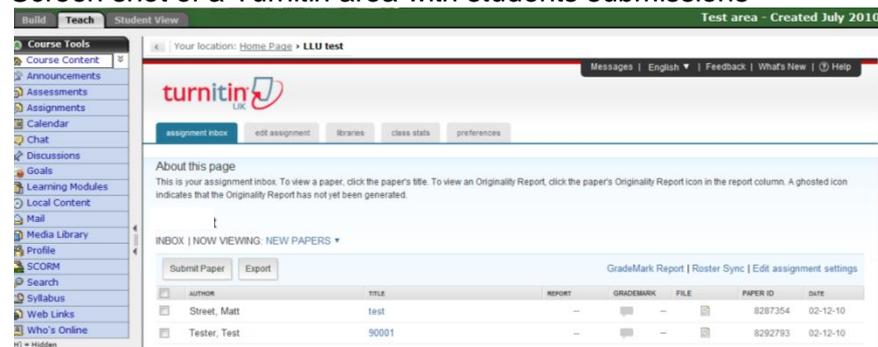
Annex 2 Glossary of terms and screen shots

Grademark and Turnitin

Turnitin is the plagiarism detection tool which is used by the university. An assignment dropbox can be set up within any module in the KLE further details about Turnitin can be found at <http://www.keele.ac.uk/depts/aa/landt/docs/TIIPolicy.htm>.

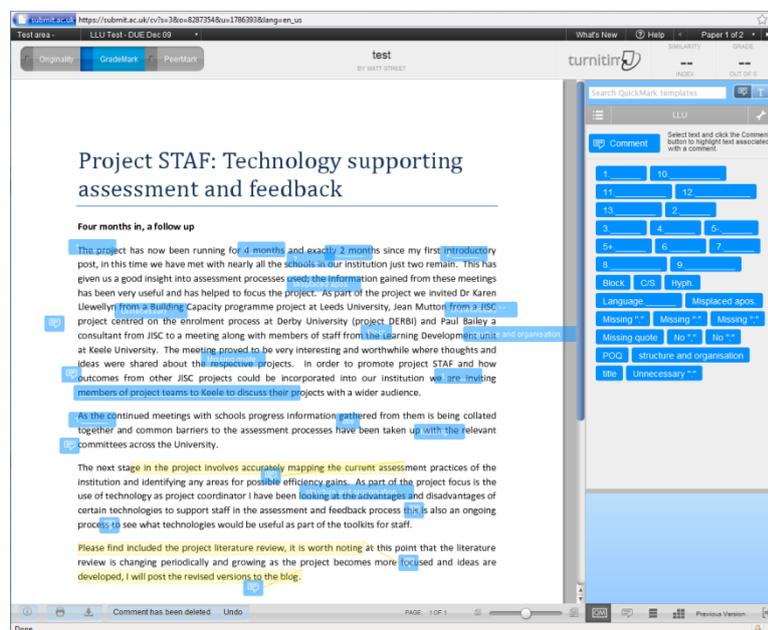
Grademark is the online marking tool associated with Turnitin. This tool is growing in popularity across the sector and is developed and provided by iparadigms. This marking tool is quite powerful and comes with a series of tools to help academic staff when marking essays, these include the following

Screen shot of a Turnitin area with students submissions



Quick mark sets

Quick mark sets are a series of predefined floating mark sets that can be dragged from a side bar over the appropriate portion of text where a comment is required. The quick mark sets cover a range of topics and offer detailed explanations of the comment used. In addition to the pre set quick marks sets members of staff can create their own quick marks. These quick marks can be exported and shared between members of staff.



Screen shot of Grademark with a submission that has been marked up using the quick mark sets

Rubrics

Gradermark has a function called rubrics (assessment criteria grids). Rubrics in Gradermark can either be qualitative or quantitative once created they can be shared between staff in a school. Below is a screenshot of an assignment that has a rubric attached to it. In this case the rubric is qualitative, the darker blue boxes relate to what the marker has decided to award the student. The student can hover over the selection to see a description of the criteria. There can be a range of criteria and scales. A range of 4 criteria are shown on a scale of 1-5 this can be increased. A recent development by iparadigms to Gradermark has incorporated a statistics tool into the quickmarks and rubrics function. Markers can now obtain detailed information about which quickmarks they use the most for which students and how each student was marked using the rubric. This data can be exported into a spreadsheet. The data is also stored so members of staff could also compare the data to previous years and to identify common errors.

The screenshot shows a Turnitin interface for an assignment titled 'ESQ-40043 Essay'. On the right, a rubric is displayed with four criteria and a 1-5 scale. The scores are: Reading (3), Referencing (1), Criterion 3 (3), and Criterion 4 (4). The main text of the assignment is titled 'Project STAF: Technology supporting assessment and feedback' and contains several paragraphs of text with blue highlights and comment bubbles.

Comment bubbles, free text comments, highlighting text and general comments.

In addition to the tools shown above Gradermark will also allow for typed comments directly on the paper, comments that form a bubble and when hovered over will show more detail and the ability to highlight portions of text and type a comment about the highlighted text.

KLE assignment drop box

This is an area created by a tutor within the KLE for students to submit their work to. This differs to a Turnitin drop box as it doesn't have plagiarism detection tools associated with it or any of the marking features outlined above. The assignments submitted can be downloaded and marked in the form they were submitted. This tool can be used to send rich media feedback to students.

Rich media feedback

Rich media feedback is a term used to refer to feedback that is produced using a different media than typed text, for example, video feedback, audio feedback and screen casting as from of feedback. Screen casting is the recording of on screen actions and movement usually with an audio commentary simultaneously. This produces a single file to view.