An exploratory investigation into influences of form of digital feedback on learners' engagement with their feedback

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Abstract

Where digital feedback studies report positive pedagogic outcomes, reasons for such outcomes are often not clear. One possible factor is the nature of learners' engagement with digital feedback. With the aim of informing markers' own action research, this exploratory study investigates how form (as opposed to content) of digital feedback may influence engagement. Within the context of an English university with rapidly growing use of the GradeMark digital feedback tool, and informed by a secondary analysis of a prior survey of learners' experiences and perceptions of feedback, interviews with learners were conducted to investigate:

> How may the ways in which feedback can be presented in the GradeMark *digital feedback tool influence undergraduates' engagement in developmental use of lecturers' feedback for su*mmative assessment of written coursework?

It was found that GradeMark on-script 'Bubble Comments' and off-script 'Voice Comments' may both positively influence how valued learners feel and encourage and support their use of feedback for development by positively influencing their motivation and ability to engage. On-script 'QuickMark Comments' and off-script 'General Comments' and 'Rubrics' may negatively influence same. These influences arise from the specific ways feedback can be presented in GradeMark affecting personalisation, specificity and clarity of meaning of feedback, learners' emotional connection with their marker and by grabbing their attention. Ways in which form may influence content are also identified.

It is recommended that, through their own action research, markers using GradeMark explore the use of Bubble Comments and Voice Comments as alternatives to General Comments, and 'Grading Forms' as an alternative to Rubrics. Markers using other digital feedback tools may consider using on-script annotations and digital audio feedback as alternatives to off-script paragraphs of digital written feedback, and free-form rather than pre-set assessment criteria-related comments. Specific considerations in doing so are suggested. Institutional strategy considerations in relation to use of assessment criteria and accessibility of GradeMark on mobile devices are also highlighted.

Further research is recommended to investigate how the processes of engagement with feedback identified in this study interrelate in promoting and supporting learners' use of feedback for development.

This study further contributes by addressing a gap in the literature relating to specific ways in which digital feedback can be presented, by suggesting there is value in considering a broader range of processes of engagement than existing studies typically do and by highlighting the significance of under-researched emotional dimensions of engagement.

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1. Introduction

1.1 Context

Canterbury Christ Church University (CCCU) is an English university with rapidly growing use of the GradeMark[1] tool to provide digital feedback for summative assessment of written coursework. Students in UK Higher Education (HE) have regarded feedback as problematic for some time (Hounsell, 2007; Carless et al, 2011). Within the context of an ongoing strategic focus on assessment enhancement in CCCU, enhancing both timeliness and utility of GradeMark feedback in enabling learners' development is a specific priority.

As a learning technologist at CCCU with an institutional lead for supporting GradeMark, the researcher has a professional interest in its potential for encouraging and supporting learners' use of feedback for development. The researcher's own reading prior to this study revealed that, where literature reports positive pedagogic outcomes related to the use of digital feedback, the reasons for these outcomes are often not clear. For example, where Case (2007) and Denton et al (2008) provide evidence for digital feedback enhancing learners' understanding of how to improve, reasons were not explicitly investigated. This study's researcher suggested that something in the way digital feedback was provided may have engaged learners more in using their feedback compared with the way non-digital feedback was provided and recommended further investigation (see Starr, 2013).

The question of learners' engagement is important to the researcher. In aiming to promote and support independent learning, he is concerned the prevalence of lectures at CCCU encourages passivity amongst undergraduates through their emphasis on transmission of content over illustration, questioning and discussion.

As such, the researcher set out to investigate whether different ways of providing feedback through GradeMark may influence learners' engagement with their feedback.

[1] see http://www.turnitin.com/en_us/features/grademark

1.2 How feedback can be provided using GradeMark

Written feedback in GradeMark can be on- or off-script. On-script comments may be 'Inline' comments written directly onto the script, 'Bubble Comments' on highlighted passages which expand when clicked or pre-set, re-usable 'QuickMark Comments' which also expand when clicked. Off-script feedback may be a 'Grade', paragraphs of 'General Comments' or assessment criteria-related comments in a 'Grading Form' or a 'Rubric'. Spoken feedback can be recorded as off-script digital audio 'Voice Comments'.

Figures 6-10 in Appendix 1 depict examples of these eight ways in which feedback can be provided using GradeMark.

1.3 Focus and aim of the study

Although the researcher has an academic interest in the content of the feedback, his professional responsibility is advising lecturers on forms of digital feedback i.e. how feedback can be provided using technology, rather than what it says.

As such, in investigating influences on engagement of ways of providing feedback through GradeMark, the focus of this study is on form, not content. It is also limited to summative feedback by HE lecturers on written coursework, as this is an enhancement priority in CCCU, and to undergraduates because of the researcher's desire to inculcate independent learning from the earliest stages.

To investigate this, interviews with undergraduates with experience of GradeMark were conducted, informed by a secondary analysis of a prior survey of learners' experiences and perceptions of feedback. This is an exploratory study which aims to inform lecturers' action research to enhance their own feedback practice.

1.4 How this report is structured

It begins with a review of the literature which considers the role of feedback in learning, theory of engagement with feedback, how this is researched and what is known about influences of form on learners' engagement with digital feedback.

A specific research question is then presented in response to a gap in the literature before describing the study's methodology, limitations, challenges and alternative approaches.

Findings from the secondary survey analysis are presented and their limitations discussed before presenting interview findings and discussing them in relation to the literature. Implications for practice are considered.

The report concludes by answering the research question, highlighting limitations and the way in which the study may contribute to the literature. Recommendations for practice and further research are made.

2. Review of the literature

2.1 Introduction

This review begins with a brief discussion on the role of feedback in learning and assessment before discussing theory of engagement with feedback. The term 'form' is then considered in relation to feedback literature before discussing digital feedback on written coursework and what is known about influences of form on learners' engagement with it. Limitations of the literature are identified.

2.2 Finding and selecting sources

Database searches were conducted using University of Edinburgh 'Searcher'[2] and Google Scholar[3] for their breadth of content as well as convenience. References in sources returned were followed to identify further relevant sources. Search terms included various Boolean combinations of 'engagement', 'engage', 'digital', 'electronic', 'feedback', e-feedback' and 'form'. As 'feedback' returned many sources from electrical engineering and various sciences, searches were refined by subject (education/learning/Higher Education). Although 'form' did return some relevant sources, following up references prompted a broadening of search terms to include 'delivery' and 'mode'. The vague nature of the term 'form' is discussed in a subsequent section (see 2.5).

Abstracts of sources returned from these searches were considered for relevance to this study, with 160 selected for in depth reading. Around half of these were ultimately included in this review. Given the focus of this study, sources relating to HE, feedback on summative assessment by lecturers, digital feedback on written coursework and form of feedback were prioritised over those relating to other levels of study, formative and peer feedback, other types of digital feedback and content of feedback.

[2] http://searcher.is.ed.ac.uk
[3] http://scholar.google.com

2.2.1 Limitations in finding and selecting sources

Most sources found relate to UK HE. As such, this review may lack insight from other spheres of education as well as different cultural perspectives.

Although keyword searches in meta-search engines included primary databases such as the British Education Index[4], some sources may have been missed by not searching the primary databases directly using the defined subject-specific terms they are indexed by. However, as it returned all of the sources the researcher was already familiar with prior to this review, some confidence can be established in the search strategy employed.

2.3 The role of feedback in learning and assessment

Two widely cited papers by Crooks (1988) and Sadler (1989) marked a shift in thinking about the purposes of feedback. Critiquing the prevailing role of feedback in evaluating performance and correcting errors as limiting learners' improvement over time, they called for feedback instead to encourage and support self-evaluation and development. This coincided with a call for a rebalancing of summative and formative assessment (Boud, 1995; Hounsell et al, 2007). It further coincided with a shift in HE towards learner-centred constructivist pedagogies which emphasise reflection and dialogue around experience (Selwyn, 2011) and the concept of self-regulation, in which learners take increasing responsibility for their own learning and for which developmental feedback is crucial (Butler & Winne, 1995).

In three widely cited and influential papers, Gibbs & Simpson (2004-5), Nicol & Macfarlane-Dick (2006) and Carless (2007) responded to these calls by setting out principles for developmental feedback which:

- 'feeds forward' to support future learning (Carless, 2007),
- facilitates self-assessment (Nicol & Macfarlane-Dick, 2006),

[4] https://www.leeds.ac.uk/bei/

- clarifies what good performance is through reference to assessment criteria (Carless, 2007; Nicol & McFarlane-Dick, 2006; Sadler, 1989) or exemplars (Nicol & McFarlane-Dick, 2006; Sadler, 1989; Crooks, 1989),
- promotes dialogue with educators and peers (Nicol & McFarlane-Dick 2006; Knight, 2002; Boud, 1995),
- promotes motivation and self-esteem (Nicol & McFarlane-Dick, 2006) and
- is provided in time to be of use for the next assessment (Gibbs & Simpson, 2004-5; Carless, 2007).

In practice, however, Hounsell (2008) highlights the challenge of providing such developmental feedback with increasing student numbers and limited resources. Furthermore, where feedback practice may be meeting many of these principles, Nicol (2010) critiques the prevalent 'transmission' model of written feedback in HE as continuing to lack dialogue.

2.4 Theory of engagement with feedback

Engagement in HE can relate to learners' academic learning, wider development as a person or participation in curriculum development or governance (Trowler, 2010). Bensimon (2009) frames engagement as making connections with peers, teachers and the institution. In terms of academic learning – the focus of this study – the predominant view across the literature is that learners need to learn actively through these connections to be meaningfully engaged (Trowler, 2010). However, there is a debate about how such engagement is evaluated. Recognising the importance of active learning, Coates (2005) criticises research on engagement for too much emphasis on outcomes and not enough on process. In warning of the notion of the 'generic learner', Zepke (2014) further criticises engagement research for lacking account for learners' unique contexts. This is echoed in Kahu's (2013) call for localised, qualitative research which considers affective, cognitive and behavioural dimensions of engagement, arguing that the affective domain in particular is an under-researched area.

2.4.1 What is meaningful engagement with feedback?

In Gibbs and Simpsons' (2004-5) influential paper setting out conditions under which assessment supports learning, meaningful engagement with feedback requires learners to both 'attend to' and 'act on' it. Processes which relate to attending to and acting on feedback referred to across the literature include:

- reading/listening to/watching feedback (Bevan et al, 2008; Gibbs & Simpson, 2004-5),
- storing and returning to feedback (Parkin et al, 2012),
- reflecting on feedback and self-evaluating (Orsmond & Merry, 2013; Crook et al, 2012; Nicol, 2010; Case, 2007; Gibbs & Simpson, 2004-5),
- seeking a dialogue with markers and/or peers as a result of feedback (Xu, 2010; Nicol & McFarlane-Dick, 2006) and
- action planning for future improvement (Parkin et al, 2012; Nicol & McFarlane-Dick, 2006).

These processes fall within Handley et al's (2011) broader concept of 'active engagement' to which they suggest the process of accessing resources as a result of receiving feedback can be added. Further processes of active engagement beyond attending to and acting on feedback identified in the literature include:

- development of an increased understanding of what quality is, for example by understanding assessment criteria (Carless, 2015; Denton et al, 2008; Case, 2007) and
- stimulation of interest in learning as a result of receiving feedback (Kahu, 2013; Trowler, 2010);

and processes relating to Kahu's (2013) affective domain, including:

- responding emotionally to feedback (Carless, 2015; Kahu, 2013),
- connecting emotionally with the marker (Bensimon, 2009),
- feeling valued (University of Strathclyde, 2007) and
- developing a will to improve as a result of feedback (Case, 2007; University of Strathclyde, 2007; Nicol & McFarlane-Dick, 2006).

Whereas empirical studies investigating learners' engagement with feedback typically focus on what learners do after feedback has been provided, Handley et al (2011) introduce a further concept of learners' 'readiness to engage' before feedback is provided, arguing this influences their subsequent active engagement with feedback. Involving buying in to the assessment task and having a desire for feedback, developing ability and confidence to use feedback and creating a sense of ownership of the feedback process, learners' readiness to engage is influenced by confidence and other emotional factors. Handley et al (2011) provide a lens for researching engagement with feedback which not only addresses Coates' (2005) call for a focus on process, but which also extends into Kahu's (2013) affective domain.

2.5 Form of feedback

In setting the focus for this study, the term 'form' was used to differentiate how feedback is provided from its content.

Although the term 'form' is used in the literature in related ways, how it is used varies. It is used to differentiate how feedback is expressed, for example as text or spoken feedback (Buckley, 2012; Merry & Orsmond, 2008; Lalley, 1998) or combinations thereof (e.g. Batiano, 2013). However, it is also used to differentiate the delivery channel, for example on paper or online (Riccomini, 2002). It is even used to differentiate the content of feedback, for example short or long comments (Orsmond, Merry & Reiling, 2005), model answer or individual corrective feedback (Riccomini, 2002).

Other related terms are used somewhat interchangeably in the literature, often with little or no definition. For example, whereas Ellis (2011) uses the term 'medium' to differentiate paper-based and digital feedback, University of Glamorgan (2012) and Thomson (2008) use 'mode'. Whereas Buckley (2012) uses 'form' to differentiate digital written and audio feedback, Lunt & Curran (2010) use 'delivery'. Furthermore, none of these uses relate to the level of detail this study focuses on i.e. specific ways feedback can be presented within a particular digital feedback tool.

2.6 Digital feedback on written coursework

While digital feedback may be provided via online objective question tests (Irons, 2008; Nicol, 2009), using personal response systems (PRS) (Evans, 2012; Kay & LeSage, 2009; Nicol, 2009) or using electronic portfolio systems (Oxford Brookes, 2010), this study focuses on digital feedback on written coursework.

Use of tools for digital feedback on written coursework is growing in HE (Walker et al, 2012), enabling feedback to be presented in a variety of ways. Written comments may be presented on- and off-script using document annotation tools (Hepplestone et al, 2011), for example using Microsoft Word[5]. Written comments may be re-usable, drawn from pre-set 'statement banks' (Denton et al, 2008; Hepplestone, 2008), for example using the Electronic Feedback tool[6]. Pre-set comments relating to assessment criteria may also be presented visually as a grid (van der Hulst et al, 2014; Chew, 2010), for example using GradeMark[7]. Spoken and visual feedback can be provided using audio and screen recording tools (Jones & Kelly, 2014; Oxford Brookes, 2010), for example using Audacity[8], Captivate[9] and Camtasia[10].

The literature highlights logistical benefits of such tools in terms of flexibility, efficiency and legibility; and pedagogic benefits in terms of utility in relation to the principles of developmental feedback.

2.6.1 Logistical benefits

In terms of flexibility, learners value not having to travel to collect digital feedback (Debuse & Lawley, 2016; Thomson, 2008; Hepplestone & Mather, 2007), listening to digitally recorded audio feedback at their own pace (Jones & Kelly, 2014) and greater privacy when accessing digital feedback (Hepplestone et al, 2011). Although markers do not need to transport so much paper around (Buckley & Cowap, 2013), flexibility is limited by software installation and maintenance (Denton et al, 2008),

[5] https://products.office.com/en-gb/word
[6] http://www.emarkingassistant.com/community/mod/forum/discuss.php?d=41
[7] http://www.turnitin.com/en_us/products/grademark
[8] http://www.audacityteam.org/
[9] http://www.adobe.com/uk/products/captivate.html
[10] https://www.techsmith.com/camtasia.html

limited functionality of tools (Heinrich & Milne, 2012) and by being tied to a computer (Starr, 2011).

In terms of efficiency, effort may be saved through use of re-usable digital written comments (Denton et al, 2008; Case, 2007) and where free-form written comments may be typed faster than handwritten as suggested by Connell & Tupa (2014). Efficiency of digital audio and video feedback is unclear. Whereas Kerr & McLaughlin (2008) found screen recordings may provide a greater amount of feedback for the same effort compared with typed comments, Mathieson (2012) found they took significantly more effort.

There is some evidence learners value the legibility of digital written feedback (Debuse & Lawley, 2016), specifically that it is easier to read than handwritten feedback (Hepplestone et al, 2011; Oxford Brookes, 2010).

2.6.2 Pedagogic benefits

Although digital feedback may offer advantages in terms of legibility, learners cannot make effective use of their feedback if they do not understand it. Enhanced clarity of meaning is a factor in learners' preference for spoken feedback over written feedback, both face-to-face (Budge, 2011) and via digital audio and video recording (Crook et al, 2012; Rodway-Dyer et al, 2009; Kerr & McLaughlin, 2009).

In terms of its utility in relation to the principles of developmental feedback, there is some evidence that pre-set assessment criteria-related comments can help clarify good performance (Heinrich et al, 2009; Case, 2007), facilitate self- and peer-assessment (van der Hulst et al, 2014; Jonsson, 2014) and feedforward into future assignments with similar criteria (van der Hulst et al, 2014; Starr, 2013).

In relation to feedback being provided in time to be of use for the next assessment, efficiency gains previously highlighted may reduce feedback turnaround time. However, quicker does not necessarily mean timely. Timeliness depends on learners' contexts. For example, whereas Carless (2015) argues feedback should be as close as possible to the assessment event, Bayerlein (2014) found reducing feedback turnaround time made little difference to learners' satisfaction. Budge (2011) found learners preferred spoken feedback face-to-face to digital written feedback, in part so

they could ask their marker questions. Otherwise, the literature lacks discussion of digital feedback in relation to the principles that developmental feedback should promote dialogue around feedback, motivation and self-esteem.

Furthermore, studies investigating utility of digital feedback on written coursework tend to report outcomes in terms of learners' satisfaction with, and preferences for, feedback rather than impact on learning. An exception is Case (2007) who introduced digital feedback on written coursework for 200 first, second and third year criminology students who were then surveyed on their understanding of the objectives, criteria and perceptions of effectiveness compared with previous feedback experiences. 79% reported being more aware of the assessment criteria, 69% more able to identify ways to improve in the future and 67% more motivated to improve. A longitudinal evaluation of assessment performance over two successive years revealed an average 4% year on year improvement within each module and an average 4% improvement within each student moving between years. However, this study is limited by a lack of baseline to compare with learners' perceptions of the digital feedback intervention. Furthermore, although individual and cohort performances do correlate with the introduction of digital feedback, no causal link is established.

This is indicative of a further limitation of such studies in that reasons for positive pedagogic outcomes found are typically either not investigated, or are the subject of speculation.

2.6.3 Build it and they will come?

Learners' engagement is one possible factor in positive pedagogic outcomes reported in relation to the use of digital feedback. Where Hyland (2003) found learners engaged less with feedback that failed to match their expectations, it may be that meeting learners' preferences encourages engagement, in turn leading to positive pedagogic outcomes. However, Jonsson (2013) concludes in a literature review on feedback in HE that learners' preferences for feedback are not a good predictor of their engagement with feedback. This is echoed by Crook et al (2012) who report that while 82% of their learners liked video feedback, perceiving it to be of higher

quality than previous feedback, less than 50% wanted their markers to continue using it. Furthermore, where Jones & Gorra (2013) report 86% of their learners said they were likely or very likely to request additional feedback, only 22% requested it when given the opportunity and less than half of those actually accessed the additional feedback provided for them.

Instead of meeting preferences, a focus is required on how form of feedback may influence the nature of learners' engagement with feedback. This is considered in the next section.

2.7 Influences of form on learners' engagement with digital feedback

Whereas Buckley (2012) found no difference between digital written feedback and face-to-face spoken feedback on learners' retention of feedback, other digital feedback studies do find influences of form of feedback on engagement with feedback on written coursework.

Crook et al (2012) surveyed learners on their experience of generic feedback provided via digital video recording. Of 297 respondents, 60% reported they took more notice of the digital video feedback compared with other forms experienced, citing clarity of meaning and level of detail as reasons. This echoes Kerr & McLaughlin (2008) who suggest markers' tone is a factor in their learners reporting enhanced clarity of meaning in screen-recorded feedback. Merry & Orsmond (2008) conclude bioscience undergraduates engaged with digital audio feedback more meaningfully than with written feedback in terms of making notes and using it to improve on future assignments. However, this was a small, self-selecting sample (n=15). Lunt & Curran (2010) conclude learners were much more likely to access digital audio feedback than collect feedback from more notice tutors' offices. However, only audio file downloads were tracked, not whether or how much they were listened to, and reports of collection from tutors were anecdotal.

Comparing engagement with digital written feedback and written feedback on paper, 71% of Connell & Tupa's (2014) learners (n=25) reported spending more time reviewing digital written comments than handwritten comments. However, whether

this was an indication of increased meaningful engagement was not established. Learners may have simply found it more difficult to read comments on screen than on paper for example.

Although these studies investigated the process of learners' engagement with digital feedback, as called for by Coates (2005), they are few compared with those focussing on outcomes. They also focused on a narrow range of processes of engagement, limited to reading/listening to/watching feedback and reflecting on feedback and self-evaluating. Neither processes involved in readiness to engage with feedback nor affective processes were considered. Furthermore, with the exception of Buckley (2012), claims for enhanced engagement are limited through self-reporting of engagement by learners and by a lack of description of learners' prior experiences of feedback with which to compare.

Finally, these studies tend to compare the relative influence on engagement of digital feedback with non-digital feedback. There is little research comparing influences of specific ways digital feedback itself can be presented - the focus of this study.

2.7.1 Can form be separated from content?

While this study focuses on form, not content of feedback, it is possible that form of digital feedback exerts an influence on its content. As Cousin (2005) asserts, in considering medium and pedagogy intrinsically related, "we should expect each to be changed by the other" (p123). For example, Ellis (2011) found that peer feedback comments via a blog were more detailed, less corrective and more affirming than those on paper.

Ways in which the content of feedback may be characterised include its level of detail (Shun Ha Sylvia & Beaumont, 2012; Crook et al, 2012), how specific it is (Van der Hulst et al, 2014; Straub, 1997) and how personalised it is (Tse et al, 2014). Each of these may be influenced by ways in which digital feedback can be presented.

Crook et al (2012) found a perception of enhanced detail in digital video feedback was a factor in encouraging learners to take more notice of their feedback compared with other forms of feedback experienced. Where more can be provided for the same

effort, efficiencies in digital feedback production previously discussed may influence the level of detail of feedback.

Specificity of on-script digital written comments can be greater than that of off-script digital written comments (van der Hulst, 2014; Shun Ha Sylvia & Beaumont, 2012; Chew, 2010) and digital audio feedback (Hepplestone et al, 2011; Rodway-Dyer et al, 2009) which do not relate as clearly to different parts of the learner's work.

Learners' perceptions of personalisation of digital audio and video feedback can be greater than digital written feedback (Chew, 2014; Mathieson, 2012; Kerr & McLaughlin, 2008). Case (2007) and Hepplestone et al (2011) suggest that, where digital feedback tools enable use of re-usable comments, learners may perceive these as impersonal. However, there is little evidence for this. Denton et al's (2008) learners' did not perceive such comments as impersonal, possibly because they were used in conjunction with free-form comments (Starr, 2013). Moreover, even where solely re-usable comments were provided, Bayerlein's (2014) learners did not perceive them to be any less constructive than free-form comments.

2.8 Conclusions from reviewing the literature

The literature provides evidence for logistical benefits of digital feedback on written coursework. However, research tends to focus on learners' satisfaction with, and preferences for, feedback rather than their engagement with it. Whereas it may be assumed that meeting learners' expectations of feedback will lead to engagement, there is little evidence to support this.

There is little research on utility of digital feedback on written coursework in relation to the principles of developmental feedback. Digital feedback studies which investigate utility typically do not explicitly investigate the reasons for positive pedagogic outcomes, or else make them the subject of speculation. Where learners' engagement with digital feedback is a possible factor, a focus on the process of engagement is required to investigate the reasons for such outcomes.

Digital feedback studies which do investigate the process of engagement do provide some evidence that form influences engagement. However, they are few and focus on a narrow range of processes. Furthermore, there is a lack of research relating to

the influence on engagement of specific ways in which digital feedback itself can be presented. There are indications that the form of digital feedback can influence its content. However, the extent to which this may in turn influence engagement is unknown.

3 Research design and methods

3.1 Introduction

In relation to learners' engagement with their feedback, a review of the literature revealed a lack of focus on specific ways in which digital feedback can be presented. Furthermore, digital feedback studies tend to focus on a narrow range of the numerous processes of engagement identified across the literature.

3.1.1 Research question

To explore these gaps in the context of an English university with a priority to enhance the rapidly growing provision of GradeMark feedback for summative assessment of written coursework, the following research question was developed:

> How may the ways in which feedback can be presented in the GradeMark *digital feedback tool influence undergraduates' engagement in* developmental *use of lecturers' feedback for summative assessment of written coursework?*

Hereafter, the term 'presentations' will refer to ways in which digital feedback can be presented.

3.1.2 Research design

This empirical study employed a mixed methods design involving a secondary analysis of a prior survey of learners' experiences and perceptions of feedback followed by interviews with undergraduates with experience of GradeMark feedback.

3.1.3 Theoretical position

This study is situated within the interpretivist tradition, informed by the researcher's view that there is no objective reality independent of the individual and that knowledge is personally constructed. The researcher subscribes to Kolb's (1993, p155) position that "knowledge is created through the transformation of experience". Findings from this study are not intended to be generalisable; rather they may be used to inform lecturers' action research into their own feedback practice.

3.2 Methods

3.2.1 Secondary analysis

3.2.1.1 About the original survey

During 2014, an online survey of students at Canterbury Christ Church University (CCCU) was conducted to capture their experiences and perceptions of feedback received on summative assessment.

The survey contained nineteen closed and four open questions, comprising three demographic questions, six on study context and eleven on feedback experiences and preferences (see Appendix 2). Of particular relevance to this study, the survey included an open question which asked 'What types of comments in feedback are you most likely to take notice of?'.

The survey was open to all registered students at the time (17,426), of which 338 responded giving a response rate of 1.9%.

Prior to this study, findings from a descriptive analysis of the survey's quantitative data had been disseminated internally within CCCU (no citation available). These findings included forms and content of feedback experienced by respondents, their perceptions of the value of feedback and their preferences for future feedback. However, no inferential statistical analysis had been conducted to investigate possible relationships and no findings from analysis of the qualitative data had been disseminated.

3.2.1.2 Use of the secondary survey analysis for this study

Secondary analysis involves asking new questions of existing data (Bishop, 2011). It can be used in a mixed methods approach to "characterise the local population of an area which is the focus for a small scale case study" (Smith, 2012 p126).

A secondary analysis of this survey was conducted for its potential to characterise learners' feedback experiences and perceptions in the same university from which interview participants were recruited.

There is no record of the validity or the reliability of the original survey being established, for example through peer review to establish construct validity (Coe, 2012), internal consistency tests (Hambleton, 2012) or piloting of the survey (Tymms, 2012). This would be problematic were findings from the secondary analysis used to make claims and/or generalise to other populations. However, findings were used solely to help inform the design of interviews by indicating useful areas to focus on.

Prior to this study, it was not known whether the data included any reference to presentations of GradeMark or any other technology for digital feedback on written coursework. As such, this study was designed so as not to rely on the secondary analysis, rather employ it as a minor and sequential method (Biesta, 2012) which may enrich the major interview method.

3.2.2 Interviews

Interviews are a common method within educational research in the interpretivist tradition (Mears, 2012). An interviewee's experience is not static knowledge that can be mined; it is actively constructed in the context of the interview (Holstein & Gubrium, 2004). Meaning is also constructed by the interviewer, translated through the lens of their individual frame of reference (Eisner, 1992). That each interview is a unique meeting of minds, and cannot be replicated, is a recognised limitation of interpretivist epistemology (Hammersley, 2007).

3.2.2.1 Semi-structured interviews enriched by narratives

A schedule for semi-structured interviews enriched by narratives was designed to explore participants' experience of, and attitudes towards, GradeMark feedback (see Appendix 3). At its heart were two narrative style questions asking about their most recent experience of GradeMark feedback and about their best feedback experience during their studies at CCCU.

Prompts were included to seek evidence of processes of engagement and experience of GradeMark presentations. Printed examples of the latter (see Appendix 1) were

shown to enhance clarity and reduce misunderstanding when referring to them, as well as to ask participants' views on presentations they had not experienced.

Narrative interviews involve giving participants space to tell a story of their experience. Their unstructured nature can encourage openness (Bauer, 1996) and enable participants to make sense of their experience (Tedder, 2012). As such, narratives were appealing in exploring what mattered to participants about their feedback, key to understanding influences on their engagement.

However, some aspects of narrative methodology were unsuitable for this study. Unstructured interviews may have not elicited critical, specific aspects of experience such as engagement processes and experiences of GradeMark presentations. Whereas narrative methodology involves analysing structure, order and language of narratives (Elliot, 2005; Willig, 2014), this would have added considerable effort but have been of limited use in addressing the research question.

Instead, a narrative approach was used within semi-structured interviews to capture what mattered and why, as well as focus in on specific aspects of experiences. As Bauer (1996 p11) observes, "Rather than a new form of interview, we have a semi-structured interview enriched by narratives".

3.2.2.2 Secondary analysis informing interview design

Findings from the secondary analysis are presented in Findings and discussion (4.1).

The analysis revealed strong preferences for content as well as form of feedback and that respondents referred exclusively to content in relation to feedback comments they were most likely to take notice of. This contributed to the decision to enrich interviews with narratives to get at what really mattered to participants, and to include content as a prompt in the interview schedule. The analysis also revealed respondents' least preferred form for future feedback was podcasts, in contrast to a theme in the literature of learners' preference for digital audio over digital written feedback. This prompted explicit discussion with interview participants around Voice Comments as a presentation of feedback in GradeMark. Finally, a desire for more face-to-face feedback revealed by the analysis informed inclusion of a specific interview question about contact with markers through feedback.

Ultimately, however, findings from the secondary analysis were of limited value (see Findings and discussion, 4.1.3). They contributed little to interview design that a review of the literature had not already done.

3.2.2.3 Participants

A purposive sample of undergraduates was sought, across a range of disciplines and levels of study, and with experience of a range of GradeMark presentations. The aim was to provide sufficient variation across the sample to "provoke new insights, understandings, connections and explanations" (Coe, 2012 p49). Balancing time available for the study with the need for variation, an original target of 12 participants was set.

Potential gatekeepers were identified by combining a list of markers known by the researcher to have used GradeMark with undergraduates for feedback on written coursework with those known to colleagues in the institution's learning development unit. Of twenty seven markers contacted, twelve confirmed they had provided GradeMark feedback for their current students, provided details of the GradeMark presentations they had used and agreed access to recruit interview participants. Invitations to participate in interviews were posted on gatekeepers' Virtual Learning Environment (VLE) sites and the researcher attended gatekeepers' taught sessions to ask for volunteers.

Seven participants were recruited. Each participant was interviewed by the researcher once, for about an hour, over an eight week period following recruitment. Audio recordings were made and a professional contracted to make transcriptions.

Although below the initial recruitment target, there was good variation in level of study and discipline. Furthermore, between them participants' gatekeepers had used all GradeMark presentations except for one – the Grading Form. As a number of themes began to re-occur in interviews, it was decided that these seven participants comprised a purposive sample.

3.3 Data analysis

3.3.1 Secondary analysis

The data were not publicly accessible. On approach, the original researcher provided access via the Bristol Online Surveys[11] tool.

The following questions were developed to ask of the survey data based on their potential to inform interviews.

1. What can the data reveal about respondents':
    a. engagement with feedback?
    b. experiences of digital feedback?
    c. preferences for form and content of feedback?

2. What relationships exist between forms of feedback experienced and:
    a. engagement with feedback?
    b. preferences for forms of future feedback?

To address these questions, the following thematic and statistical analyses were conducted on the survey's qualitative and quantitative data respectively.

3.3.1.1 Thematic analysis

To address 1a, 1b and 1c a thematic analysis was conducted of responses to open survey questions about feedback comments most likely to take notice of (Q20), preferences for future feedback and (Q21) and about a poor experience of feedback (Q22).

Dey's (1993) process of interactive reading, annotation and categorisation was followed. 1a, 1b and 1c comprised a 'substantive checklist' to focus initial reading. Whereas using a pre-determined checklist risks missing other potentially important themes and misinterpreting meanings (Dey, 1993), his 'interrogative quintet' of 'who?', 'what?', 'when?', 'where?' and 'why?' was also used to listen closely to what the data are saying.

[11] https://www.onlinesurveys.ac.uk/

Emerging similarities and differences between responses were captured visually using the Inspiration[12] mind mapping tool, enabling iterative development of categories by easily splitting, moving and refining them whilst re-reading responses.

The final mind map represented a category tree which was used as the basis for coding using Dedoose[13] online Computer-Assisted Qualitative Data Analysis (CAQDAS) software. CAQDAS codes were developed iteratively by adding criteria to categories, testing and refinement. Where it was difficult to decide which code to use for a certain excerpt, it was found useful to add 'use this code when …' and 'do not use this code when …' examples to criteria.

CAQDAS can enable efficient iterations for large data sets (Gibbs, 2012), in this case by enabling aggregation of similarly coded excerpts to test criteria.

Code application analyses were conducted to identify major and minor themes.

3.3.1.2 Statistical analysis

The survey asked no closed questions explicitly about engagement with feedback. However, it did ask about respondents' perception of the value of feedback in enabling development (Q17). Although not evidence of engagement itself, it was considered an indicator of potential to engage. As such, 1a was partially addressed by a descriptive statistical analysis of survey responses to this question. 1b and 1c were addressed by descriptive statistical analyses of survey questions Q12, Q13 and Q13a relating respectively to experiences of, and preferences for, forms and content of feedback. These analyses were conducted using the Bristol Online Surveys tool through which the original survey was administered.

To address 2a, as the data did not meet parametric assumptions, Mann-Whitney tests were conducted to evaluate the effect of forms of feedback experienced (Q12) on respondents' perceived value of feedback in enabling development (Q17). To address 2b, Pearson's chi-square analyses were conducted to test for associations between forms of feedback experienced (Q12) and preferences for form of future

[12] http://www.inspiration.com/
[13] http://www.dedoose.com/

feedback (Q13a). These inferential statistical analyses were conducted using the SPSS[14] quantitative data analysis tool.

3.3.2 Interview analysis

3.3.2.1 Evaluating participants' engagement with feedback

A review of the literature concluded that evaluating engagement with feedback requires a focus on process. Handley et al's (2011) phases of readiness to engage with feedback and active engagement with feedback accommodate a broad range of processes of engagement. As any number of processes may be influenced by GradeMark presentations, this is a useful lens for evaluating the nature of participants' engagement with feedback for development. Figure 1 depicts processes involved in readiness to engage and active engagement identified from a review of the literature.

[14] http://www-03.ibm.com/software/products/en/spss-statistics

Readiness to engage	Active engagement
Buying in to the assessment task and having a desire for feedback Developing ability and confidence to use feedback Creating a sense of ownership of the feedback process	Reading/listening to/watching feedback Storing and returning to feedback Reflecting on feedback and self-evaluating Accessing resources Responding emotionally to feedback Connecting emotionally with the marker Feeling valued Seeking dialogue with markers, peers and others Developing a will to improve as a result of feedback Action planning for future improvement Developing an increased understanding of what quality is Stimulation of interest in learning as a result of receiving feedback

Figure 1: Processes of engagement with feedback identified from a review of the literature

This list of processes was reviewed with the researcher's supervisor to strengthen construct validity (Coe, 2012) before using them to look for evidence of learners' engagement with their feedback through analysis of the interview data.

3.3.2.2 Thematic analysis

A thematic analysis was conducted of interview data following the same process and tools used for the survey qualitative data (see 3.3.1.q). A substantive checklist for initial reading of the data included the list of processes depicted in Figure 1 and a list of GradeMark presentations to look for evidence of experience of, attitudes towards and possible influences on processes of engagement. Counterexamples and negative

cases were sought during the thematic analysis, and findings were reviewed with the researcher's supervisor to strengthen interpretation claims (Coe, 2012).

3.4 Ethical considerations

Boddy et al's (no date) guidelines for secondary analysis were followed. Ethical approval was gained from the researcher responsible for the original survey. Participants had previously been advised on use of data for future research. Responses were anonymised. There was no need to extend or modify data archiving arrangements.

British Educational Research Association (2011) ethical guidelines for interviews were followed. Informed consent was gained from participants and confidentiality assured. See Appendices 4 and 5 for the Consent Form and Participant Information Sheet respectively. Aware of a potential power relationship in his dual role as researcher and learning technologist, the researcher advised participants they did not have to take part and that specific comments would be not shared with their lecturers. Because assessment-related discussions with learners have the potential to be emotive, participants were advised they did not have to answer any given question and could stop the interview at any time.

University of Edinburgh (2015) data management guidelines were followed. All data were held on a password protected university intranet area. Subject to a non-disclosure agreement, interview recordings were shared via a secure drop-box with a contracted transcriber. No personal information was otherwise shared. The transcriber anonymised the transcripts by referring to 'I:' for interviewer and 'P:' for participants. On checking them, the researcher further anonymised references to others, for example where participants referred to their marker by name. Further copies of anonymised interview transcripts were held on a password-protected CAQDAS server for the purpose of thematic analysis. All data will be destroyed on completion of this study.

3.4.1 Openness

The researcher must be reflexive about their personal influence on the research process (Law, 2004). However, this study's researcher's theoretical position means there is an intrinsic influence at the epistemological level through actively co-constructing interview data (Holstein & Gubrium, 2004) and by thematic analysis being highly interpretive (Dey, 1993). As such, the methodological concept of researcher bias is problematic. Instead, Cousin's (2009) notion of 'trustworthiness', which includes remaining open to alternative viewpoints and not cherry-picking to suit one's own, is more useful in interpretative research. In an attempt to ensure that the researcher's values and beliefs as a learning technologist, as well as the institution's lead for digital feedback, did not unduly influence outcomes, a reflective blog was maintained throughout the study (see Starr, 2016a[15]). Examples include being conscious of preconceptions regarding the value of certain presentations of digital feedback in scoping the secondary analysis (Starr, 2015a), asking colleagues to suggest potential gatekeepers so as not to limit to the researcher's 'favourite' users of GradeMark (Starr, 2015b) and being conscious of the researcher's own theory regarding the value of GradeMark Rubrics so as not to lead participants in interviews (Starr, 2015c) or skew analysis and reporting of findings (Starr, 2016b).

3.5 Alternative approaches

While approaches involving learners' self-reporting of engagement with feedback are common (Trowler, 2014), their reliability is debatable (Agius & Wilkinson, 2013). Alternative approaches might include asking lecturers how their learners engage or observe them engaging in feedback. However, these are limited by virtue of not all processes of engagement being visible (Handley et al, 2011). Furthermore, lecturers' judgement of engagement may be skewed where they differ from learners in perceptions of the purposes and use of feedback as found by Orsmond & Merry (2013).

[15] Accessible to all University of Edinburgh EASE users

Where factors other than presentation of GradeMark feedback may influence engagement, a controlled experimental design may help identify influences of presentation specifically. However, this would not take account of individual and contextual differences important to the researcher's theoretical position. Furthermore, it would also not reveal why presentation influences engagement. Finally, where the content of feedback necessarily differs between learners, a controlled experimental design could not account for interrelationships between presentation and content.

3.6 Methodological challenges

3.6.1 Mixing methods

Biesta (2012) warns the validity of mixed method design is undermined if it involves mixing at the epistemological level. Whereas the secondary survey analysis involved the researcher's own interpretations of qualitative data, as well as inferential statistical analyses of quantitative data, these were not cross-analysed. Findings from the secondary survey analysis were used to inform the design of interviews, not to corroborate or challenge findings from them.

3.6.2 Secondary analysis

A key challenge in secondary analysis lies in understanding how the context of the original survey might affect the new analysis (Bishop, 2011). Moore (2006 p21) observes this is particularly challenging in qualitative research where contextual factors "seen as so intrinsic to the process of qualitative research, that without access to these, reuse of qualitative data remains impossible or at best limited." As the original survey was conducted relatively recently within the same institution as this study, and the study's focus was similar in investigating experiences of feedback, the challenge of context initially appeared limited. However, differences in focus between the original survey and this study, and a lack of contextual information about some of the original survey's questions, ultimately contributed to findings from the secondary analysis having limited value to this study (see Findings and discussion, 4.1.3).

3.6.3 Interviews

There is a risk participants relate what they may think the interviewer wants to hear (Gibbs, 2011), in this case as a learning technologist and the institution's lead for digital feedback. Informed by Bennett's (2012) approach, the researcher attempted to build a rapport with participants, highlighting his personal experience as a student receiving digital feedback, to attempt to draw out a more open and honest account of experience.

Where Ross (2010) contends that transcription is an idiosyncratic act, there is a risk that a transcriber's and a researcher's transcripts may differ sufficiently to affect the analysis. To mitigate this, the researcher listened again to interview recordings immediately before reading transcripts during the thematic analysis. As with the secondary analysis of the survey, counterexamples and negative cases were sought during analysis of the interview data.

3.7 Limitations of this study's methodology

Because participants were interviewed after they had received feedback, the research design enabled more investigation of processes involved in Handley et al's (2011) phase of active engagement with feedback than in the readiness to engage phase. Although this was partly addressed by asking participants how they felt before they received their feedback, a design involving pre- and post-feedback interviews would have allowed deeper investigation of readiness to engage. However, this was not practicable within the constraints of time and effort available for this study.

Interpretivist studies may be considered limited in being difficult to transfer between contexts (Hammersley, 2007). However, as long as a sufficiently detailed description of methods and participants' contexts is captured, findings may be used as a 'working hypothesis' (Coe, 2012) to enable similar exploration within other contexts. By capturing such detail in this report, it is hoped findings from this study may help to inform lecturers' action research on their feedback practice in their own contexts.

4 Findings and discussion

To investigate how GradeMark presentations may influence engagement with feedback, a secondary analysis of a prior survey of learners' experiences and perceptions of feedback on summative assessment was followed by interviews with undergraduates with experience of GradeMark feedback.

Findings from the secondary analysis are presented first, but not discussed in themselves as they were used solely to help inform the design of interviews by indicating useful areas to focus on. Limitations of their value in doing so are highlighted. Findings from the interviews are then presented and discussed in relation to the literature. Limitations of interview findings are highlighted and implications for practice considered.

4.1 Secondary analysis findings

338 students, from across all four university faculties, responded to the survey.

Descriptive statistical analysis revealed the range of respondents' experiences of, and preferences for, forms of feedback depicted in Figures 2 and 3 respectively. Note: respondents could select more than one form in each case.

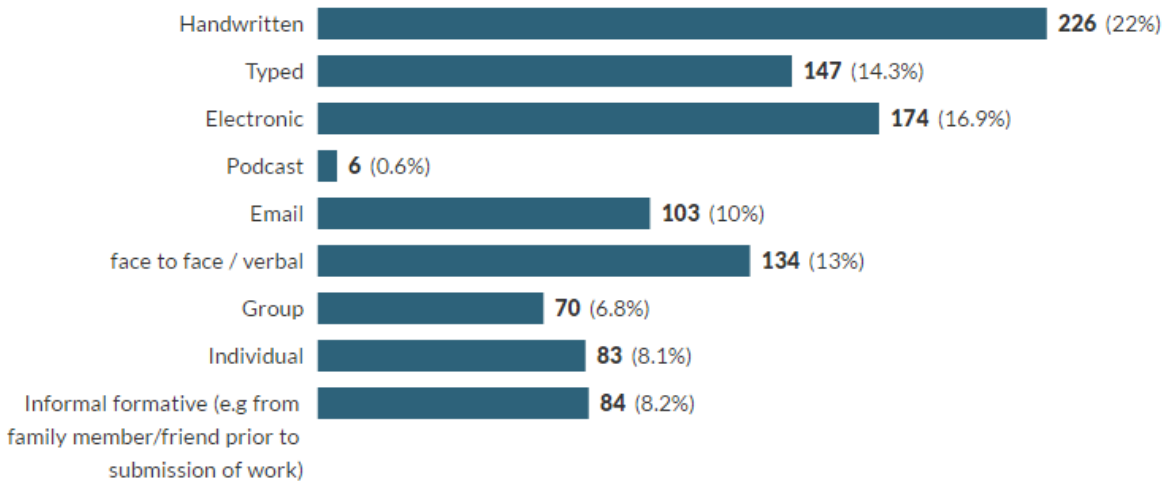

Figure 2: Range of forms of feedback experienced by survey respondents

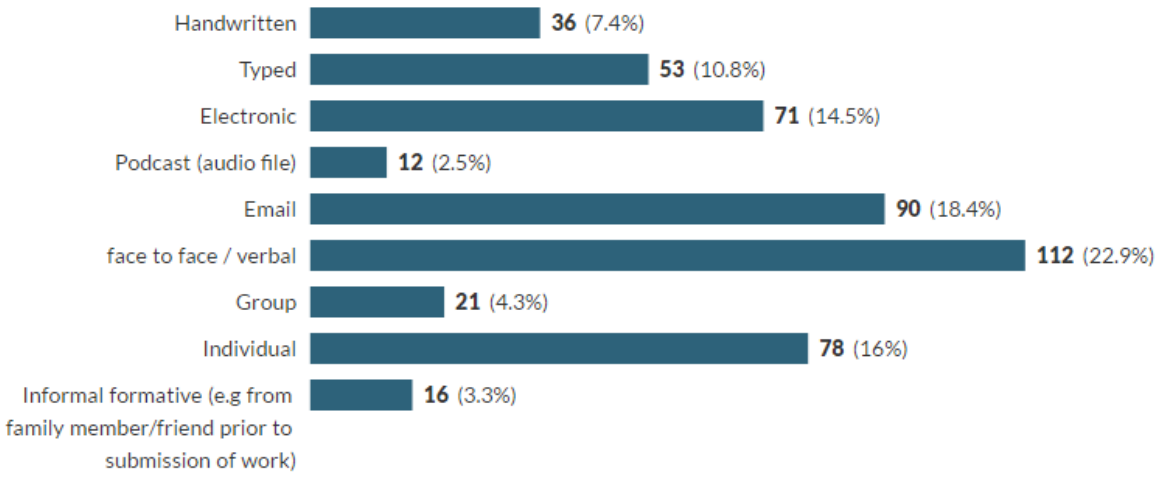

Figure 3: Range of survey respondents' preferences for form of future feedback

The majority of respondents either strongly agreed or agreed with the statement 'assignment feedback is an integral part of my ability to improve subsequent assignment marks', with a median value of 1 (strongly agree). As a measure of their perceived value of feedback in enabling development, this was considered an indicator of respondents' potential to engage with their feedback (see Research design and methods, 3.3.1.2).

Inferential statistical analyses revealed significant relationships between experience of face to face / verbal feedback and perceived value of feedback in enabling development, experience of handwritten feedback and a preference for typed feedback and experience of email feedback and a preference for handwritten feedback. Appendix 6 contains detailed reports of these analyses.

Analysis of responses to open questions revealed themes of taking notice of feedback dependent on content and preferences for form of feedback. Appendix 7 contains the final iteration of the CAQDAS codes.

4.1.1 Taking notice of feedback dependent on content

When asked what type of feedback comments they were most likely to take notice of, respondents referred exclusively to content, not form.

The majority of respondents said they were most likely to take notice of comments they perceive as developmental. A notable minority were most likely to take notice of comments they perceive justify their grade. Commenting on the de-motivating effect of unconstructively phrased criticism, some respondents said they take most notice of feedback which has a balance between positive and negative comments. In relation to the content of feedback, poor experiences reported mainly involved feedback which was not developmental, too brief or which did not relate to specific parts of the respondent's work.

4.1.2 Preferences for form

Respondents expressed roughly equal preferences for digital, paper-based and face-to-face feedback. More referred to digital feedback via e-mail than via GradeMark. More wanted face-to-face feedback as complementary to, not instead of, other forms. Other than two participants referring to podcasts, respondents only referred to written forms of digital feedback. However, no participants referred to specific GradeMark presentations. Poor experiences relating to form mainly involved face-to-face feedback, particularly lack of awareness or opportunity to arrange a meeting with the marker, and paper-based feedback, particularly poor legibility of handwritten feedback.

4.1.3 Limited value of findings from secondary survey analysis

These findings were of limited value in informing design of the interviews for the following reasons. Analysis of the survey data revealed no reference to specific ways feedback can be presented in GradeMark. This is likely due to the original survey's level of focus being on a much broader range of feedback experiences than digital feedback and broader range of dimensions of feedback than form. It was not designed to explore the level of detail this study is concerned with i.e. ways in which digital feedback can be presented. Whereas thematic analysis provided some insight into the influence of feedback content on respondents' engagement, only respondents' preferences for form of feedback were revealed. Finally, its value was limited by a lack of contextual information. The descriptive statistical analysis of respondents' experiences of, and preferences for, 'electronic' and 'email' feedback

(see Figures 2 and 3) may have provided some insight at this level of detail, as might the significant association between experience of 'email' feedback and a preference for handwritten feedback revealed through inferential statistical analysis. However, no explanation of these pre-set survey response options was given. It is unclear what respondents understood by them or what the differences between them were. For example, a respondent selecting 'email' feedback may equally have meant feedback presented as paragraphs of text within an email or as an annotated Word document attached to the email. A respondent selecting 'electronic' feedback may have meant GradeMark or another technology. Because respondents could choose multiple options, they may have even meant email also.

As such, there was little 'integration' of the survey and interview analyses necessary for a successful mixed methods approach (Bazeley, 2010 p432). However, this is a limitation, not a failure, of the research design in which the secondary survey analysis was a minor, sequential and essentially opportunistic method (see Research design and methods, 3.2.1.2) included for its potential usefulness. In hindsight, a more detailed evaluation of the survey's design in relation to its potential to contribute, prior to designing this study, would have been beneficial.

4.2 Interview findings and discussion

Seven participants were interviewed, representing undergraduate Levels 4 to 6 (Years 1 to 3) across a range of eight disciplines from all four of the institution's faculties[16]. All were full-time learners and either wholly campus-based or campus-based with professional placements.

Participants had between them experienced all GradeMark presentations except for the Grading Form. Most had experienced a Grade, General Comments, Bubble Comments and Rubrics. Some had experienced Voice Comments and QuickMark Comments. Only one had experienced Inline Comments.

Thematic analysis of the interview data revealed a broad range of processes of engagement with feedback exhibited by participants. These are described in the

[16] Note: one participant was studying two disciplines

following section. Influences of specific GradeMark presentations emerged on some of these processes as discussed in subsequent sections. Appendix 8 contains the final iteration of the CAQDAS codes.

4.2.1 Processes of engagement with feedback

With the exception of accessing resources as a result of receiving feedback, participants between them exhibited all of the processes of engagement with feedback identified from the literature (see Figure 1).

Amongst processes involved in Handley et al's (2011) phase of active engagement with feedback received, there is evidence of all participants reading/listening to feedback and storing and returning to feedback and evidence of most participants reflecting on feedback and self-evaluating, seeking dialogue with markers, peers and others and action planning for future improvement. Most participants also described responding emotionally to feedback and feeling valued. There is evidence of some participants connecting emotionally with the marker, developing an increased understanding of what quality is and stimulation of interest in learning as a result of receiving feedback. Amongst processes involved in Handley et al's (2011) phase of readiness to engage, there is evidence of most participants buying into the assessment task and having a desire for feedback. Some participants described developing ability and confidence to use feedback and creating a sense of ownership of the feedback process.

4.2.1.1 Highly independent, proactive users of feedback

Whereas this study sought a purposive interview sample with variation in level of study, discipline and presentations of GradeMark experienced, it did not seek to investigate relationships between learners' disposition towards learning and their engagement with feedback. However, by exhibiting processes of reflecting on feedback, self-evaluating and action planning for future improvement, most participants were clearly proactive users of feedback. Furthermore, through having a desire for feedback and an awareness of its value, it became evident through discussion that most interview participants were also highly independent learners. For example:

> *I'm really organised, I'm probably bord*erline OCD, but (laugh) I refer back *to everything. If it's in regards to my performance, I'll always re*-read what *people have said. But I've made notes of what the lecturer advised. You know, the steps for me to take to progress in my learning, I've made* notes of it so I can use that in my next assignments and things. (participant #4)
>
> I basically bounced her [the programme director] an email saying how good *[the marker's] feedback previously was, via it being voice recorded, on the basis that because I've* got an extensive medical history, how well it benefited me and that basically trying to convince her to get other lecturers on board. (participant #7)

That interview participants were mostly highly independent, proactive users of feedback has implications for interpreting the findings as discussed in a later section.

4.2.1.2 Benefit of considering a broad range of processes of engagement

That participants exhibited such a broad range of processes of engagement supports Handley et al's (2011) broadening of the concept of engagement with feedback beyond Gibbs & Simpson's (2004-5) starting point of attending to and acting on feedback. Given the lack of feedback research in Kahu's (2013) affective domain of engagement, evidence found of emotionally-related processes is of particular note. No further processes of engagement with feedback emerged from analysis of the interviews, suggesting those identified in this study may provide at least a good starting point for further research.

In contrast to previous studies, the focus in this study on a broad range of processes of engagement with feedback is justified by the influences of GradeMark presentations found on several processes as discussed in the following sections.

4.2.2 Influences of GradeMark presentations on engagement

Positive and negative influences of GradeMark presentations on the following processes of engagement with feedback emerged:

- reading/listening to/watching feedback,
- reflecting on feedback and self-evaluating,
- action planning for future improvement,

- connecting emotionally with the marker and
- feeling valued.

Ways in which GradeMark presentations may influence both participants' motivation and ability to engage in these processes emerged. These arise through affecting participants' perceived personalisation of feedback, its specificity and clarity of meaning; their emotional connection with their marker and by simply grabbing their attention.

Figures 4 and 5 depict an overview of these positive and negative influences respectively. They show how GradeMark presentations (left of figures), through affecting personalisation, specificity, clarity, emotional connection and grabbing attention (centre of figures), influence participants' ability and motivation to engage in specific processes (right of figures). These influences are discussed in detail in subsequent sections.

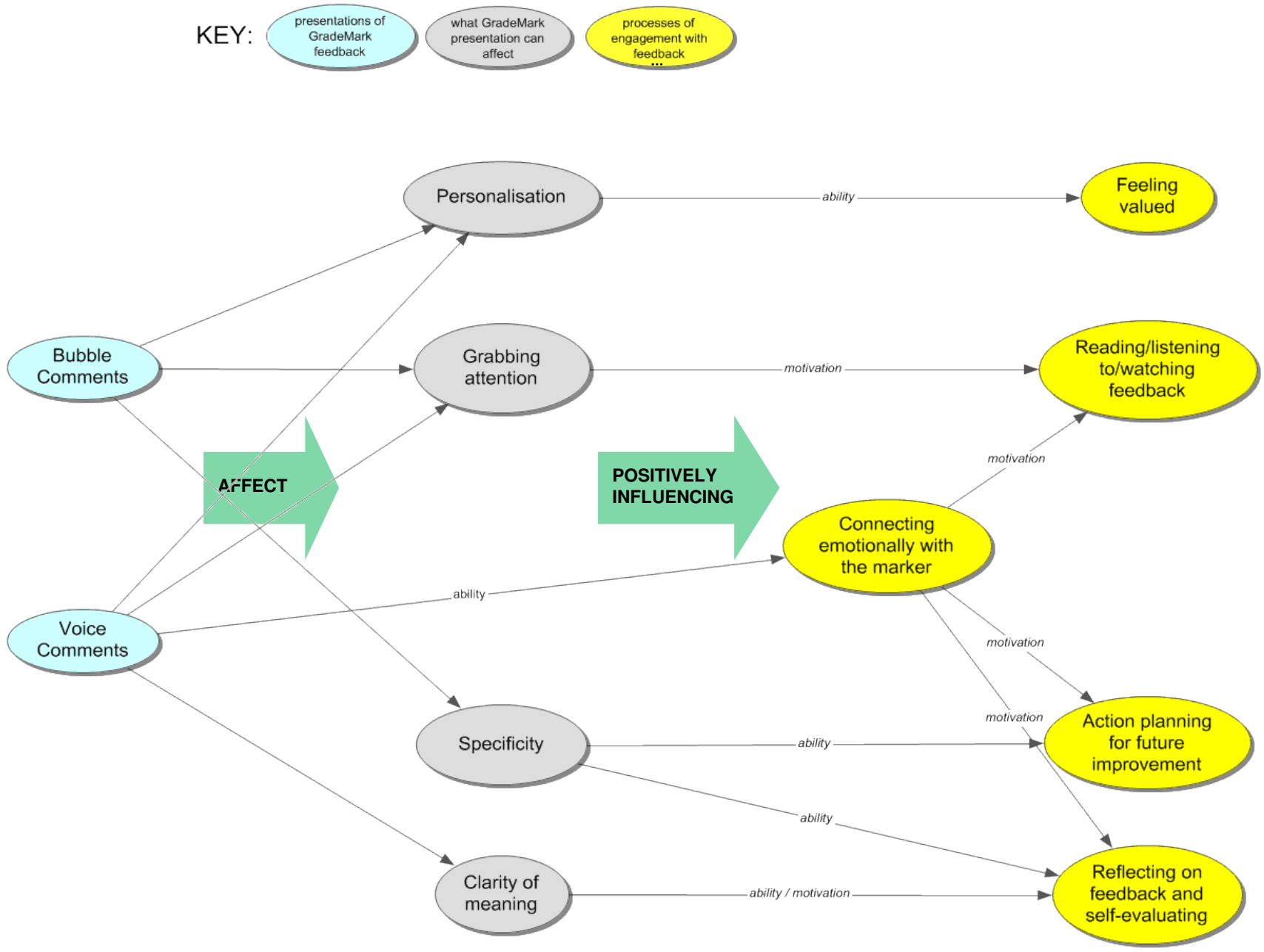

Figure 4: Ways in which GradeMark presentations may *positively* influence engagement

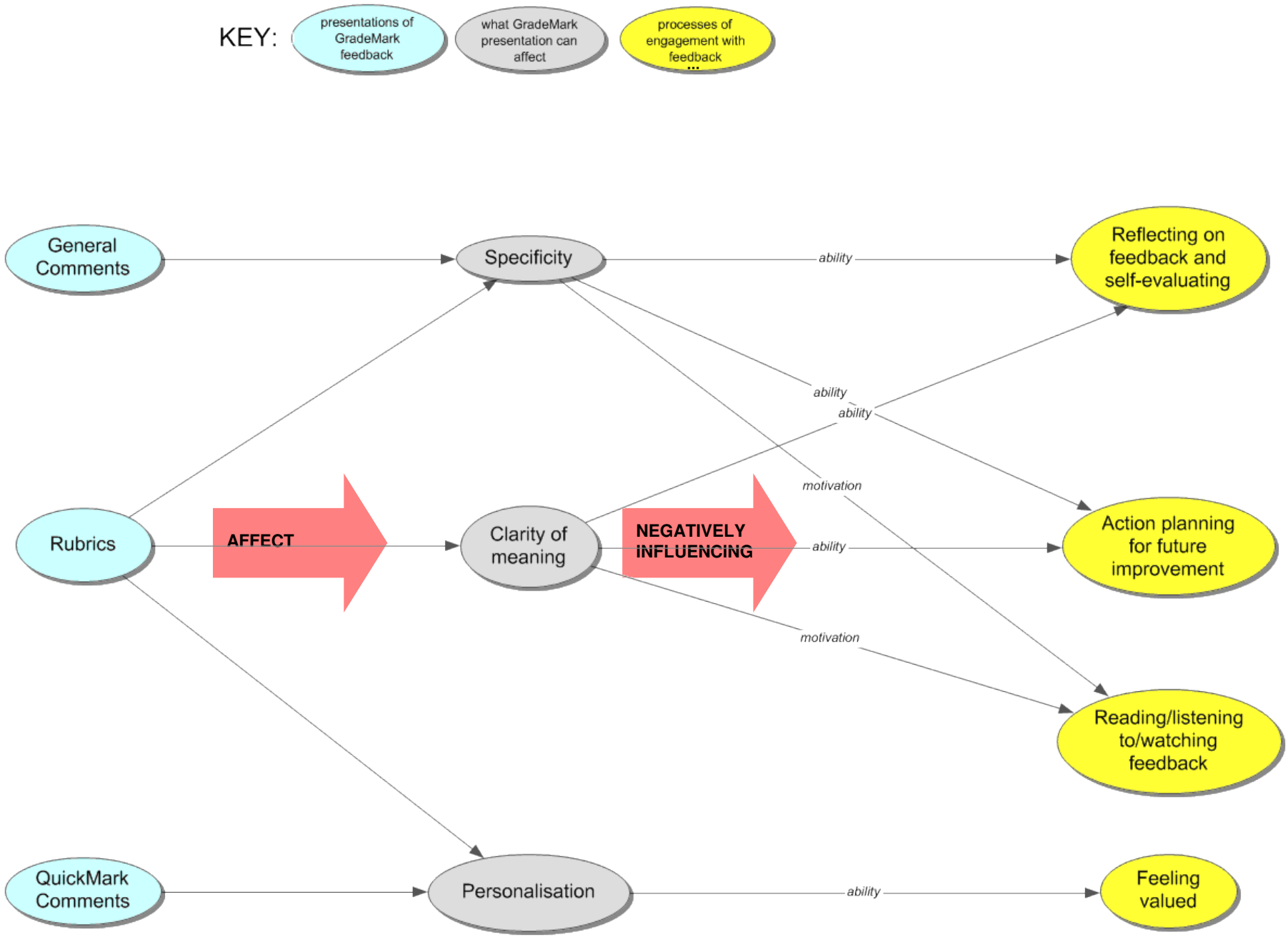

Figure 5: Ways in which GradeMark presentations may *negatively* influence engagement

4.2.2.1 Personalisation

Six participants related how they perceived Bubble Comments and Voice Comments to have enhanced the personalisation of their feedback, in turn positively influencing how valued they felt.

Lizzio & Wilson (2008 p273) recommend that markers "might seek not only to acknowledge achievements, but also to recognize the effort invested, irrespective of outcomes". As one dimension of personalisation, recognition of effort was a common desire amongst participants. For example:

> *I haven't just put in three weeks of sitting in the library for god knows how many hours a day so that someone can just go almost like 'oh, stamp it with a grade and chuck it in the outbox', you know, you don't feel valued if you're thinking that that's what's happened.* (participant #5)

One way the marker can recognise effort is by using Bubble Comments. Where the marker is adding such on-script comments to specific passages, they are showing they have closely attended to the work. Supporting Van der Hulst et al's (2014) suggestion that GradeMark Bubble Comments may enhance learners' perception of personalisation, one participant commented:

> *So I could just tell that he'd actually read through it prop*erly because he pointed out the parts [with Bubble Comments] where, you know, if you had skim-*reading through it you wouldn't notice it, but he pointed out on it, and I* quite liked that because it just kind of me feel as if he actually properly read my essay. (participant #2)

Another way is by the marker showing that they care about the person behind the work, which several participants linked with use of Voice Comments. For example:

> *They're talking to you as if – you're not just here to be professional, t*hey *actually care about their students. You get that sense that they've gone the extra mile to make sure you've got the most effective feedback that they can* provide. (participant #7)

This echoes the findings of Merry & Orsmond (2008), who in providing digital audio feedback via e-mail, found their learners reported an enhanced perception of personalisation through this compared with written feedback. However, no

suggestion as to why was offered. This study's participants indicated that it was a warmer, less formal approach through Voice Comments that made the feedback feel more personal compared with written presentations in GradeMark. Merry & Orsmond (2008) raise concerns that this perception of personalisation may be undermined by reduced sound quality where audio files are compressed for ease of delivery. However, this study's participants who had experienced Voice Comments them did not refer to sound quality issues.

Another dimension of personalisation for participants was how individualised the feedback comments were. Four participants related how QuickMark Comments and feedback via Rubrics reduced their perception of individualisation, negatively influencing how valued they felt. For example:

> *It's standard, standardised. You're not treating stud*ents as individuals. (participant #7)

> *It's supposed to be their individual opinions towards our work.* (participant #6)

Although QuickMark Comments the marker selects vary between learners, as does their indication in the Rubric of level achieved in each assessment criterion, the comments each of these presentations contain are pre-set so as to be re-usable. As suggested by Hepplestone et al (2011) and Case (2007), the reduced personalisation participants' perceived was due to this re-usability. However, this contrasts with Denton et al's (2008) learners who did not perceive re-usable comments as impersonal. Whereas this study's researcher previously suggested this may be due to re-usable comments being used in conjunction with free-form comments (see Starr, 2013), this study's findings suggest another explanation. Some participants did not know the QuickMark Comments they had received were re-usable until highlighted by the researcher in the interview. For example:

> *It sounds ridiculous, but I'm actually outraged by that. That's* – that just – I thought you were joking. I actually thought you were joking when you said that [that QuickMark Comments are re-usable]. (participant #7)

It may be, therefore, that learners' awareness of QuickMark Comments as re-usable, rather than anything intrinsic to this presentation, may affect perceived

personalisation. On a positive note, one participant, aware they are re-usable, welcomed use of QuickMark Comments which provide corrective advice on technical aspects of their work, echoing Connell & Tupa's (2014) learners who valued use of GradeMark QuickMark Comments for correcting referencing formats.

This then may present a moral dilemma for markers whereby being open with learners about the use of re-usable comments may reduce their perception of personalisation, in turn negatively influencing how valued they feel. However, where Nicol & McFarlane-Dick (2006) suggest feedback which promotes positive motivational beliefs and self-esteem encourages self-regulation, the converse is not necessarily true. It emerged that how valued participants' felt in itself did not influence what they then did with their feedback (although this may be a consequence of the independence of the interview sample as discussed in a later section). Other ways found in which presentation may influence engagement are discussed next.

4.2.2.2 Connecting emotionally with the marker

Echoing Tse et al's(2014) finding that a perception of personal contact with the marker through digital feedback is important to learners, two participants related how Voice Comments positively influenced their ability to make an emotional connection with their marker through the spoken feedback feeling more human and friendly. This echoes both Mathieson (2012) and Kerr & McLaughlin (2008) who suggest the audio component of screen-recorded feedback they provided contributed to learners reporting an enhanced sense of connection with their marker. However, neither of these studies consider impact on learners' motivation to engage with feedback as a result.

Itself an active process of engagement with feedback, this study's participants indicated the ability to make an emotional connection with the marker may in turn positively influence motivation towards further active processes of listening to, reflecting on and using feedback to improve. For example, by easing nerves:

> *you're already in that kind of anxious, tense state when you're getting* feedback on any work anyway, and I think that [Voice Comments] helps to sort of cut through that. (participant #5)

Furthermore, several participants commented that their relationship with the marker was a factor in their engagement with feedback, for example:

> Those [markers] that I can relate to and approach and, you know, that are *really approachable and will put themselves on the line … you automatically* feel like you want to work harder for them. (participant #7)

Where the ability to make an emotional connection with their marker through feedback supports these relationships, this may also motivate learners towards further engagement.

Very little was encountered in the literature which can illuminate the links found between GradeMark presentations and emotionally-related processes of feeling valued and emotional connection with the marker. The latter in turn influencing what participants then did with their feedback, this further highlights the significance of Kahu's (2013) affective domain of engagement in researching engagement with feedback.

Further influences of GradeMark presentations on engagement found, through affecting specificity and clarity of meaning of feedback and by grabbing attention, are discussed next.

4.2.2.3 Specificity

Echoing Shun Ha Sylvia & Beaumont's (2012) learners, many of this study's participants expressed a desire for feedback which clearly relates to specific parts of their work in order to effectively reflect on it and use it for improvement. For example:

> *It's kind of you need detail in order to critique your own work. If it's too* summa*rised then you can't relate it to your work, your own work … I think it makes a difference when they're related to your text, yeah, in the context I* think it does make a difference. (participant #3)

Where Nicol & McFarlane-Dick (2006) call for feedback which provides high quality information to learners about their learning, and facilitates the development of self-assessment, specificity is an important factor in developmental feedback.

However, two participants linked a lack of specificity in off-script General Comments to reduced motivation to read their feedback, for example:

> because it was all just one massive comment, I was less inclined to read it all. I kind of skimmed over it and picked out bits that I found useful, whereas if, for example, it had been broken down in to each section, I know I would have read every section. (participant #5)

Conversely, several participants reported the use of on-script Bubble Comments provided greater specificity, replicating the finding of Van der Hulst et al (2014 p248) whose learners, when provided with GradeMark Bubble Comments, "appreciate the fact that the feedback is directly linked to specific text fragments in the essay".

Being off-script, however, Rubrics are not so clearly linked. Furthermore, because it is pre-set, Rubric feedback tends to be more generic than specific. Echoing Straub's (1997 p111) learners who "balked at vague or generic comments", this further limited this study's participants' ability to apply Rubric feedback to their own work. One participant explicitly described how the difference between Bubble Comments and Rubrics influences their motivation to engage:

> *I would take it on board, I'd develop my written work based on those [Bubble] comments, because it's clear, it's concise, and it's consistent. If I was to be given that [Rubric], I'd probably just put it to one side, being* completely honest with you and go it alone. (participant #7)

Echoing the views of other participants in relation to Rubrics, this contrasts with Jonsson's (2014) finding that learners across a range of programmes found rubrics useful in guiding their development. Furthermore, where a lack of specificity negatively influenced this study's participants' motivation and ability to reflect on and use feedback to improve, this undermines the researcher's prior claim of the potential of assessment criteria-related feedback in GradeMark Rubrics to enable feedforward (see Starr, 2013). This has implications for practice, given a growing focus across HE on the utility of assessment criteria-related feedback for developmental feedback (see Literature Review, 2.6.2) and an associated initiative to encourage and support use of GradeMark Rubrics within the researcher's institution.

Specificity may be enhanced by using Grading Forms, which also enable assessment criteria-related feedback, instead of Rubrics. Whereas Rubrics use pre-set, typically generic descriptions of the level the learner achieved within each criterion (see Figure 8 in Appendix 1), Grading Forms enable the marker to write individualised, free-form comments under the heading of each criterion (see Figure 9 in Appendix 1). Several participants indicated they would prefer Grading Forms to Rubrics. For example:

> *It's [Grading Form] just personal, isn't it? Like they've said that 'you could have used some useful references', whereas this one [Rubric] doesn't really* say how to improve, does it? (participant #6)

However, whereas the highlighting of pre-set level descriptors in Rubrics is relatively quick, the effort in writing individualised criteria-related comments in Grading Forms may be an issue for markers. QuickMark Comments, being re-usable, provide a more efficient option for in-context feedback. However, this may influence how valued learners feel as previously discussed. Alternatively, learners may be offered support in applying generic Rubric feedback to future work, for example through critical review exercises as suggested by Carless (2015) as way of developing 'evaluative expertise'.

Whereas Hepplestone et al (2011) suggest digital audio feedback may lack context where separated from the learners' script, and Rodway-Dyer et al's (2009) learners specifically commented on this, none of this study's participants who had experienced Voice Comments linked them with a lack of specificity. This is particularly interesting given the positive influences on engagement of Voice Comments discussed in previous and subsequent sections.

4.2.2.4 Clarity of meaning

Two participants found Rubrics hard to understand, negatively influencing their ability to reflect on and use feedback for improvement:

> some of it is just so wordy and ridiculous, it would be really hard to decipher and know exactly what they were looking for (participant #5)

> you have to read it ten times (participant #4)

Others further linked a lack of clarity in Rubrics with reduced motivation to read them in the first place. This contrasts with both Jonsson (2014) and Hepplestone et al (2011) who found learners reported assessment criteria-related feedback presented as a grid to be easy to understand. The problem for this study's participants was the use of technical, standards-focussed language in the Rubrics' descriptions of levels achieved with assessment criteria.

Where feedback needs to be understood to be used, particularly where it should help clarify goals, criteria and standards (Nicol & McFarlane-Dick, 2006), clarity of meaning is an important factor in developmental feedback. Specifically, a lack of clarity of meaning of Rubrics has further implications for the common use of assessment criteria-related feedback comments in HE and further undermines the researcher's prior suggestion of their potential to enable feedforward. In proposing a framework for enhancing assessment in HE, the Higher Education Academy (2012 p14) recommends developing learners' "understanding of the language of assessment and assessment processes". Accordingly, learners may be offered help and support to interpret the technical assessment criteria-related language of Rubrics. However, perhaps a better approach would be to make assessment criteria, and associated Rubric comments, more 'student friendly' to begin with.

In contrast to lack of clarity of Rubrics, four participants perceived Voice Comments, through tone of voice and a tendency to use easier to understand language, provided greater clarity of meaning than written presentations, positively influencing their ability to reflect on and use feedback to improve. For example:

> *I think it's sometimes a lot easier to express what you're trying to say when you're just speaking it out loud than trying to type it. And sometimes the meaning that you necessarily meant doesn't qu*ite come across in type. (participant #5)

> *when you speak it, you don't naturally use those words in a sentence … From my experience anyway, I don't use massive words, academic words, when I'm* verbally communicating information. (participant #7)

This replicates Rodway-Dyer et al's (2009) finding that learners perceived enhanced clarity of meaning through digital audio feedback compared with written feedback, although reasons for this were not discussed. In indicating it was the addition to the

text of the marker's verbal intonation and emphasis, this study's participants echo Kerr & McLaughlin's (2008) suggestion that tone of voice in the audio element was a factor in enhanced clarity compared with written feedback reported by learners provided with digital video feedback. Tone of voice may also help to reduce any negative impact of critical comments, as alluded to by one first year undergraduate participant:

> all of a sudden it just got a point where it was, basically in as many words *said 'no, this bit is wrong' and, again, that comes across* comes across very *blunt, and it sort of makes you think 'oh, gosh, sorry, have I offended you here?', whereas maybe if he was able to say, if he was able to record that you've misunderstood the concept of whatever it was* and you need to revisit that, it would have just come across not as – *I don't know - when it's blunt it* feels very negative. (participant #5)

In relation to this, however, Rodway-Dyer et al (2009) suggest criticism may be harder for learners new to HE to take via digital audio than face-to-face.

There are challenges with use of Voice Comments. Although this may appear to be an efficient approach, for example where talking may be quicker than typing, there is little research regarding audio feedback to draw on. Related screen-recorded feedback studies have investigated its efficiency compared with written feedback, however they disagree on which is more efficient (see Literature review, 2.6.1). Also, where markers are required to retain a copy of feedback for moderation and appeals, a further challenge lies in GradeMark not currently enabling Voice Comments to be downloaded and stored offline. Finally, there may be accessibility challenges as well as benefits, as discussed in a later section.

4.2.2.5 Grabbing attention

In terms of motivation to engage, one participant commented Bubble Comments simply grabbed their attention:

> *if you see a bubble you're going to want to click on it. It's just* – it draws you in (participant #6)

Another, when asked if they would be interested in receiving feedback via Voice Comments, replied:

> *rather than reading it it's nice to mix it up. I think I'd quite like it. I'm* probably just hanging on to the novelty of it [laugh]. (participant #4)

It is easy to see how the idea of audio might appeal in this participant's world of relentless digital written communication via e-mail, documents and the ubiquitous PowerPoint slideshow. Lecturers at CCCU are actively encouraged to mix up learning, teaching and assessment methods, not only to promote inclusion where learners have different preferences, but also to stimulate engagement. Where learners experience the same approaches day in and day out there is a risk of engagement falling off through complacency and boredom. Lecturers mixing up their use of media in delivery are finding this stimulates learners. This may be the case for mixing media in feedback also.

This participant suggested their potential engagement arising from Voice Comments may be due to a novelty factor. Although they implied this is trivial, it is an important point. Several studies refer to the novelty factor in relation to engagement with digital feedback. Orsmond & Merry (2008) suggest it as a contributory factor in finding enhanced engagement amongst learners receiving digital audio feedback compared with written feedback. Crook et al (2012) suggested it may have 'affected' their findings that learners were more likely to take notice of digital video feedback than other forms. This inference that the novelty factor may perturb research into feedback forms is made explicit by Debuse & Lawley (2016) who identify it as a limitation of their study comparing experiences of digital and other forms of feedback, arguing that where the digital feedback was new to them, learners may be less likely to identify or report issues with it.

However, in the context of this study the novelty factor may be seen in a more positive light. Instead of a methodological challenge, it represents an opportunity to enhance engagement. Further investigation is needed over several feedback instances as, by definition, the novelty factor may wear off.

4.2.2.6 The importance of dialogue with the marker

By itself, GradeMark only enables the 'transmission' model of feedback which Nicol (2010) critiques in calling for more dialogue around feedback. Many of this study's participants said they wanted GradeMark feedback followed by face-to-face

discussion with their marker to be able to ask questions. The ability to clarify points in their feedback was one reason for this. Whereas Budge's (2011) learners expressed a preference for face-to-face in place of digital feedback, in part due to a lack of clarity in the latter, dialogue with the marker is a common theme.

Being in person, face-to-face dialogue with the marker may also enhance learners' perception of personalisation of feedback and connection with their marker. However, this may not be true for all learners. In contrast to Rodway-Dyer et al's (2009) suggestion that criticism may be easier to take face-to-face, one participant commented:

> *Because, I don't know, in general it will be kind of hard to, um, you know being criticised for your work and things, you know, if somebody's face*-to-face, could be sometimes difficult. (participant #1)

This may be interpreted two ways. On the one hand, digital feedback may provide an option to avoid uncomfortable criticism face-to-face. On the other hand, it may highlight the need to build a rapport with the marker. Observing that engagement in HE can be a 'battle' for some learners, Krause (2005 p10) suggests "There are times when the conflict which such engagement brings is a positive step towards growth and maturity.". For this participant, it may be better to face their battle than hide from it.

4.2.3 Influences of GradeMark presentation on less independent learners

In considering these influences of GradeMark presentations on engagement with feedback, that this study's interview participants were mostly highly independent, proactive users of feedback needs to be taken into account.

For example, whereas a perceived lack of personalisation negatively influenced how valued many of these participants felt, it did not affect what they then did with their feedback. How valued less independent learners feel through their feedback may have a greater influence on what they then do with it. Whereas a lack of specificity and clarity negatively influenced many of these participants' motivation and ability to reflect on and use feedback for improvement, this effect may be less pronounced

for learners less inclined to do so in the first place. Conversely, less independent learners' motivation to engage may be influenced more so than these participants when GradeMark presentations enhance emotional connection with the marker and/or through a novelty factor. This requires further investigation.

4.2.4 Other influences on engagement

Other influences on engagement with feedback emerging from the interviews included relevance of the topic to participants, accessibility and content of feedback.

4.2.4.1 Relevance of the topic

The motivation of two participants to reflect on and use feedback for improvement was influenced by their personal interest in the topic, for example:

> *if say it's not a subject I'm particularly interested in, I m*ay not feel as – it might not feel as important to me - the feedback in it, whereas if I really like *it, it would probably matter to me more if I didn't do well, or whether the* feedback said I did do well (participant #2)

and by its relevance to their professional practice, for example:

> *if it's necessary for me to inform my work, I pay more attention* (participant #1)

This may be one reason why a review of a literature found that 'build it and they will come' does not necessarily apply in relation to feedback. Although relevance of the topic to participants is not related to form, it serves as a reminder that investing effort in form of feedback, as well as accessibility and content of feedback as discussed next, may not address all the reasons why learners do not engage with feedback.

4.2.4.2 Accessibility

Some participants related difficulties in accessing their feedback due to technical, physical and awareness and skills issues.

At CCCU, learners can only access their GradeMark feedback via the VLE. Whereas there is a dedicated mobile device app for the VLE, it does not enable

access to GradeMark meaning one participant could not access their feedback via their phone:

> *I couldn't access it on my phone through the Blackboard* [VLE] app. That was a bit of an i*ssue for me because I'm always out and on the go* (participant #4)

Another participant was aware that GradeMark can be accessed by first accessing the VLE using their mobile phone's browser instead of the app. However, because GradeMark is not optimised for phones, some presentations may not be displayed correctly:

> *I couldn't see my grade. I could see everything apart from my grade in the* top corner was cut off! (participant #5)

As well as feedback being technically accessible, to access all of their feedback learners need to be aware of the different ways it may be presented and have the skills to access those presentations. One participant was not aware that, while feedback comments were provided through GradeMark, their grade had been provided elsewhere in the VLE because GradeMark does not enable the non-numerical grades used for their assignment. Another participant, who had successfully accessed their Bubble Comments and General Comments, was not aware they had Rubric feedback and so did not access this part of their feedback. Another, who did access their Rubric feedback, did not know how to expand it beyond the default view (see Figure 8 in Appendix 1) to see a description of higher levels to get an idea of what they might need to do to improve.

In terms of physical accessibility, one partially sighted participant found Voice Comments much easier to access than written presentations. However, Voice Comments may be equally difficult for learners with hearing impairments to access. Also, one participant commented that fast-forwarding and rewinding through Voice Comments would take them much longer to refer back to specific points than visually scanning written presentations.

4.2.4.3 Influences of content

Other than form, content of feedback emerged as the strongest influence on engagement. Supporting Gibbs & Simpson's (2004-5) argument that detailed feedback is necessary for development; several participants related how their ability to improve was dependent on how much feedback they received, for example:

> W*e were all a bit kind of 'oh my gosh, this is the first assignment we've submitted. We've got what we've got, which is fine, but we're not really sure where to go from here', because the feedback was very brief*. (participant #5)

Crook et al (2012) found learners' perception of enhanced level of detail in video feedback was a factor in enhanced engagement compared with written feedback. However, a review of the literature found no further empirical evidence that may illuminate this link found between amount of feedback and engagement.

Relating to a different aspect of content of feedback, there is a common view amongst markers that learners are generally more interested in their grade than feedback comments (Winter & Dye, 2004). However, whereas some interview participants expressed surprise at the grades they received, all showed awareness of, and interest in, their feedback comments. Again, this may be due to most being highly independent learners and proactive users of feedback.

Whether content was more influential than form on engagement is difficult to determine as it was not easy to separate them as discussed next.

4.2.5 Influences of form on content

Echoing indications from a review of the literature, some influences of GradeMark presentations on participants' engagement with their feedback arose in turn from the way presentation influences content.

The positive influence of Voice Comments on participants' ability to reflect on and use feedback for improvement arose from the use of easier to understand language and the addition of non-textual content (tone of voice) in spoken feedback. Conversely, the negative influence of Rubrics on participants' engagement arose from this presentation requiring the content to be pre-set, generic assessment criteria-related comments which participants found hard to understand and to relate to their

own work. The negative influence of Rubrics and QuickMark Comments on the extent to which participants felt valued also arose from the content of these presentations being pre-set and re-usable.

One participant perceived Voice Comments enable a greater amount of feedback to be provided compared with written feedback:

> [my marker] fit more in that three minutes in which she was talking than what she probably would have got on a piece of paper (participant #7)

This echoes Kerr & McLaughlin's (2008) suggestion that a greater amount of feedback can be provided for the same effort in screen-recorded feedback compared with written feedback. However, beyond the very brief feedback which negatively influenced this study's participants, there was no indication as to whether further variation in amount may influence their engagement.

That GradeMark presentations may influence learners' engagement through the way they affect the content of feedback supports Cousin's (2005) assertion that medium and pedagogy are fundamentally interrelated.

4.2.6 Readiness to engage and active engagement with feedback

Influences of GradeMark presentations on processes of engagement found were limited to those involved in Handley et al's (2011) phase of active engagement with feedback. No influences were found on processes involved in the readiness to engage phase. As previously acknowledged, this may be a result of a research design limitation in not interviewing participants before they received their feedback.

However, Handley et al's (2011) suggestion that learners' previous experience of feedback may influence engagement with their next experience of feedback was alluded to by three participants. Where GradeMark presentations negatively influenced their ability and/or motivation to engage with feedback they had received, they indicated this may influence their desire and/or confidence to engage with their next GradeMark feedback. For example:

> *You know, if something doesn't work for me then I kind of don't really* – I just *shut it off. That's why, you know, like the rubric grid, I don't* pay attention to

> *them anyway, so if that was how I received my feedback I'd just feel really* – I *wouldn't feel confident about using Turnitin, really* (participant #4)

Further investigation is required over several GradeMark feedback experiences.

5 Conclusion

With rapidly growing use of the GradeMark digital feedback tool to provide feedback for summative assessment of written coursework in Canterbury Christ Church University (CCCU), enhancing such feedback is both an institutional priority and of professional and academic interest to the researcher.

Where digital feedback studies find positive pedagogic outcomes related to use of digital feedback, a focus on the process of learners' engagement with feedback is required to understand why. However, there are few process-focussed studies on engagement with digital feedback and there is very little investigation relating to specific ways in which digital feedback itself can be presented.

In this context, interviews with undergraduates were conducted, informed by a secondary analysis of a prior survey of learners' experiences and perceptions of feedback, to investigate the research question:

> How may the ways in which feedback can be presented in the GradeMark *digital feedback tool influence undergraduates' e*ngagement in developmental *use of lecturers' feedback for summative assessment of written coursework?*

Although, the secondary analysis was of limited value, in part due to differences in context between the original survey and this study, interviews revealed influences of GradeMark presentations on a range of participants' processes of engagement with feedback.

5.1 In answer to the research question

GradeMark on-script 'Bubble Comments' and off-script 'Voice Comments' may both positively influence how valued learners feel and encourage and support their use of feedback for development by positively influencing their motivation and ability to engage. On-script 'QuickMark Comments' and off-script 'General Comments' and 'Rubrics' may negatively influence same. These influences on engagement arise from the affects of these presentations on personalisation, specificity and clarity of meaning of feedback, learners' emotional connection with their marker and by grabbing their attention. Whether novelty is a factor in grabbing

learners' attention, and whether this may wear off over time, requires further investigation.

Where the content of feedback was found to be at least as influential on engagement as its form, the way GradeMark feedback is presented may also influence content by affecting personalisation, clarity and amount.

5.2 Contribution to the literature

In identifying possible influences of form of digital feedback on learners' engagement with it, this study begins to shed light on reasons for pedagogic outcomes reported in other digital feedback studies and contributes to a gap in the literature on specific ways in which digital feedback can be presented. It responds to both Coates' (2005) call for research focusing on the process of engagement over outcomes and Handley et al's (2011) call for researching a broader range of processes than existing studies. That GradeMark presentations may have influenced the extent to which participants felt valued and made an emotional connection with their marker highlights the significance of Kahu's (2013) under-researched affective domain of engagement. Finally, in finding possible influences of form of feedback on its content, this study also contributes to exploration of Cousin's (2005) assertion that medium and pedagogy are fundamentally interrelated.

5.3 Recommendations for practice

The aim of this study was to inform CCCU lecturers' action research to enhance their own feedback practice. Prompted by this study's findings, lecturers are encouraged to explore presenting GradeMark feedback using Bubble Comments and Voice Comments as alternatives to General Comments, and Grading Forms as an alternative to Rubrics; and to evaluate the effect on a broad range of processes of learners' engagement with feedback, including emotion-related processes. Lecturers may wish to investigate impact on their effort in doing so. They should ensure learners are aware of which presentations they are using and that they know how to access them. In selecting GradeMark presentations, lecturers should consider particularly the needs of learners with visual or hearing impairments. They should also be cognisant that the way their feedback is presented may influence its content,

altering the message they intend to convey. Those using Voice Comments should further consider the quality assurance challenge in retaining copies of them. Those using QuickMark Comments may wish to investigate whether advising learners that they are re-usable affects their engagement. Finally, lecturers may also consider providing opportunities for dialogue around GradeMark feedback.

Markers using other digital feedback tools may consider exploring on-script annotations and digital audio feedback as alternatives to off-script paragraphs of digital written feedback and free-form, rather than pre-set, assessment criteria-related comments.

In terms of CCCU strategy, the current drive towards use of assessment criteria-related feedback may be enhanced by considering ways to help learners apply such feedback to future work, including the possibility of re-writing generic assessment criteria in more 'student friendly' language. Investigation of improvements to accessing GradeMark via mobile devices, and compatibility therewith, may also be considered.

5.4 Limitations

The lower than hoped for recruitment may have been partly due to timing of recruitment coinciding with the end of the university term and students' professional placements. In hindsight, this was a risk which had not been adequately considered. Nevertheless, a purposive interview sample was gained in terms of the variation of level of undergraduate study and discipline sought.

As an interpretivist study, findings are not intended to be generalisable, rather it is hoped they inform lecturers' action research to enhance their own feedback practice. How this is informed may be limited by this study's focus on summative assessment of undergraduates by lecturers, not formative assessment, other levels of study or peer assessment; and in lacking insight from spheres of education other than UK HE. It may further be limited in that the interview sample contained no part-time or distance learners.

5.5 Further research

Most areas identified in this study as requiring further investigation can be addressed through lecturers' action research. These include whether GradeMark presentations may influence processes involved in readiness to engage with feedback, whether presentation may influence engagement by less independent learners differently, whether influences on engagement vary with different combination of presentations, whether learners' awareness that QuickMark Comments are re-usable affects their perception of personalisation and whether any influence of novelty factor wears off over time.

Action research itself may further be informed by a conceptual framework describing how the broad range of processes of engagement identified in this study interrelate in promoting and supporting learners' use of feedback for development. This requires further investigation which, similar to this study, may benefit from crossing a broader range of contexts than is possible in individual lecturers' action research.

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Appendices

Appendix 1: Examples of the eight ways feedback can be provided using GradeMark

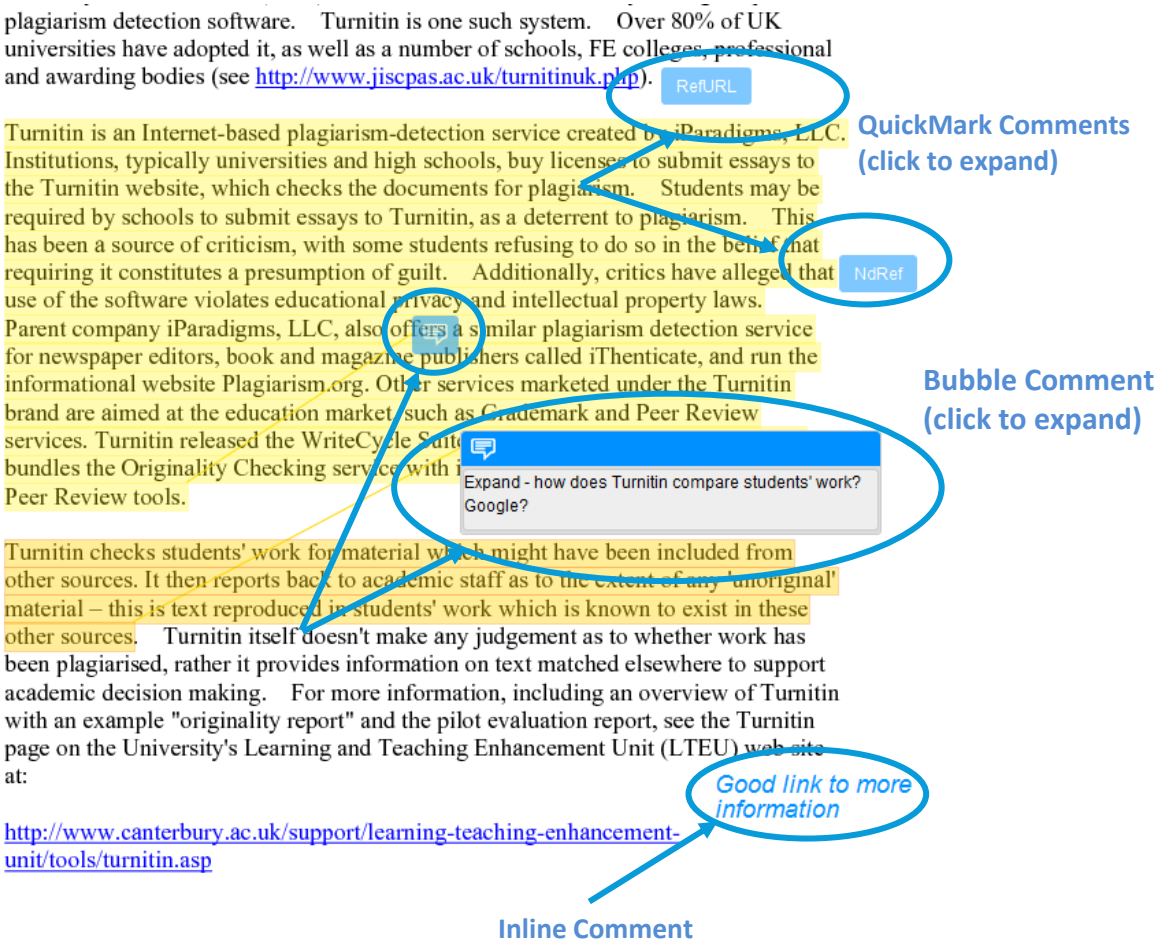

Figure 6: GradeMark Inline, Bubble and QuickMark Comments (on-script)

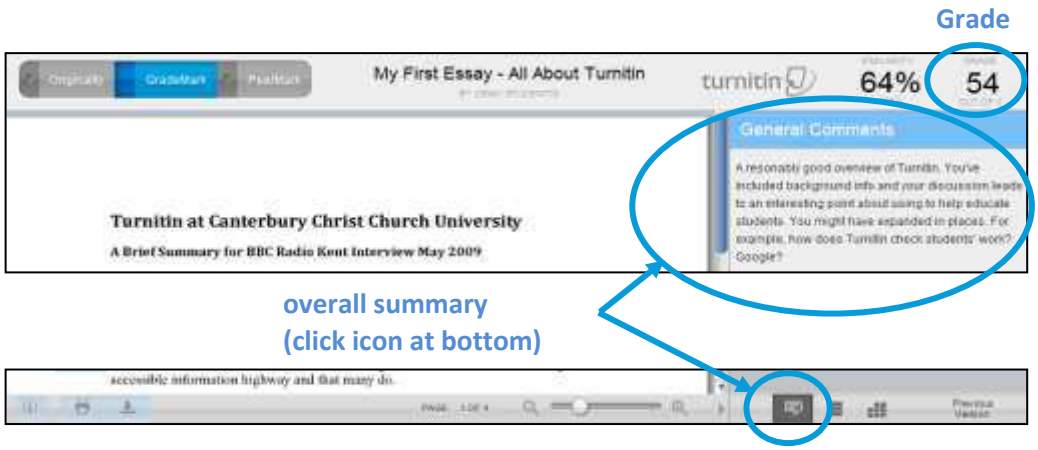

Figure 7: GradeMark Grade and General Comments (off-script)

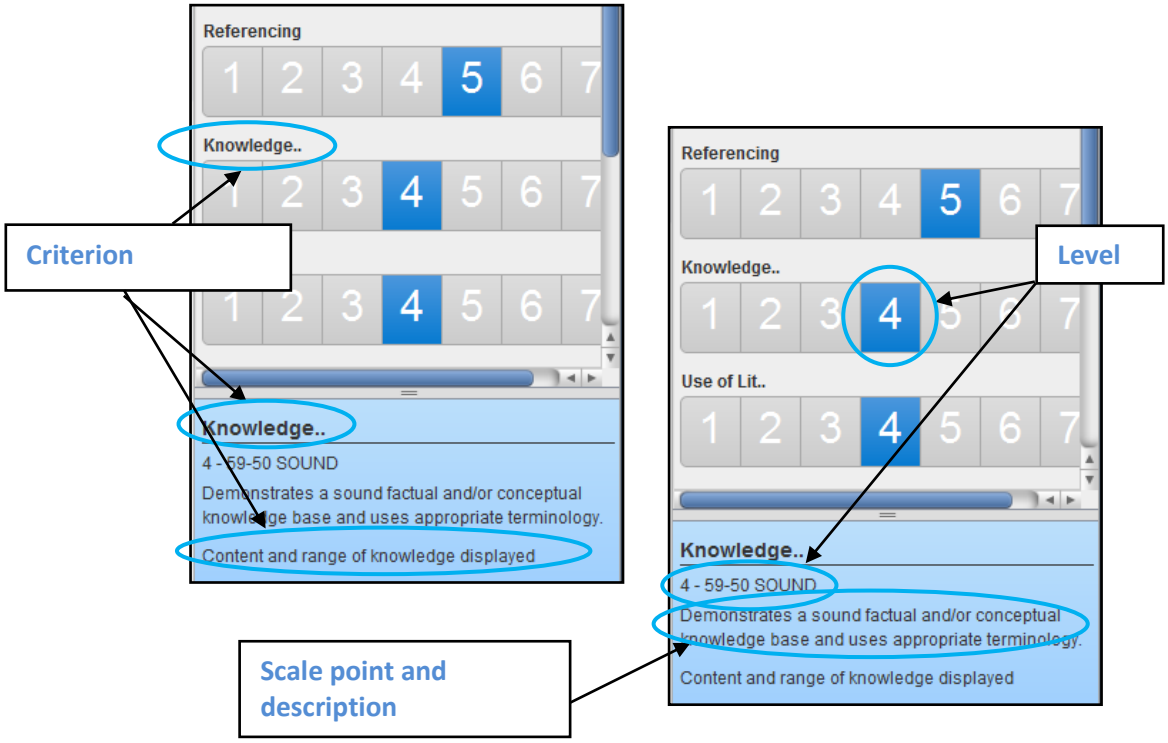

Figure 8: GradeMark Rubric (off-script)

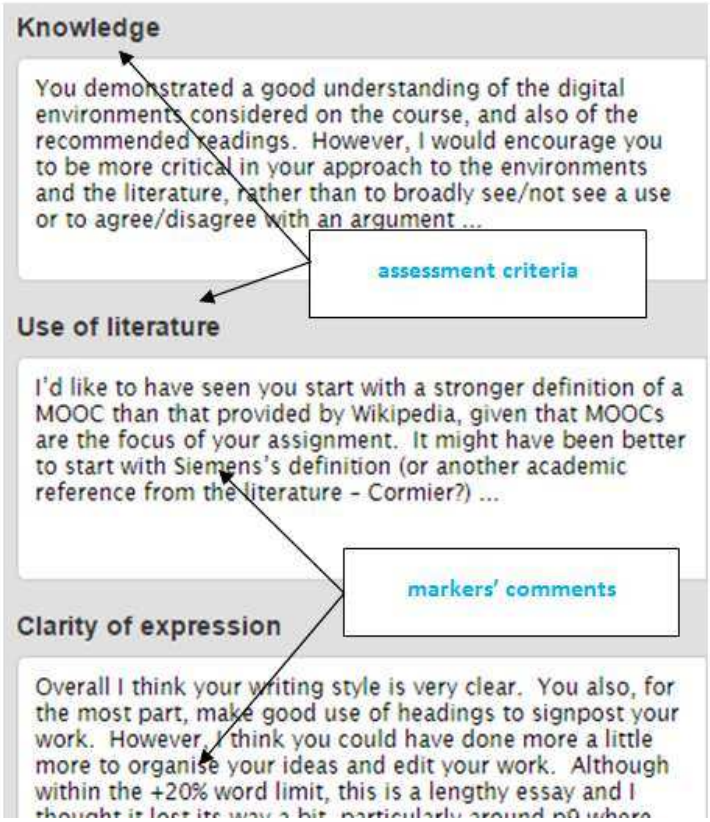

Figure 9: GradeMark Grading Form (off-script)

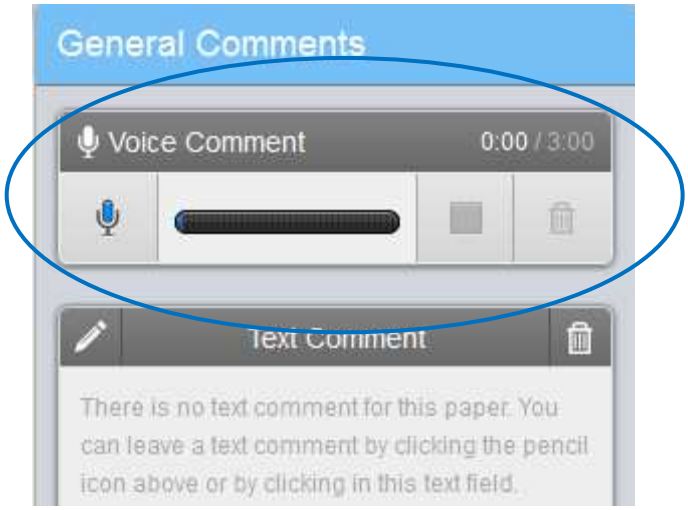

Figure 10: GradeMark Voice Comments (off-script)

Appendix 2: Questions asked in prior survey of learners' experiences and perceptions of feedback received on summative assessment

Q1 Please indicate which Faculty you are studying in:

1 Arts and Humanities

2 Education

3 Health and Social Care

4 Social and Applied Sciences inc. The Business School

5 Unsure of the name of my Faculty

Q2 What is the name of your programme of study?

Q3 Please indicate your level of study

1 Foundation Degree

2 Undergraduate -- Level 4 / First Year

3 Undergraduate -- Level 5 / Second Year

4 Undergraduate -- Level 6 / Third Year

5 Postgraduate -- Masters Level

6 Postgraduate -- Doctoral Level

7 Postgraduate -- Professional Course

8 Other

Q4 Please indicate your mode of study

1 Part Time

2 Full Time

Q5 Is English your first language?

1 Yes

2 No

Q6 Please indicate your gender

1 Female

2 Male

Q7 Please indicate your age

1 Under 21

2 21 -- 24

3 25 -- 30

4 31 -- 40

5 41 -- 50

6 Over 50

Q8 To what extent does your studying take place at a distance or away from one of the university campuses?

1 All of the time

2 Some of the time

3 None of the time

Q9 To what extent do your studies use CLIC Learn (Blackboard) to deliver module/course content (as opposed to using CLIC learn as a communications tool)?

1 All of the time

2 Most of the time

3 Some of the time

4 Never

Q10 Are you always aware how you should gain feedback about an assignment? (For example, collect assignment from tutor, look on CLIC Learn, check emails)

1 Yes

2 No

Q11 Where can you find information about feedback arrangements? Please tick all appropriate answers.

1 Module/Course CLIC Learn site

2 Module/Course Handbook

3 Programme CLIC Learn site

4 During lectures/seminars (face to face)

5 Programme noticeboard

6 Programme Facebook

Q12 What type of feedback are you currently involved in?

1 Handwritten

2 Typed

3 Electronic

4 Podcast

5 Email

6 face to face / verbal

7 Group

8 Individual

9 Informal formative (e.g from family member/friend prior to submission of work)

Q13 Would you like to have greater variation in the methods of feedback?

1 Yes

2 No

Q13_a If Yes, which of the following types of feedback would you like to be more involved in?

1 Handwritten

2 Typed

3 Electronic

4 Podcast (audio file)

5 Email

6 face to face / verbal

7 Group

8 Individual

9 Informal formative (e.g from family member/friend prior to submission of work)

Q14 Do you receive feedback within three weeks of the published submission deadline for an assignment?

1 Always

2 Most of the time

3 Some of the time

4 Never

Q15 Are you aware that your subject/degree programme has any special arrangements in place to allow for a longer period of time for marking than three weeks?

1 Yes

2 No

Q16 Does the feedback you receive offer (tick all those that are appropriate)

1 A mark (e.g. 65%)

2 A grade (e.g. B)

3 Legible handwritten comments

4 Illegible handwritten comments

5 A sufficiently detailed and clear justification/reason for the mark awarded

6 Reference/links to a Marking Grid

7 An explanation of the assignments' strengths and weaknesses

8 Advice as to how the work could be improved

9 Advice as to how you might improve future assignments

Q17 To what extent do you agree with the statement: 'Assignment feedback is an integral part of my ability to improve subsequent assignment marks.

1 Strongly agree

2 Agree

3 Disagree

4 Strongly disagree

Q18 How willing are you to contact your tutor to discuss feedback on a face to face basis?

1 Very willing

2 Quite willing

3 Not willing at all

Q19 In your opinion, how accessible have your tutors been to discuss feedback with you after you have received your marked assignments back?

1 Always accessible

2 Sometimes accessible

3 Occasionally accessible

4 Not accessible

Q20 What types of comments in feedback are you most likely to take notice of?

Q21 Please explain how you would ideally like to receive feedback for your assignments ....

Q22 Please tell us about an instance where you had a less than satisfactory experience of assignment feedback.(Please do NOT indicate named tutors).

Appendix 3: Interview schedule

SEND/CHECK AHEAD OF INTERVIEW

Have recently received feedback for an assignment through GradeMark.
Study context - programme, level of study, mode of study (inc. campus-based/blended/distance).
Booked and confirmed room? Advised student?
Organised coffee and cake?
Any specific needs? For example, large print/audio version of Turnitin feedback exemplars.
Send participant information sheet.
Send interview schedule and suggest might think about Turnitin feedback experiences ahead of the interview.
Test recorder!
Got spare copies of participant info sheet?
Got Turnitin feedback exemplar
Given my mobile phone number as an on the day contact?

WELCOME & PREAMBLE

Thanks for taking part. This will take up to an hour.

Summary of study (participant info sheet sent out ahead of interview).

Ethics.

My dual role as researcher and university lead for digital feedback. Encourage openness, can say anything. I'm a student receiving digital feedback also! Specific commitment that anonymity extends to ensuring your tutor won't be able to link anything critical you say to you.

Questions?

Note: remember to monitor emotions, particularly where might discussing motivation, failure and/or relationship with tutor. Remind participants they don't have to answer any given question and can stop at any time.

SIGN CONSENT FORM

START RECORDING!

Q1. Can you tell me about your most recent experience of receiving feedback through Turnitin? I'm interested in how you felt before you received your feedback, what the feedback looked like, what you thought about it and what you did as a result of receiving it. You might think of this as telling a story about your feedback.

follow-up/discuss (where not volunteered):

the nature of the assignment
contents of feedback
presentation of feedback
perception of quality
anything specifically liked/didn't like

follow-up/discuss dimensions of engagement (if/where indicated):

confidence in approaching assignment task and subsequent feedback
expectations of/hopes for feedback (including expectations of marker if known who?)
time/effort spent reading/looking at/listening to feedback
copying/downloading and returning to feedback
level of interest in feedback comments (as well as the percentage mark)
reflection/self-evaluation
seeking dialogue/further help with teachers and/or peers
development of understanding of what quality in this work looks like
understanding/planning for improvement in future work

feeling valued
interest in further learning
motivated to improve

and, crucially, what the student thinks it's important to do with feedback if different from these dimensions of engagement

Q2. Which of the following 'forms' of Turnitin feedback did you receive?

show exemplars to illustrate:

percentage mark
general comments
on-script comments
rubric (as a grid or as scales)
grading form
audio feedback

follow-up: awareness of forms not received?

Q3. Are any of these forms of Turnitin feedback more or less useful to you and why?

follow-up by relating experience of forms to dimensions of engagement previously discussed:

confidence in approaching assignment task and subsequent feedback
expectations of/hopes for feedback (including expectations of marker if known who?)
time/effort spent reading/looking at/listening to feedback
copying/downloading and returning to feedback
level of interest in feedback comments (as well as the percentage mark)
reflection/self-evaluation
seeking dialogue/further help with teachers and/or peers
development of understanding of what quality in this work looks like
understanding/planning for improvement in future work
feeling valued

interest in further learning
motivated to improve

Note: this is central to my research question. I must ensure I relate experience of forms of Turnitin feedback to engagement.

Q4. Does having a feeling of 'contact' with your marker through the feedback they provide matter to you? If so, what, if anything, about Turnitin feedback might give you the greatest sense of contact?

Q5. Would you prefer more handwritten feedback, digital feedback via Turnitin, face-to-face feedback from your marker, or a combination of these and why?

Q6. Thinking about all feedback you've received during your studies, can you tell me about the best feedback experience you've had (digital or otherwise) and why it was the best? Again, think of this as telling me the story of your feedback.

follow-up/discuss dimensions of engagement (if/where indicated):

confidence in approaching assignment task and subsequent feedback
expectations of/hopes for feedback (including expectations of marker if known who?)
time/effort spent reading/looking at/listening to feedback
copying/downloading and returning to feedback
level of interest in feedback comments (as well as the percentage mark)
reflection/self-evaluation
seeking dialogue/further help with teachers and/or peers
development of understanding of what quality in this work looks like
understanding/planning for improvement in future work
feeling valued
interest in further learning
motivated to improve

Q7. Finally, in thinking about how digital feedback in Turnitin is presented, is there anything else you'd like to add?

Are there any other questions I should be asking?

POSTAMBLE

Thanks.

Stop recording!

What happens next..

Appendix 4: Participant consent form

Canterbury Christ Church University

PARTICIPANT CONSENT FORM

Title of Project: Influences of Form of Digital Feedback on Undergraduates' Engagement with Lecturers' Feedback on Written Coursework

Name of Researcher: Simon Starr

Address:	Learning and Teaching Enhancement Canterbury Christ Church University North Holmes Road CANTERBURY Kent CT1 1QU
Tel:	01227 767700 ext 2018
Email:	simon.starr@canterbury.ac.uk

	Please initial box
1. I confirm that I have read and understand the information sheet for the above study and have had the opportunity to ask questions.	
2. I understand that my participation is voluntary and that I am free to withdraw at any time, without giving any reason.	
3. I understand that any personal information that I provide will be kept strictly confidential and will be destroyed after the project (end 2016).	

4. I understand that selected contents of the interview may be used in project reports, publications and to guide lecturers' feedback practice, but will be anonymised and neither my lecturers nor others will be able to identify me.

5. I understand the interview will be recorded and transcribed and that some interview recordings may be shared with a third party transcriber, for which a confidentiality agreement will be put in place.

6. I agree to be interviewed for the above study.

_____		_____	_____
Name of	Participant	Date	Signature

SIMON STARR

_____		_____	_____
Name of	Researcher	Date	Signature

Copies: 1 for participant, 1 for researcher

Appendix 5: Participant information sheet

Influences of Form of Digital Feedback on Undergraduates' Engagement with Lecturers' Feedback on Written Coursework

PARTICIPANT INFORMATION SHEET

I am a Learning Technologist leading on the development of Electronic Assignment Management (EAM) within Canterbury Christ Church University (CCCU) Learning and Teaching Enhancement (LTE). I am also studying for a Masters degree at the University of Edinburgh. I am conducting a research study at CCCU both to contribute towards my Masters degree and to help improve digital feedback in CCCU. The study is funded through my time being provided by CCCU LTE, who may also provide funding for interview transcription and participants' travel expenses.

Aim and background

This study aims to explore whether and how different forms of digital feedback within Turnitin make a difference to how undergraduate students engage with their feedback.

Meaningful engagement with feedback is important in the development of independent learners, a key part of the Higher Education experience. However, whereas research suggests certain uses of digital feedback software such as Turnitin may promote engagement with feedback on written coursework, it is not clear why. Whereas CCCU students have in the past stated a preference for the clarity and flexibility of digital feedback within Turnitin, their perceptions and experiences of

different forms of feedback (e.g. grade, on-script comments, general comments, 'rubrics', audio feedback) have not been investigated.

What will you be required to do?

Between April and June 2015, I am seeking undergraduate students to participate in an in-depth interview to explore their experiences of digital feedback received through Turnitin. Interviews are expected to take an hour.

To participate in this research you must:

- be an undergraduate student currently studying in the University
- have received feedback on written coursework through Turnitin, ideally within the current year of study

Benefits

As a participant in the study, you will have an opportunity to influence lecturers' feedback practice. Discussing experiences in a safe, confidential environment may also help you think about ways of making the most of your future feedback.

Confidentiality

All data and personal information will be stored securely in accordance with the Data Protection Act 1998 and the University's own data protection requirements. All data obtained in the course of the research will be confidential and treated with respect and no individual will be identified in any report or publication. The data collected during the research will be securely stored and used only for research purposes. Some interview recordings may be shared with a third party transcriber, for which a confidentiality agreement will be put in place. Otherwise, your personal information will not be seen by anyone other than me. Selected contents of interviews may be used in project reports, publications and to guide lecturers' feedback practice, but

will be anonymised and neither your lecturers nor others will be able to identify you. All data will be destroyed on completion of the project (mid-2016).

Risks to participants

None envisaged.

Ensuring no conflicts of interest

I am conscious of my dual role as both researcher and the University's lead for Electronic Assignment Management (EAM) which includes digital feedback. As such, I commit to be objective, ensuring I don't seek particular outcomes from the research, and to continually reflect to check my objectivity throughout the study.

Dissemination of results

I will produce a dissertation report for my Masters Degree around the end of 2015/early 2016, after which I will also publish my findings on the University web site. I will use the findings to inform staff development and advice I provide to lecturers and advise the University's Learning and Teaching Committee on development of assessment strategy. I also hope to present my findings to at least one external conference and publish in at least one academic journal.

Deciding whether to participate

If you have any questions or concerns about the nature, procedures or requirements for participation do not hesitate to contact me. Should you decide to participate, you will be free to withdraw at any time without having to give a reason.

Any questions?

If you have any comments, queries about the research, please contact me:

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Who can I talk to if things go wrong?

The Canterbury Christ Church University Faculty of Education Ethics Committee have provided ethical approval for the design of this study. If you have concerns you'd prefer not to raise with me, you can contact this the Committee for advice or to make a complaint. See:
http://www.canterbury.ac.uk/Research/GovernanceandEthics/GovernanceAndEthics.aspx

Appendix 6: Detailed reports of inferential statistical analyses with significant results

Effect of forms of feedback experienced (Q12) on respondents' perceived value of feedback in enabling development (Q17):

Face-to-face feedback was the only form of feedback significantly associated with perceived value of feedback in enabling development. Respondents with no experience of face-to-face / verbal feedback (Mdn = 2) were significantly less likely than those with experience (Mdn = 1) to perceive value of feedback in enabling development, U = 12,087.00, z = -2.02, p = .043, r = -.11. (1 = strongly agree, 2 = agree, 3 = disagree, 4 = strongly disagree). This represents a small to medium effect.

Associations between forms of feedback experienced (Q12) and preferences for forms of future feedback (Q13a):

Note: only significant associations with standardised residuals (z >= +/- 2.0) are reported as these reveal notable specific associations within an overall association (Field, 2013)

Experience of handwritten feedback is significantly associated with preferences for typed feedback. chi-square (1) = 7.78, p = .005. Not having experienced handwritten feedback is associated with a preference for more experience of typed feedback (z = -2.0). Experience of e-mail feedback is significantly associated with preferences for handwritten feedback. chi-square (1) = 6.58, p = 0.01. Having experienced email feedback is associated with a preference for more experience of handwritten feedback (z = 2.0).

Contingency tables below:

Crosstab					
			Want Feedback Typed		Total
			No	Yes	
Get Feedback Handwritten	No	Count	44	8	52
		Expected Count	36.3	15.7	52.0
		% within Get Feedback Handwritten	84.6%	15.4%	100.0%
		% within Want Feedback Typed	36.1%	15.1%	29.7%
		% of Total	25.1%	4.6%	29.7%
		Std. Residual	1.3	-2.0	
	Yes	Count	78	45	123
		Expected Count	85.7	37.3	123.0
		% within Get Feedback Handwritten	63.4%	36.6%	100.0%
		% within Want Feedback Typed	63.9%	84.9%	70.3%
		% of Total	44.6%	25.7%	70.3%

		Std. Residual	-.8	1.3	
Total		Count	122	53	175
		Expected Count	122.0	53.0	175.0
		% within Get Feedback Handwritten	69.7%	30.3%	100.0%
		% within Want Feedback Typed	100.0%	100.0%	100.0%
		% of Total	69.7%	30.3%	100.0%

Crosstab				
			Want Feedback Handwritten	
			No	Yes
Get Feedback via Email	No	Count	110	21
		Expected Count	104.1	26.9
		% within Get Feedback via Email	84.0%	16.0%
		% within Want Feedback Handwritten	79.1%	58.3%
		% of Total	62.9%	12.0%
		Std. Residual	.6	-1.1

	Yes	Count	29	15
		Expected Count	34.9	9.1
		% within Get Feedback via Email	65.9%	34.1%
		% within Want Feedback Handwritten	20.9%	41.7%
		% of Total	16.6%	8.6%
		Std. Residual	-1.0	2.0
Total		Count	139	36
		Expected Count	139.0	36.0
		% within Get Feedback via Email	79.4%	20.6%
		% within Want Feedback Handwritten	100.0%	100.0%
		% of Total	79.4%	20.6%

Appendix 7: Survey thematic analysis codes

Dedoose Codes Export for Project: Dissertation Survey Analysis QUAL ONLY

Process Description: Nb a theme of mistakes in the marking/feedback process (e.g. got grade or personal details wrong) was noted, but there were two few cases to make worth coding.

Timeliness Description: Inc. within *promised* time, within *3 weeks*, in time to be *useful for next assignment*.

Want Description:

Poor experience Description: A *lack* of timeliness contributed to a poor experience. E.g. not within time promised, not within 3 weeks specifically or not in time to be useful for next assignment. Nb This also included a failure to communicate when feedback was going to be late.

Marker consistency Description:

Want Description: Code here where not stated whether within marker or between marker consistency, or if another consistency issue altogether (though noted few of these).

Poor experience Description: Code here where not stated whether within marker or between marker consistency, or if another consistency issue altogether such as lack of consistency between students (though noted few of these).

Flexibility Description: E.g. when on placement/at a distance. Nb a theme of privacy in receiving/engaging with feedback was noted, but there were two few cases to make worth coding.

Want Description:

Poor experience Description: A *lack* of flexibility contributed to a poor experience.

Form Description: How presented and/or delivered. Nb. Finding it hard to untangle these. Should I? Also, themes of wanting comments on-script, coversheets and marking grids were noted, but there were two few cases to make worth coding. That there was little reference to these by respondents is interesting - perhaps a finding in its own right?

Written Description: Referring explicitly to *written* feedback, *not* implying whether handwritten, typed, electronic etc.

Want Description: Code here where *explicitly* refers written feedback, but specify further (e.g. handwritten, typed, electronic etc.). Nb. Also coding here when it's not clear whether they want f2f/verbal instead of written or as well as. This means some cases may be coded as want f2f/verbal *and* want written but this doesn't necessarily mean they want both - they may have said 'either is fine'.

Poor experience Description: Code here where *explicitly* refers written feedback, but specify further (e.g. handwritten, typed, electronic etc.)

F2F/verbal Description: Where response said *either* f2f, 'talk' to or 'see' my tutor and/or 'verbal', I am rolling these all up together.

Want Description: Code here if refers to f2f/verbal but doesn't specify further (e.g. as primary form or as follow-up). Nb. Also coding here when it's not clear whether they want f2f/verbal instead of written or as well as. This means some cases may be coded as want f2f/verbal *and* want written but this doesn't necessarily mean they want both - they may have said 'either is fine'.

Poor experience Description: Code here if refers to f2f/verbal but doesn't specify further (e.g. as primary form or as follow-up).

Electronic Description: Inc. e-mail, Turnitin, 'unspecified', also (a few references to) podcast, annotated document and VLE.

Want Description: Code here if refers to electronic but doesn't specify further (e.g. Turnitin/GradeMark, Email). Nb. Also coding here when it's not clear whether they want electronic as well as f2f/verbal or written or as well as. This means some cases may be coded as want electronic *and* want f2f/verbal and/or written but this doesn't necessarily mean they want both - they may have said 'either is fine'.

Poor experience Description: Code here if refers to electronic but doesn't specify further (e.g. Turnitin/GradeMark, Email).

No Poor Experience? Description:

Implict Description: Says 'n/a' or similar. Nb. a *blank response does not imply* no poor experience.

Explicit Description: *Explicitly* says 'no poor experiences' or similar.

Content of Feedback Description: Types of comments respondents report being more likely to take notice of and where types of comments contributes to poor experiences**.** Nb responses relating to lack of personalisation of comments and lack of knowledge on how to interpret feedback were noted, but there were two few cases to make worth coding.

Amount Description: Amount of feedback Nb. a preference for a follow-up discussion with marker/a tutor *may* be seen as a preference for more feedback. Coded under 'Form' here however.

Poor experience Description: Code here when not clear how amount contributed to a poor experience (e.g. talks about 'too little'), only that it did, or a separate reason to getting a grade only or just minimal/brief comments.

Nb. seeing some comments along the lines of 'tick boxes aren't enough, want an explanation'. Is this an amount thing or a specificness thing?

More likely to take notice of Description:

Specificness Description: Nb a theme of relating comments to assessment criteria was noted, but there were two few cases to make worth coding. This is interesting as this might have linked with use of marking grids/rubrics, but want not discussed much by respondents.

Poor experience Description: Nb. seeing comments like 'a few ticks aren't enough, no explanation'. Is this a specificness thing or an amount thing?

More likely to take notice of Description:

Purpose of Feedback Description:

Poor experience Description: Code here where refers to a purpose of the feedback but doesn't specify further (e.g. as developmental, as justifying mark/grade).

More likely to take notice of Description:

Balance of positive/negative Description:

Poor experience Description: Code here when refers to positive -v-s negative comments but doesn't specify further (e.g. about the balance between positive and negative, constructiveness of comments).

More likely to take notice of Description:

Appendix 8: Interview thematic analysis codes

Dedoose Codes Export for Project: Dissertation Interview Analysis

Process of Engagement Description: Evidence of processes of engagement with feedback.

Buy in/desire Description: Buying in to the assessment task and having a desire for feedback

Literacy Description: Developing ability and confidence to use feedback

Ownership Description: Creating a sense of ownership of the feedback process

Read/watch/listen Description: Reading/listening to/watching feedback

Store/return Description: Storing and returning to feedback

Reflect Description: Reflecting on feedback and self-evaluating

Resources Description: Accessing resources

Emotion Description: Responding emotionally to feedback

Marker Description: Connecting emotionally with the marker

Valued Description: Feeling valued

Dialogue Description: Seeking dialogue with markers, peers and others

Improve Description: Developing a will to improve as a result of feedback

Action plan Description: Action planning for future improvement

Quality Description: Developing an increased understanding of what quality is

Interest Description: Stimulation of interest in learning as a result of receiving feedback

Influences on Engagement Description: Influences on engagement - actual or potential - INCLUDING GradeMark Presentations. Note: Feedback preferences are not influences unless EXPLICITLY IDENTIFIED as such.

Accessibility Description: Including awareness/skills to access

Ability Description:

Motivation Description: Motivation

Other Description: Including balance of positive/negative comments, interest/relevance of topic and any other content issues

Ability Description:

Motivation Description: Motivation

Personalisation Description: Perceived degree of personalisation of feedback including recognition of effort

Ability Description:

Motivation Description: Motivation

Form Influences Content Description: Where form influences content or vice versa to in turn influence engagement

Specificity Description: Specificity including level of detail and contextualisation.

Ability Description:

Motivation Description: Motivation

Meeting Preferences Description: Where learners preferences are met in feedback provided influences engagement

Grabbing Attention Description: Attention grabbing including novelty factor

Ability Description:

Motivation Description: Motivation

Logistical Description: Including access to marker to ask questions/discuss

Ability Description:

Motivation Description: Motivation

Rapport with Marker Description: Rapport with marker including trust, sense of connection and perceived approachability to ask questions/discuss

Ability Description:

Motivation Description:

Clarity of Meaning Description: Clarity of meaning

Ability Description:

Motivation Description: Motivation

GradeMark Presentations Description: Specific GradeMark presentations

Grade Description:

Bubble Comments Description: GradeMark 'bubble' comments

Rubric Description:

Voice Comments Description:

General Comments Description: GradeMark General Comments

Grading Form Description: Grading Form

Inline Comments Description: Inline comments

QuickMarks Description: QuickMarks

Feedback Preferences Description: Feedback preferences - OTHER THAN specific GradeMark presentations (see separate root code)

Other Description:

Content Description: Content important to learner including desire for developmental feedback, feedback which justifies the grade, personalised feedback and feedback which makes the learner feel valued/their effort has been recognised.

Mode Description: Mode important to learner, including where mode is important in creating personalised feedback and feedback which makes the learner feel valued/their effort has been recognised. Note: for specific GradeMark presentation preferences, see separate root code.

Medium Description: Medium important to learner, including where medium is important in creating personalised feedback and feedback which makes the learner feel valued/their effort has been recognised.

NotDigital Description: Prefers feedback in a non-digital medium

DigitalPlus Description: Prefers digital feedback COMBINED with other feedback in a non-digital medium

DigitalOnly Description: Prefers feedback in a digital medium

Relationship with Marker Description: Relationship with marker important to learner in the context of engagement with feedback, including rapport, trust and approachability to discuss feedback

Presentation Description: Presentation important to learners**.** Note: add specific GradeMark presentations to separate root code.

Appendix 9: Copy of Starr, S. (2013). Can use of re-usable comments in electronic feedback promote sustainable feedback?

Note: lack of formatting, figures and hyperlinks is a result of this being a download of the original version submitted for assessment for the MSc Digital Education Online Assessment course, University of Edinburgh (2013). Retrieved: 06 Dec 2014. http://holyroodpark.pbworks.com/w/page/62425426/OA13_Simon%20Starr. (holyrood wiki space access required).

Can use of re-usable comments in electronic feedback promote sustainable feedback?

Simon Starr Submission for MSc Digital Education, University of Edinburgh, 2013

Introduction

Students in UK Higher Education continue to regard feedback as problematic (Hounsell, 2007; Carless et al, 2011). However, given the crucial role of feedback in learning (Gibbs & Simpson, 2004-5; Nicol & McFarlane-Dick, 2006), teachers following the call to rebalance towards more assessment for learning (Boud, 1995; Hounsell, Xu & Tai, 2007) are increasingly challenged to maintain quality with increasing student numbers and limited resources (Hounsell, 2008). This may explain the rising use of systems for electronic feedback (Walker et al, 2012; Heinrich et al, 2009).

My interest in electronic feedback is as a learning technologist supporting small-scale pilots of various systems. Although I observed high learner and teacher satisfaction with some of them, particularly those enabling individual electronic feedback on assignments, it wasn't clear why. Specifically, one early adopter commented on the potential for re-usable comments to 'feedforward' into subsequent assignments. I wanted to unpick this idea. My aim in this paper therefore is to investigate impact of approaches using re-usable comments in electronic feedback, with a focus on feedforward specifically, and consider how they might be improved.

To do this, I'll first scope the types of electronic feedback systems and re-usable comments I'll focus on. I'll introduce Hounsell's (2007) concept of 'sustainable feedback' and synthesise some key factors relating to feedforward specifically through discussion of relevant literature. I'll use these to analyse three case studies, including one of a recent pilot of a system I led myself, and discuss some affordances and limitations in promoting sustainable feedback. Finally I'll make some suggestions for practice and recommend some focuses for further research.

Re-usable comments in electronic feedback

Although various technologies can support feedback (Irons, 2008; Nicol, 2009), my focus is on systems which aid teachers in producing written (i.e. typed, not audio or video) electronic feedback (e-feedback) on individual written assignments. Dedicated typed e-feedback systems have been around for a while (Heinrich, 2004), some enabling re-usable comments as 'statement banks' (Nicol & Milligan, 2006; Hepplestone et al, 2011), examples including Electronic Feedback (FB15) and GradeMark.

These comments may be as free-form (ad-hoc) or re-usable (pre-programmed) annotations to the learner's work or 'off-script'. They may be commonly used 'stock phrases' (e.g. you need a reference here), related to the assessment criteria (e.g. level achieved for use of literature) or an overall summary of the work.

For example:

Figure 1: GradeMark 'QuickMark' – a re-usable stock phrase (on-script)

Source: Turnitin Guide for Staff: Writing e-Feedback (Canterbury Christ Church University)

Figure 2: FB15 re-usable assessment criteria-related comments (off-script) and example of e-feedback produced:

Source: Canterbury Christ Church University

Figure 3: GradeMark summary comments (off-script)

Source: Turnitin Guide for Students: Getting Your Feedback (Canterbury Christ Church University)

To try out various types of comment yourself, try the GradeMark interactive demo.

My focus here is mainly pre-programmable assessment criteria-related comments (e.g. Figure 2), with reference also to pre-programmable stock phrases. Free-form comments are not my main focus, though I will briefly refer to overall summary comments.

The main affordance of re-usable comments in e-feedback cited in the literature is efficiency for teachers (Nicol & Milligan, 2006; University of Edinburgh, 2010; JISC, 2010; Hepplestone et al, 2011; Heinrich et al, 2009). They also improve clarity through being more legible than handwritten comments (Oxford Brookes, 2010; Hepplestone et al, 2011), also where built-in templates enable clearer structure. Templates can promote greater marking consistency, particularly where assessment criteria are made explicit (Balfour, 2007; Heinrich et al, 2009). They can also hyperlink to other resources (University of Edinburgh, 2010; Hepplestone, 2008; Nicol & Milligan, 2006). An associated benefit is in e-feedback enabling greater flexibility for learners rather than collecting paper in person (Hepplestone & Mather, 2007; University of Edinburgh, 2010). This also affords greater privacy (Hepplestone et al, 2011).

Surprisingly, I find little criticism of re-usable comments in e-feedback in the literature. They may be perceived as impersonal (Case, 2007), certainly a key concern of teachers in my experience. Also, flexibility for teachers is limited by software installation and maintenance (Denton et al, 2008) and by being tied to a PC (Starr, 2011). Moreover, initial set up effort can cancel out early efficiency gains (Balfour, 2007). Although not my focus here, I would also question whether greater marking consistency comes as the expense of restricting holistic marking judgements. Where assessment criteria-related comments are used, might these be seen as ‘over-reductive’, especially as some systems can ‘auto-mark’ based on weighted assessment criteria?

Irons (2008) contends feedback technologies should afford quality (i.e. be effective) as well as efficiency. However, it is efficiency for teachers that dominates the

literature, there is little discussion of effectiveness in improving learning. Where this is identified (Oxford Brookes, 2010; Heinrich et al 2009), it is unclear exactly why and further investigation is required (Nicol & Milligan, 2006).

To paraphrase Boud (2000), can use of re-usable comments in e-feedback do ‘double duty’ by being effective in improving learning as well as being efficient for teachers? To investigate, we must first consider what effective means.

What is sustainable feedback?

Hounsell (2007) introduces ‘sustainable feedback’ as effective for learning as well as efficient for teachers. Specifically, echoing Boud’s (2000) conception of sustainable assessment, it enables learners to develop beyond the immediate assessment. Sustainable feedback comprises 'high-value' feedback through increased formative assessment, including feedback in day-to-day teaching and learning, and learners taking a more active and reflective role in feedback. High-value feedback tends to 'feedforward' i.e. help learners prepare for the next assessment, for example through marking exercises, patchwork texts and feedback on drafts. Approaches also include feedback as dialogue with tutors, group work, presentations and self- and peer-assessment.

In broadening my conception of sustainable feedback beyond efficiency, given limited space here, I am going to concentrate on feedforward specifically as this is what sparked my initial interest.

Feedforward

This may be on a draft within an assessment (Alverez et al, 2012; Tuzi, 2004); between formative and summative assessments (Wimshurst & Manning, 2012; Nicol, 2007; Nicol, 2009) or between summative assessments (Vardi, 2012). However, Wimshurst & Manning (2012) note a lack of empirical evidence. The effectiveness of feedforward may be limited by context, for example between similar assessments (Knight, 2006; Vardi, 2012), and not intrinsic in all good feedback as Boud & Molloy (2012) suggest - challenging its sustainability. Moreover, although Vardi

(2012) and Nicol (2009) correlate performance gains with feedforward, they don't establish a causal link.

Connoisseurship

Feedforward may be promoted by supporting learners' development of connoisseurship (Hounsell, 2008). Connoisseurship is the artistry of connecting experiences and understanding in a wider context (Smith, 2005 on Eisner). In the context of assessment and feedback, connoisseurship is the tacit understanding of quality in learners' work (Wimshurst & Manning, 2012). Some notion of quality is captured in assessment criteria, of which learners' understanding is key (Higher Education Academy, 2012; Rust et al, 2003). Connoisseurship may therefore be enabled through feedback related to generic assessment criteria (e.g. University of Edinburgh, 2013; Canterbury Christ Church University, 2013) which bridge a wider range of assessments than Vardi's (2012) deliberately linked assessments. However, simply describing criteria is not sufficient, explication and guidance is needed (Rust et al, 2003; Price et al, 2007; Nicol & Milligan, 2006). Moreover, outcomes-based criteria alone do not capture the holistic sense of quality required (Orr, 2010). As such, connoisseurship requires studying exemplars of work of varying quality (Nicol, 2009; Boud, 2000; Vardi, 2012) - an example given by Hounsell (2007) of feedforward as high-value feedback. Furthermore, assessment criteria remain intrinsically 'fuzzy' for teachers (Bloxham, 2012). They need to maintain a dialogue to ensure consistency in marking (Higher Education Academy, 2012).

Learner engagement

Of course, to be effective learners need to engage with feedback. Factors which promote engagement include timeliness of feedback, recognising its importance and feedforward (Gibbs & Simpson, 2004-5), also self-assessment, dialogue with peers as well as the teacher who is key in clarifying what quality is (Nicol & McFarlane-Dick, 2006). Engagement can also be affected by the type of feedback. Deeper learning can be promoted over performance (Knight, 2006), surface or incremental learning by feedback which simulates reflection and discussion rather than corrective

feedback (Alvarez et al, 2012; Willey & Gardner 2009). What level of engagement do re-usable comments in e-feedback promote?

I am therefore adding the key factors of connoisseurship and learner engagement to feedforward which, along with efficiency, scopes my conception of sustainable feedback for analysing the case studies.

Case studies

The following three case studies, selected for their focus on effectiveness for learners, will be analysed using these key factors.

Case study 1: Denton et al (2008) - Liverpool John Moores University

198 first year Pharmaceutical Science and Pharmacy received either traditional, handwritten feedback (n(T)=150) or e-feedback (n(E)=48) on an extended lab report. Feedback 15 (FB15) was used for e-feedback, including re-usable stock phrases, re-usable levelled assessment criteria-related comments and free-form summary comments (see Figure 1).

A survey (n=169) of students' perceptions was conducted to compare each form of feedback (n(T)=129, n(E)=40). Note an explicit focus on effectiveness as well as satisfaction (Figure 4).

Figure 4: Denton et al's (2008, p493) student survey

E-feedback scored higher than handwritten feedback on all questions, averaging almost 1 Likert point higher. The greatest differences were around clarity, amount of feedback and highlighting strengths and weaknesses. FB15 reduced overall marking effort and promoted greater consistency of marking.

This study is limited by being a single instance of a single assignment type and in findings being based on perceptions, not demonstrable impact on learning. Also the comparison of fairness (Q4) and relevance (Q7) was not statistically significant.

Case study 2: Case (2007) - University of Wales

Feedback on essays for 200 first, second and third year criminology students was reconfigured with the aim of reducing turnaround time and promoting closer engagement with the assessment criteria. Students were provided with a full set of criteria, aligned with learning objectives, and in-class explication and guidance. A bespoke e-feedback system was used for all essays which included re-usable stock phrases and re-usable levelled assessment criteria-related comments. Students were offered a follow up session with their tutor.

A survey (n>=95) of students' understanding of the objectives, criteria and perceptions of effectiveness was conducted. Findings include:

• 79% of students more aware of the assessment criteria,

• 69% more able to identify ways to improve in the future and, crucially,

• 67% more motivated to improve.

A study of performance over two successive years was conducted. An average 4% year on year improvement within each module was demonstrated, along with an average 4% improvement within each student moving from between years. Marking effort was reduced.

This study is limited by a lack of baseline for students' perceptions, therefore 'more aware' and 'more motivated' may mean more than before the reconfigured feedback, not more compared with any previous feedback experiences. Although individual and cohort performances do correlate with feedback reconfiguration, no causal link is established.

Case study 3: Starr (2011) - Canterbury Christ Church University

GradeMark was piloted with 500 year 2 & 3 students in various disciplines to evaluate usability, turnaround time and effectiveness of feedback. Lecturers were free to use any combination of re-usable stock phrases (see Figure 1), free-form summary comments (see Figure 3) as well as re-usable levelled assessment criteria-related comments displayed as a grid, or GradeMark 'rubric' (Figure 5).

Figure 5: example of a GradeMark rubric:

Source: Turnitin Guide for Students: Getting Your Feedback (Canterbury Christ Church University)

Students (n=41) were surveyed on ease of use and comparison with previous experiences of feedback. Results showed they value flexibility in receiving e-feedback, found it clearer, were more satisfied with the amount and understood the assessment criteria better. Lecturers (n=6) recognised reduced turnaround time through instant submission and return of feedback, however overall marking effort and their own perceptions of feedback quality varied. This may be due to differences in how comments were used, however this was not analysed.

This study is further limited by small numbers of participating lecturers, small student survey response, the previous experiences feedback was compared with were undefined and there was no analysis by year of study or discipline.

Analysis and discussion

Feedforward and connoisseurship

Case (2007) and Denton et al (2008) are aiming to engage learners with assessment criteria, similarly lecturers in Starr (2011) who used GradeMark's rubrics. Indeed, learners report enhanced understanding of the criteria (noting the limitations discussed above), findings shared by Heinrich et al (2009). However, Vardi (2012) suggests a tension between contextualising feedback for the current assessment and making it generic enough to feedforward. Yet, these case studies appear to do just this. Evidence for feedforward is in Case (2007) and Denton (2008) finding learners more aware of what they need to do to improve. Moreover, Case (2007) finds learners do go on to improve over the subsequent year, although no definite causal link is established. Significantly, re-usable comments in Case (2007, p287) were "underpinned by the departmental criteria", not specific only to the current assessment.

I therefore suggest use of such generic assessment criteria-related comments communicate quality, thus enable feeding forward over a range of assessments through connoisseurship, beyond Vardi's (2012) closely context-linked assessments.

However, Tuzi (2004) asks how much any preparatory guidance and discussion is a factor e.g. Case's in class explication of the assessment criteria, rather than the feedback itself. This is not controlled for in any of these studies.

A case for grids?

Learners in Case (2007) and Denton et al (2008) received comments relating to the level they reached for each assessment criterion. In combination with a full set of levelled comments, they can work out their position on a scale (Hepplestone & Mather, 2007). Starr (2011) highlights how this can be integrated by using GradeMark rubrics (see Figure 5) i.e. if you're 'C' for use of literature, you get to see immediately what being a 'B' looks like, a form of feedforward referred to by the early adopter previously referred to. As rubrics displayed as grids afford room for lots of text and can include hyperlinks, I suggest they could be used for re-usable criteria-related comments. Each criterion-level 'box' could contains generic criteria-related comment, contextualised comments for the current assessment and advice on how to reach the next level, linking to appropriate learning resources.

Feedforward for teachers?

Greater marking consistency is evidenced in Denton et al (2008). Therefore, might such approaches act as feedforward as much for tutors, in order to establish and share conceptions of quality (Bloxham, 2012, Higher Education Academy, 2012), as for learners?

Learner engagement

Learners reported greater satisfaction with feedback (Denton et al, 2008; Starr, 2011) and increased understanding of assessment criteria (Denton et al, 2008; Case, 2007;

Starr, 2011). Although this suggests engagement, it can't be considered direct evidence for it as this was self-reported by learners. More pertinently, Case (2007) found learners more motivated to improve, ascribing this to greater understanding of the assessment criteria. Indeed, Gibbs & Simpson (2004-5) suggest learners engage with feedback when they recognise the importance of it, in this case through better understanding the criteria. Although motivation was also self-reported, engagement is further indicated through impact on performance over time (Case, 2007). Again, this links with Gibbs & Simpson (2004-5) who suggest feedforward is also a factor in promoting engagement. However, as Nicol & Milligan (2006) highlight, it's not clear which types of comments work best and why. Boud & Molloy (2012) argue learners are properly engaged when they actively solicit feedback and use it to plan their own development. However, although these case studies do not suggest re-usable comments in e-feedback intrinsically promote this, it may be through preparatory guidance and discussion around how to use the feedback. Moreover, JISC (2010) suggests engagement is best promoted through ongoing formative assessment and dialogue, emphasising e-testing, self- and peer-discussion; not re-usable comments which are seen as mainly promoting efficiency. Further research is clearly needed as to what is engaging learners in these case studies.

Case (2007) suggests a follow-up meeting with a tutor may add a personal touch. However, Denton et al (2008) suggest learners did not find their feedback impersonal because they rated e-feedback more, not less, relevant to their work than traditional handwritten feedback (although he notes this result is not statistically significant). Moreover, free-form summary comments were also added. As most e-feedback systems enable this, personal and re-usable comments are not mutually exclusive as some might perceive.

Efficiency for teachers

Making feedback economical as well as efficient is essential (Hounsell, 2008). Reduced feedback turnaround time is demonstrated by instant delivery of feedback (Starr, 2011), a finding shared by Hepplestone & Mather (2007), as well as instant submission of work for marking (Starr, 2011). As Gibbs & Simpson (2004-5)

suggest timeliness is a factor in promoting engagement with feedback, this may explain some of the engagement suggested in the case studies. Evidence on teacher effort is mixed. Use of a range of re-usable comments - general and discipline/task-specific stock phrases as well as criteria-related comments - can reduce administrative effort in collecting and organising work for marking (Hepplestone & Mather, 2007; Heinrich et al, 2009; Hepplestone et al, 2011) and reduce effort in producing feedback (Denton, 2008; Case, 2007; Starr, 2011) for some teachers, but not in all cases (Starr, 2011).

Shortcomings of re-usable comments: a case for mixing with other forms of feedback?

Dialogue is an essential component of feedback (Nicol & McFarlane-Dick, 2006; Boud & Molloy, 2012; Carless et al, 2011; JISC, 2010), notably an element of Hounsell's (2007) high-value feedback for sustainable feedback. However, there is no intrinsic dialogue with tutors through use of re-usable comments (Nicol & Milligan, 2006), although of course it may catalyse one (Case, 2007). Whereas discussing feedback with tutors may be desirable, but not always practicable, a dialogue with self and peers is equally desirable (Nicol & McFarlane-Dick, 2006; Boud, 2000; Carless et al, 2011; Boud & Falchikov, 2006), also a factor in Hounsell's (2007) conception of sustainable feedback. Peer-assessment particularly has been shown to promote greater understanding of assessment criteria (Price, O'Donovan & Rust, 2007; Wimshurst & Manning, 2012) and may itself further promote engagement (Nicol & McFarlane-Dick, 2006). Technology can enable self- and peer-assessment (Oxford Brookes, 2012), particularly through use of teacher-provided rubrics (Heinrich et al, 2009; Crisp, 2007). Notably, Turnitin, the provider of GradeMark, also provides a peer-marking system with built-in rubrics:

(http://www.youtube.com/watch?v=ogMiJ5d27yw&list=UUJDVAy4IJYgMCyMPmpCgnsw&index=3)

Developing connoisseurship requires access to exemplars of work at various levels. However, in discussing guidance and support, Case (2007) does not refer to exemplars explicitly. Moreover, although Denton et al's (2008) learners were encouraged to share their feedback, this was unstructured. I suggest that use of

exemplars may greatly enhance the use of re-usable comments for connoisseurship. This may also help address any tensions with 'holistic' marking I previously alluded to, if only by opening a dialogue around exemplars with learners, as well as between teachers themselves. I suggest that a bank of exemplars (Heinrich, 2004; Crisp, 2007) could easily be built-up by retaining a sample of work with e-feedback. Furthermore, where such exemplars include re-usable comments which can be formulated as a rubric, I suggest they would be ideal for peer-marking exercises.

Conclusions

Efficiency for teachers is the most commonly cited affordance of re-usable comments in e-feedback. Indeed, through analysis of three case studies, I conclude that using them typically, but not always, reduces feedback turnaround time and overall teacher and/or administrative effort. Furthermore, I conclude they promote a broader conception of sustainable feedback through feedforward, enabled particularly through generic assessment criteria-related comments promoting connoisseurship between contexts. Learners report being engaged by the feedback, though specifically how and why needs further investigation. Moreover, engagement is indicated through improved performance on future assessments.

However, it is unclear whether this is due to preparatory guidance and discussion around assessment criteria, the feedback itself, or a combination of both. Either way, I suggest use of such comments is, at a minimum, a Trojan horse for effecting feedforward by engaging learners with the criteria. Furthermore, I suggest use of rubrics displayed as grids may enhance feedforward.

There is a strong case for integrating the use of exemplars to enhance connoisseurship, a bank of which including re-usable comments may easily be built up. There is also a case for creating a dialogue with teachers and through self- and peer-assessment using the same criteria-related comments formulated as rubrics. I suggest some of the e-feedback systems analysed could be used for this, including Turnitin’s PeerMark system. Interestingly, although I focused specifically on feedforward, adding such use of exemplars and self- and peer-assessment aligns with Hounsell's (2007) broader still conception of sustainable feedback.

I recommend the following focuses for further research:

- causal links between use of criteria-related comments and impact on performance on subsequent assessments, controlling for any effect of preparatory guidance and support
- which types of comments specifically engage and motivate learners
- potential for formative self- and peer-assessment

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