Evaluating the integration of Jing® screencasts in feedback on written assignments

Conference or Workshop Item

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Abstract— **The Open University is always keen to develop ways of enhancing feedback to students, since comments on assignments are a key aspect of the distance tuition process. Students traditionally receive detailed written feedback on their assignment scripts in the form of annotations and corrections as well as separate written comments summarising their overall performance. For foreign language speaking assignments, students also receive audio feedback in addition to written summary comments.**
Jing® [1] **, a free software tool, allows the recording of a five-minute video commentary of what is happening on a computer screen, i.e. to make a screencast. Jing® enables tutors to record themselves annotating and commenting on their students' scripts or to provide a presentation on an aspect of grammar relevant to the assignment. This presentation reports on both the student and tutor responses to the medium, as well as the nature of the feedback in terms of depth and focus.**

Keywords-*1anguages, interactive, computer-aided, assignment feedback, webcast, video, screencast, audio feedback*

I. INTRODUCTION

This project stems from a desire to enhance tutor feedback and improve student engagement with feedback on written assignments in language modules in a distance learning environment. Teaching through assessment is a cornerstone of the Open University's (OU) provision as it provides an opportunity for the tutor to engage specifically with an individual student's work, providing both feed back and feed forward [2].

Language students at the OU submit assignments through an electronic system and receive feedback in the same way. For written assignments, the feedback comprises a standard electronic form with summary comments and the tutor's annotations on the written script (normally using reviewing features available in Microsoft Word). For speaking assignments, students receive a similar written summary and an audio file with tutor comments, allowing them to focus also on pronunciation and intonation issues. OU students are therefore already used to hearing their tutor's voice within the assessment feedback process.
This project aimed to investigate the impact of using Jing® by making screencasts (free software allowing the recording of a five-minute video of what is happening on a computer screen accompanied by a tutor commentary to provide feedback on students' written assignments.

The project involved students from three language modules at different levels

- Beginners' Spanish
- Lower intermediate German
- Upper intermediate Spanish

Jing® requires the tutor to download the free software and to use a headset/microphone to record a commentary on their corrections. It does not require the use of a web cam.

II. RESEARCH BACKGROUND

Screencasts have been widely used as a teaching tool offering generic explanations to student cohorts. Falconer et al [3] investigated their use to provide instructional content and to supplement traditional written feedback with worked through problems. They reported that students found the explanations clear and were able to appreciate the underlying principles, due to the step-by-step explication. Some students found them superior to face to face presentations in as much as they could rewind, pause and watch again later.

Using screencasts to provide individual feedback on student assessments, however, is a relatively new area of research, and few studies have thus far been conducted. There have, though, been a number of studies into the use of individual audio and video feedback on written work, using cassettes, mp3 files or webcams to provide a recorded commentary, either to complement or to replace written feedback. [4, 5, 6, 7, 8, 9]. A number of benefits of spoken feedback compared with written feedback emerge from across these studies:

- it is more engaging due to variation in tone of voice and expression
- it is easier to understand since it is more nuanced through intonation, allowing students to discern what is more important, for example
- it has more depth due to teachers being able to say more than in written feedback

- it is more personal, and students feel as if the tutor is engaging with their work and cares about both it and them
- it increases the sense of tutor presence: students feel as if the tutor is there in the room
- it is less daunting than face-to-face feedback since the student receives it in private and does not lose face or feel put on the spot.

Nortcliffe and Middleton [6] report that in terms of final performance, their students performed marginally worse with only summative audio feedback than cohorts receiving short written comments. Many of the studies reported that students preferred a blended approach to feedback, incorporating both written and audio comments.

To address students' difficulty in aligning spoken feedback comments with specific aspects of an assessment, Olesova et al [10] experimented with inserting audio comments into documents at specific points, annotating their EFL students' scripts to highlight the language errors concerned. Compared to written comments, students found audio comments more personal, understandable and clearer, and perceived the instructor as more caring, this last reflected in similar research by Ice et al [11] who inserted spontaneous audio comments into a compilation of individual students' forum postings. They reported extremely high satisfaction levels, improved conveyance of nuance, enhanced learning community interactions and better retention of content. They also found via an analysis of final projects that students had incorporated learning from previous audio comments three times more frequently than from written comments.

The use of Jing® specifically for feedback tailored to individual students has been investigated in a small number of studies [12, 13, 14, 15, 16]. Hynson [12] noted autonomous development in her EFL students' written skills and appreciation of the opportunity for further listening practice, as well as benefits in students being able to access each other's feedback. Chapman and Busch [13] reported that Computer Science students were more able to follow the feedback in order to solve the problem and also to understand the aims of the tasks. Thompson and Lee [14] found that students welcomed 'veedback', as they termed this video feedback, either for the audio aspect itself or for the combination of the visual with the audio. Students reported that the use of veedback made the thought-processes of the instructor clear and also allowed them to perceive that instructors were seeking to encourage and explain rather than to scold or criticise as may be inferred from written margin comments, thus reducing the disconnect between what teachers seek to convey and what students interpret. Students also declared themselves more willing to follow up aspects with their instructor. An important issue that Thompson and Lee [14] identified, however, was a need for instruction for students, a product of a written educational culture, on how to integrate veedback into their revision processes.

III. AIMS OF THE PROJECT

Whilst previous research has included investigation of the use of Jing® for providing feedback on English as a Foreign Language (EFL) courses, which share some similarities with foreign language teaching, we wanted to explore if and how the use of Jing® might differ according to language and level. To this end, we identified a number of languages-specific issues for investigation, namely how tutors on different courses used Jing® to address syntax, grammar, structure, content and academic writing style, variations in the use of the target language and the tone and style of feedback, and the influence of different academic cultures and native language.

The project specifically aimed to:

- identify any issues regarding the functionality of Jing®
- investigate the range of approaches tutors took to providing the feedback
- investigate whether there are different approaches in different languages and levels and according to student competence
- anaylse the nature of the feedback provided in terms of the criteria being addressed and the depth of feedback related to strengths and weaknesses
- evaluate the perception of students of the use of the tool
- evaluate the perception of tutors of the use of the tool.

IV. RESEACH METHODOLOGY

The research consisted of a blend of self-reported and observed evidence comprising feedback questionnaires and interviews on the one hand and analysis of the feedback tutors provided on the students' assignments on the other. Nine tutors on the three modules accepted the invitation to participate: two for Beginners' Spanish, four for Lower Intermediate German, and four for Upper Intermediate Spanish (one tutor had both Beginners and Upper Intermediate Spanish groups). Each tutor was asked to provide feedback using Jing® on a specified written assignment to at least six of their students. In terms of guidance, tutors were given a link to the Jing® website and provided with some examples of how they might use Jing® but were encouraged to try ideas of their own. We deliberately did not provide detailed guidance, in order to find out what we would need to provide to supplement the website should we promote Jing® more widely.

The tutors were invited to complete an online questionnaire, combining quantitative analysis of responses using the Likert scale with free text, investigating:

- how user-friendly they found the tool, how long it took them to get used to it and whether they thought the use of Jing® could be incorporated without adding to tutor workload
- how they themselves used Jing® and what they would like to see it used for
- whether they noticed any difference in students' response to the feedback
- what sort of different feedback could be provided (compared with traditional written feedback) and whether they believed Jing® enhanced traditional written feedback
- advantages vs. disadvantages and whether they would recommend the use of Jing®

Students were invited to complete an online questionnaire investigating the following:

- how they rated Jing® feedback and written feedback
- whether they would recommend Jing® as a form of feedback
- how their tutor used Jing® to comment on their work
- how they felt about receiving feedback in this form and how they interacted with the feedback
- advantages and disadvantages
- whether they felt Jing® feedback enhanced traditional written feedback

Five students agreed to be contacted for a follow-up telephone interview four to six months after receiving their feedback incorporating Jing® (depending on the date of their assignment). These interviews investigated their online questionnaire responses in more depth. The interviews were recorded, and detailed written notes subsequently made.

The feedback tutors provided on the assignments was also examined to establish how various tutors had used Jing®: a sample of recordings and written feedback were analysed in terms of their orientation (whether they focused on strengths and/or weaknesses), the performance areas on which they focused (e.g. language or content-related), and the depth (e.g. indicated, corrected, explained, etc.) [17] of the feedback given.

V. OUTCOMES

Approaches to feedback

Tutors adopted various methods of providing feedback using Jing®. The first level of difference concerned the choice between showing the whole script, showing just one paragraph or providing a separate generic explanation of a grammar point not based on editing the student's own text.

A common approach was to select one paragraph which contained indicative language issues and to focus on this. Tutors then used various approaches to present the corrections, notably: (1) Highlighting the errors first and then starting the recording, allowing the student to see where the error was before explaining the error and correcting the text; (2) identifying and correcting errors as they went through; (3) correcting the paragraph first before recording, and then showing the correction and explaining it; (4) showing an uncorrected and a corrected version side by side on screen and explaining the corrections. Within a paragraph tutors were sometimes able to group errors, so one tutor, adopting approach (2) above, pointed out all the examples where the same incorrect tense had been used and explained the error of tense before then correcting the verbs, as well as addressing other issues within the paragraph.

A small number of tutors made a recording showing the whole script. In this case, they corrected the errors first and then scrolled through the document providing an overview of the categories of errors students had made.

Two of the German tutors made generic recordings, each presenting an explanation of a grammatical issue, to which several were directed if necessary. These were aspects that had been taught in the unit and were specifically being tested, but which had been presented to students in print rather than as an animated presentation. One of these tutors also provided an individual recording showing the corrected script and commenting on the errors, grouping where possible.

In addition to language error correction, most tutors also provided some spoken comments on what had been done well within the assignment, ranging from generic praise to comments about content to specific indication on the script of successful language.

A comparative analysis of all three modes of feedback provided by a sample of 4 tutors on a single assignment was conducted, using the FACT analysis tool [18]. This is an evaluation instrument that indicates the 'profile' of a piece of feedback in terms of the depth of a tutor's comments about the strengths of the work and the depth of the comments focusing on its weaknesses. The results of this exploratory analysis show some differences in the ways in which individual tutors use the three media available to them: annotations on the written script, electronic summary form, and Jing® recording. For example, two of the tutors

used Jing® exclusively for correcting every language error within a selected extract, whereas on the written script a number of errors had been indicated only. Another tutor also used Jing® in order to identify content-related strengths, give specific examples of what the student had done well, and explain why these constituted strengths. This level of depth in relation to strengths did not occur within any of the other media in any of the cases examined.

Analysis of the variations according to language, level and academic culture are still ongoing, but there are indications that the German tutors focused more heavily on syntax, e.g. word order, whilst the Spanish tutors highlighted vocabulary and grammar issues such as tense or agreement. Whether this is due to issues inherent to each language, the academic culture of the teachers or the level of competence of the students requires further investigation.

Tutor response

Tutors were unanimous in finding that Jing® enabled them to provide feedback at a greater depth than traditional written comments. They also believed that Jing® would have more impact on students, for a variety of reasons. The first of these was the clarity of the explanation provided by combining an animated visual with an audio presentation:

> "Instead of sending the student back an [assignment] marked in red, you can show them annotations step by step - and explain why you are doing that. This is less overwhelming for students."

Jing® was also considered to be more personal:

> "I think it is more personal and maybe memorable for the student and perhaps it helps them to pay more attention to their own mistakes."

Many also talked of increased 'presence' in an asynchronous setting [19], i.e. a sense of feeling as if they had the student in front of them.

> "My feedback felt 'warmer' because I could speak to the student. There was an imagined dialogue."

One tutor mentioned the benefits for students with dyslexia, who she considered might appreciate hearing their feedback, and another that it might engage certain types of learner more than traditional written comments. One tutor stated that two students had contacted her after receiving the feedback to say that they had now understood certain grammar points.

Tutors also noted a contrast between how students might perceive praise within written comments compared with in spoken feedback:

> "You can also make a point of highlighting what the student has done well. Although I do this in written feedback as well, I do often think that students do not 'see' the good points."

Initially, some tutors had doubts about the five-minute file limit and what they would be able to achieve in this time, but, ultimately, they appreciated the benefits of this restriction both for themselves and for the students:

> "It makes you focus on relevant issues of the [assignment], not on every single mistake."

In addition to its use in correcting individual student assignments, seven tutors agreed that it could be used advantageously for posting grammatical explanations on the students' teaching group forum and to provide additional individual student support via email. Six agreed that it could be used to post generic assignment feedback to the group on the teaching group forum and that tutors could develop recordings and share them.

Eight of the nine tutors would recommend Jing® based on their students' reactions and their own experience, with the other tutor concerned about workload implications. Becoming familiar with the tool took on average around one hour and, once tutors had made their first recording, subsequent recordings became easier, taking most between 15 and 30 minutes. Since Jing® files cannot be edited, tutors often had two attempts, either due to mistakes in their first recording or because they exceeded the five-minute limit. Rather than there being any serious technical issues with the use of the tool, tutors considered that thinking about how to frame the feedback, particularly for weaker students, could be time-consuming. To address the workload issue, some suggested that specific criteria could be addressed using Jing® instead of providing separate written comments for that criterion, e.g. language accuracy, some that it could be used mainly for students requiring extra input, and some that generic recordings explaining common grammatical areas could be created and shared between tutors. Others believed that Jing® feedback could be integrated without it adding significantly to the time spent.

Student response

Seven students completed the online questionnaire and five took part in a follow-up interview. Students cited a number of benefits of Jing® feedback that the tutors had also identified.

Students commented that explanations were clearer resulting in improved retention of information:

> [Due to] "the remarkable clarity it was instantly memorable", "It immediately stuck on first listening, became an aide memoire… that is why it such an excellent teaching aid."

They talked of the advantages of a multi-sensory approach.

> "The use of highlighting and the moving cursor worked well."

> "The graphic presentation with the spoken input was more memorable."

> "Next best thing to being in a classroom."

Students also felt that the Jing® commentary created a more conducive environment to engage with their tailor-made feedback.

> "It showed how my work had been assessed and […] generally made me feel that my work had been valued by my tutor."

Above all, students found Jing® feedback very motivating, when comparing sometimes overwhelming error correction in the margins of their written work to the more contextualised feedback that Jing® elicited. Students reported that the tutor's chosen focus for the screencasts ensured clearer prioritising for their revision and made it easier to identify the severity of each error.
Seeing their own structures reworked rather than being referred back to the course materials, where the grammar explanation would be found, had a greater impact not only on remembering the explanation but on the willingness to persevere in their studies.

> "It was a very positive, personalised and motivating experience."

> "The feedback felt more personal and was easily understandable."

> "To hear the tutor´s voice with the feedback made in a positive way was motivating."

Students welcomed the benefits of hearing a native speaker read out the words they had written. In addition to personal feedback, they felt that Jing® could also be used to provide generic recordings on language issues before or after assessments, or as part of the feedback to an individual student. The only disadvantages mentioned were that one needed to be online to access the feedback later and that it was possibly more time consuming. Nevertheless, the majority of the students reported that they had revisited "their screencasts".

V. Conclusion

Early indications from both tutors and students suggest a compelling impact on the effectiveness of the feedback provision using screencasts in conjunction with written feedback. In addition to receiving error corrections and/or explanations, hearing the tutor's voice seems to create a greater affective engagement [14] with the revision process in the students' learning journey. Although receiving the feedback remains asynchronous, it establishes a learning dialogue between student and tutor that has the potential to be extended beyond the assignment. Furthermore, as with a face-to-face conversation, the tutor has some control over how the student prioritises aspects of the feedback. Once students have elected to watch the recording, it is the tutor who determines the time and detail allocated to the various issues, although, of course the student can pause and watch again. This contrasts with written feedback, where it is difficult for tutors to influence what students pay attention to and what they skip over. Nonetheless, it may be that tutors and students will need to develop new strategies to work with digitally mediated interactive feedback and how to "digest" it [14], re-watching, pausing, annotating the script and redrafting the work, for example.

The way our tutors chose to integrate Jing® feedback ensured that students still received full annotations on their whole script as well as written summary comments. Jing® was used to exemplify and explicate key areas and, therefore, added to what the student received without any compensatory loss of written feedback. Concerns with workload merit consideration of alternative approaches, of course, but care should be taken to ensure that overall quality is not compromised. For example, addressing 'accuracy' via Jing® recordings instead of written comments would not be possible where tutors are commenting only on one paragraph. There may be scope, however, for tutors to reduce the length of any written comments so that they do not repeat content in both formats.

Many tutors have continued to use Jing® outside the project and to experiment with it further. A further group of tutors who were subsequently introduced to Jing® via colleague recommendations or Staff Development sessions have introduced screencasts in their feedback and equally value the affordances of the tool. .
Some of the issues raised by students have been addressed, for example, emailing the file directly to the student instead of storing it online, to make initial and future access easier.

VI. Further Research

Our current findings suggest that Jing® is a powerful tool offering a range of possibilities for integration into teaching and feedback. We are continuing to analyse the data to learn more about the approaches adopted, e.g. the depth and orientation of comments using Jing® and whether there is

an observable difference in what tutors address in their feedback. We are also keen to analyse outcomes at different levels of language proficiency (i.e. recorded feedback in the target language for foreign language learners).

Further research will need to look into the impact of different approaches to the use of Jing® for commenting on students' work, the efficacy of generic recordings and the feasibility of extending the use of Jing® on a larger scale. Whilst students report that they find the feedback memorable and that they have understood explanations, our study did not seek to obtain objective evidence in the form of a comparison between the impact of written and Jing® feedback on future work. This would also be a productive line of research.

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