ESP LEARNER SELF-GENERATED FEEDBACK AS A TECHNOLOGY-ENHANCED TASK

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Abstract

In Higher Education, feedback is still largely implemented as an external teacher-centred practice, which has been found to be irrelevant in improving students' language learning. This paper advocates that internal, or self-generated feedback, has a potential role to play in learners' formative processes under the condition that it is implemented as a task-based activity enhanced by suitable technological tools. In an experimental study, learners were engaged in the task of creating screencasts, or digital audio-visual recordings, of oral medical reports for authentic professional purposes. The study surveyed the kind of knowledge restructuring processes learners activated as a result of self-generated feedback enhanced by screencast technology. It also sought to understand learners' perceptions of the experience. Results show that learners used different digital tools for knowledge restructuring leading to readjustment of their initial performances. Screencasts were thus effective in heightened learners' awareness of the gap between their current weaknesses and their expected goals and in taking necessary action to narrow this gap. Learner perceptions further recorded a positive impact of self-generated feedback enhanced by screencasts, suggesting major motivation and interest in learning.

Keywords: Technology-enhanced feedback, screencasting, TBLL, Self-generated feedback, ESP

1. Introduction

Feedback is crucial in helping language learners improve their current performance to meet desired goals. Good feedback practice should aim at closing this gap (Nicol & Macfarlane-Dick, 2006) by involving learners in both reflective and active processes which strengthen self-assessment. Task-based activities provide the opportunity to generate *internal* feedback as they engage learners in cognitive processes of monitoring their tasks (Butler & Winne, 1995). Research studies have, however, attributed greater importance to *external* corrective feedback mostly provided by teachers (Lyster & Ranta, 1997; Sheen, 2004). This is mainly due to the fact that feedback "is still generally conceptualised as a transmission process" (Nicol & Macfarlane-Dick, 2006: 200), which lies in the hands of teachers. Corrective feedback has been found to have inhibiting and discouraging effects on learning (Ellis 2009)

and a negative impact on learners' affective responses (Plastina, 2012). In advocating the value of internal feedback, Sadler (1989: 121), instead, underlines how "students have to be able to judge the quality of what they are producing and be able to regulate what they are doing during the doing of it". In challenging external feedback, Sadler (1998: 78) argues that "it cannot simply be assumed that when students are 'given feedback' they will know what to do with it". External feedback is, thus, often perceived by learners as a source of dissatisfaction. As hardly any effective teacher-student engagement takes place to close learners' current-desired performance gap, learners often find it difficult to interpret external feedback on their own.

In addition, students should be allowed to set their performance against self-generated criteria (Butler & Winne, 1995) so that their own feedback becomes a learning task in its own right to boost learner autonomy. Enhancing self-generated feedback in support of increased autonomy has not been fully investigated in the current literature (Nicol & Macfarlane-Dick, 2006), nor has adequate focus been placed on the use of digital modes of feedback delivery (Henderson & Phillips, 2014).

The current paper attempts to address these two issues, thus making a contribution to filling this void by investigating how technology-enhanced self-generated feedback is perceived by HE ESP learners in authentic task-based learning. In an experimental study, learners of English for Medical Purposes (EMP) were invited to produce screencasts, or digital video recordings and voiceover narrations, of their own oral medical reports, a task which is authentically required for professional purposes.

In Higher Education, screencasts have been mainly used to integrate academic lectures and also as learning resources. More recently, screencasts have been introduced to improve the revision process by providing learners with video feedback, which has shown to give learners better explanations (McFarlane & Wakeman, 2011; Seror, 2012). So far, research has, thus, focused on teachers' production and application of screencasts and on how these are perceived by students. As an example, Mathisen (2012) conducted a study on how multimodal screencasting feedback can prove more effective for students compared to traditional written feedback. In a similar vein, Morris and Chikwa (2014) investigated the effects of screencasts on undergraduates, highlighting strong student disengagement in using these learning resources due to the lack of understanding of what screencasts are. These studies suggest that screencasts are currently adopted for transmission processes of external feedback, which appear to heavily replicate the teacher-centred feedback practice implemented in the traditional classroom. To the best of knowledge, the potential of

screencasting has still not been exploited to foster task-based language learning which supports learner self-generated feedback.

2. Technology-enhanced feedback

Technology-enhanced feedback tools have been adopted in pedagogical practices often without understanding their intended impact on learners (LeFebvre, 2013). In HE ESP contexts, their application should facilitate learner-centredness, allowing feedback to "move from the exclusive domain of assessors into the hands of learners'" (Boud, 2000: 151). Despite the pedagogical potentials of technology-enhanced feedback, there is little research in this area compared to the remarkable body of literature dealing with traditional feedback (Hepplestone *et al.*, 2011; Henderson & Phillips, 2014). Research has been conducted on computer-generated assessment through automated software as a delivery mode for peer feedback (Thomas et al, 2013). A very small body of research has investigated the use of digital audio feedback (Jonsson, 2013), while screencasting is now gradually making its way in the literature. Interest has, however, been limited to the delivery mode of screencasting technology, while learner self-generated feedback in task-based learning has been overlooked.

It can be argued that task engagement can be supported by many forms of electronic feedback, including online simulations (Bull & McKenna, 2004). These have, however, given priority to summative rather than formative assessment in the best of the classroom tradition. Innovative good feedback practices in the shape of technology-enhanced self-generated feedback tasks have still not gained status. Hence, there is a much felt need to turn to practices of formative assessment, which enable students to take action in improving their learning with the support of new technological tools. These need, however, to be geared to supporting learner engagement in user-friendly, immediate and more enjoyable self-generated feedback for "informed judgment" (Boud & Falchikov, 2006). In general, technological affordances acquire pedagogical value when they facilitate personalised learning processes, increase learner control and enhance new literacy skills (Plastina, 2014; 2015).

Screencasts digitally capture and record the current activity on the user's computer screen and are accompanied by audio recording. Amongst else, they can be used to support learners in the task of creating information-rich multimedia presentations. This requires going through a reflective step-by-step process of recording screen content and explaining it. Different media can be imported during the video editing process, audio scripts can be practised and refined, and audio-video content re-edited for better quality.

More importantly, screencasts stimulate learners' engagement in knowledge restructuring processes "[…] which can be initiated by activities carried out by the student themselves - for example, when they engage in self-review […]" (Nicol, 2013: 47). Knowledge restructuring springs from learner dissatisfaction (Posner et al., 1982), leading students to create improved representations of their performances. Knowledge restructuring first relies on self-observation and, in turn, on self-generated feedback. LeFebvre (2013: 290) points out that "self-observation must be interpreted through self-assessment and self-judgment based on the standards of performance to generate feedback by the observer". Thus, screencasts can support learners in interpreting their self-observed speaking skills against their self-generated criteria. Following these activities, it is expected that learners activate individual processes of knowledge restructuring, which prove helpful for language improvement, besides aiding teachers in better understanding learner needs.

3. The experimental study

3.1. Aims

The broad pedagogical aim was to allow learners to engage in a new technology-enhanced transformative practice tailored to develop their professional needs within the frame of 21st-century skills. These encompass "[…] abilities of communication, learning and problem solving, as well as languages and competences in information and communication technologies" (European Commission, 2012: 8). The more specific aim of the study was to investigate self-generated feedback enhanced by screencast technology from the learner's perspective. Research was centred on two main issues regarding learners' engagement in knowledge restructuring processes and their perceptions of technology-enhanced self-generated feedback. Two research questions were, thus, addressed in the study:

1) **RQ1:** What kind of knowledge restructuring processes do EMP learners activate as a result of self-generated feedback enhanced by screencast technology?
2) **RQ2:** How is the technology-enhanced task of generating self-feedback perceived by learners?

3.2. Setting and participants

The experimental study was conducted within the context of the current Italian Higher Education system, and, specifically, within the so-called specialisation schools (*Scuole di Specializzazione*), which provide students with specialised knowledge and training for

specific professional activities over a variable period ranging from two to five years. These schools link postgraduate education with the world of employment, and are, thus, expected to equip learners with an innovative skillset for immediate workforce readiness.

The participants in the study were 20 postgraduate EMP learners (8 males, 12 females, average age: *M*= 28 years) at the University of Calabria in Italy. All students were enrolled in their second year on the five-year course offered by the specialisation school in Clinical Pathology at the same university. During the first semester of the academic year 2014-2015, all students agreed to participate in the current experiment as an integral part of the curriculum module on English for Medical Purposes.

3.3. Method and procedure

The mixed research design was based on the three-stage task-based learning model (Willis, 1996), which appeared suitable as the framework for the current study. Designing, creating and evaluating their screencast performances were the three main tasks participants were required to carry out. These respectively matched the pre-, while and post-task stages of the referenced model.

In a preparatory stage, participants were instructed on how to use a simple and freely downloadable screencast software (http://www.screencast-o-matic.com) for task completion. They were also told to annotate any knowledge restructures they made in relation to their speaking skills following self-observation and self-generated feedback. These data were collected through a short multiple-choice questionnaire (see Figures 1-5 below) immediately after the while-task stage in order to address the first research question.

A second survey was carried out immediately after the post-task stage to capture participants' perception of the impact of technology-enhanced self-generated feedback, thus addressing the second research question. A semi-structured questionnaire was administered to participants, who were asked to rate a total of 10 statements (see Table 1 below) on a 5-point Likert agreement scale (*1. strongly disagree, 2. disagree, 3. neither agree or disagree, 4. agree, 5. strongly agree*). Data was coded and analysed and the results are discussed in the following section.

4. Results and discussion

Most participants (*N=18*) were found to self-assess their initial screencast performance negatively as shown in Figure 1. This suggests that stronger learners tended to underestimate

their performance (Heilenman, 1990), aligning their self-judgement to that of their weaker peers.

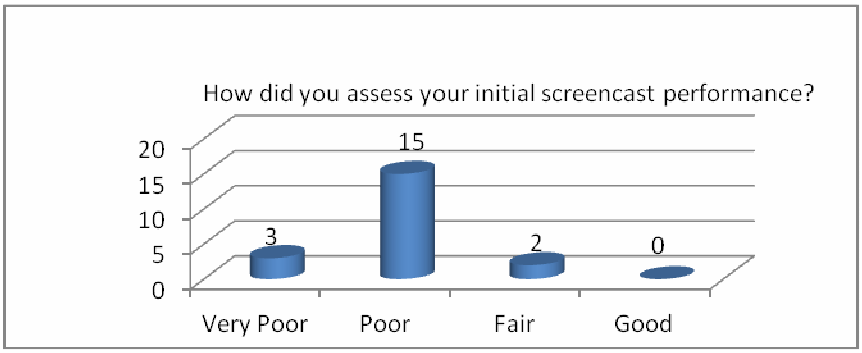

Figure 1: Learners' self-assessment of initial screencast performance.

Ongoing self-observation and self-generated feedback revealed, however, that participants gradually acquired more informed judgement of the weakest features of their speaking skills. Figure 2 shows how learners became more aware of their limited performance due to weaknesses in grammar and vocabulary (*N=5*) and in pronunciation (*N=8*), while stronger learners were more concerned with their fluency (*N=7*).

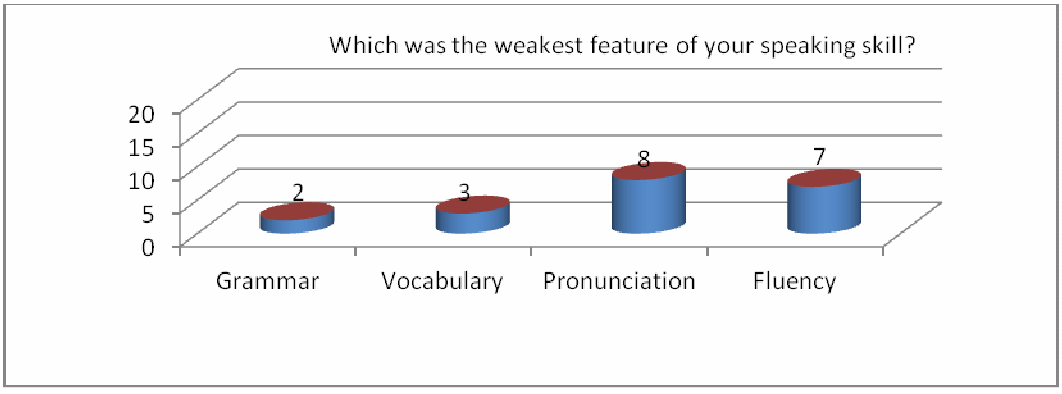

Figure 2: Self-observation and self-generated feedback.

All participants adopted knowledge restructuring strategies to improve their screencast performances. Figure 3 shows how there was only a slight difference in the strategies employed across the group. Other digital tools were mainly used to engage in knowledge restructuring processes, while external feedback from the teacher and peers was limited. This suggests that resorting to traditional external feedback was not the strategy preferred by most learners.

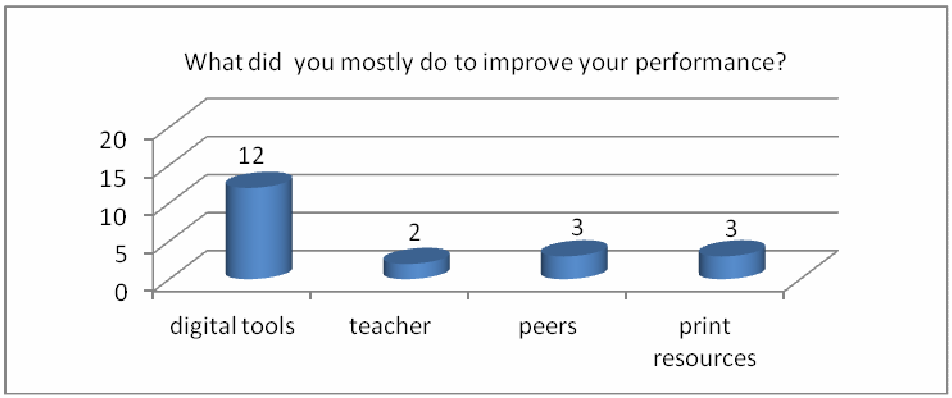

Figure 3: Learners' knowledge restructuring strategies.

As participants were also invited to specify which digital tools they had used for knowledge restructuring, choices were found to reflect findings from self-observation and self-feedback (Figure 2). The ten tools mostly employed (Appendix 1) relate to the language features of pronunciation, spelling, EMP vocabulary and fluency. In particular, this suggests that spell and grammar checkers were used for restructuring screencast visual content, while text-to-speech and online recordings tools were adopted for fluency practice and audio script rehearsal. Digital tools, thus, represented an available alternative which participants took advantage of to make significant readjustments to their performances, as shown in Figure 4. This implies that screencast-based self-generated feedback was effective in stimulating learners' re-interpretation of their representations.

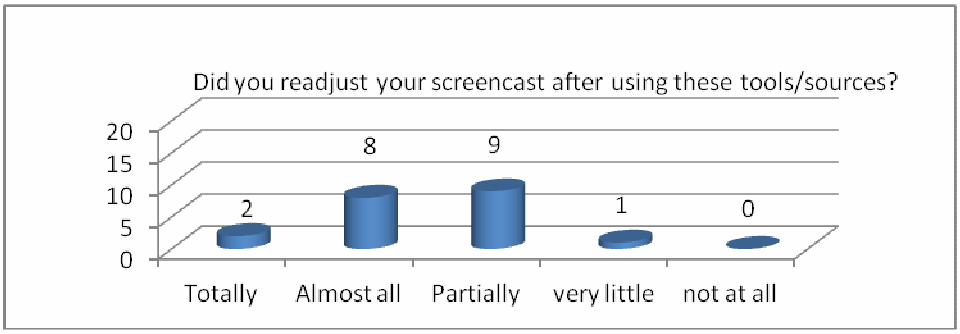

Figure 4: Learners' knowledge readjustment.

Through ongoing processes of self-observation and self-generated feedback, participants developed the task of searching for strategies to restructure and readjust their screencast performances. Learners freely chose online tools to self-regulate these processes, ultimately showing that their final screencast performance met their expectations or was even better than expected (Figure 5).

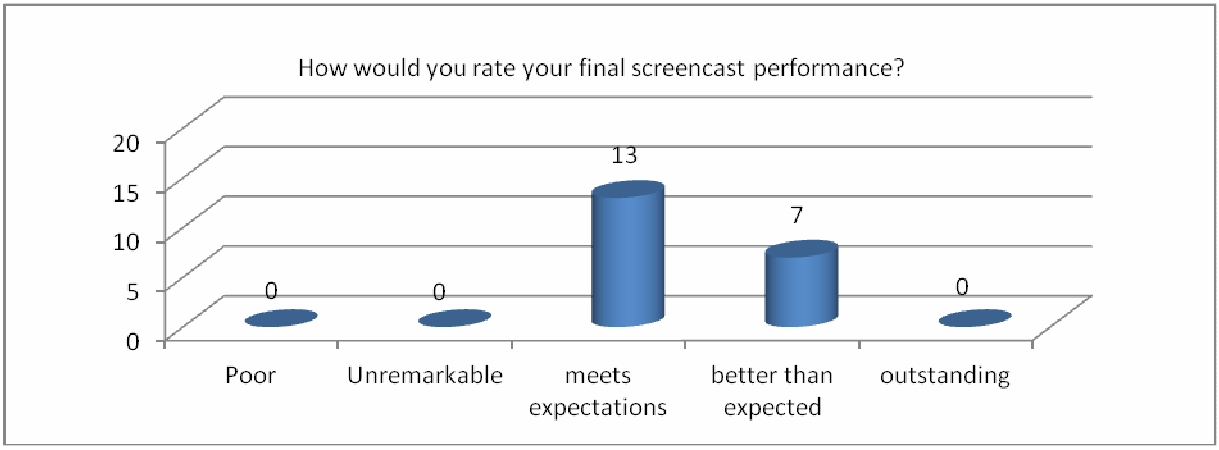

Figure 5: Learners' final assessment.

As for learners' perceptions, questionnaire results generally showed that all 20 participants positively perceived the task of self-generated feedback enhanced by screencast technology. However, a high agreement rate (agree, *N=10*; strongly agree *N=6*) indicated that learners initially perceived self-generated feedback as a challenging task due to the lack of previous similar experiences. This result is consistent with the findings on participants' initial self-assessment (Figure 1). The remaining four students, who disagreed that the task was difficult at first, were probably those equipped with better study skills and were likely more proficient in English.

On the other hand, the whole group agreed on the important value of the task in terms of self-reflection and responsibility (agree *N= 7*; strongly agree *N=13*). All participants also strongly agreed they had designed their own criteria to assess their screencast performances. This confirms the importance of allowing learners to set their performance against self-generated criteria (Butler & Winne, 1995). It further suggests that all participants had autonomously valued the need to measure their own expected outcomes against standards. There was also a positive agreement rate (agree *N=15*; strongly agree *N=5*) related to the use of self-generated criteria for more "informed judgment" (Boud & Falchikov, 2006). In addition, all participants agreed strongly on the importance of self-generated feedback for language improvement, thus suggesting the intrinsic value of internal feedback, which enables learners to monitor their engagement with learning tasks. These results are summarised in Table 1 (items 1-5).

Table 1. Learners' perceptions of screencast-enhanced self-generated feedback.

	1. SD	**2.** D	**3.** N	**4.** A	**5.** SA *
Respondents (N=20)					
1) I first found self-generated feedback challenging as I was not used to it.		4		10	6
2) I found this task required a lot of reflection and responsibility.				7	13
3) I developed my own criteria to assess my performance.					20
4) I always used these criteria to judge my performance.				15	5
5) I believe self-generated feedback is important to improve my language skills.					20
6) I first found screencasting challenging as I did not know about this software.		3		13	4
7) I found screencasting very useful to observe my weaknesses.				1	19
8) I found screencasting helped me engage in more authentic tasks.				9	11
9) I think screencasting integrates all language skills.					20
10) 10.I would like to have more learning experiences like this.				2	18
** 1. Strongly Disagree (SD); 2. Disagree (D); 3 . Neither Agree or Disagree (N); 4. Agree (A); 5.Strongly Agree (SA).*					

Results for screencast technology (items 6-10) show that learners' perceptions of the initial challenge faced in using this tool were similar to those regarding the task of self-generated feedback. The high agreement rate (agree, *N=13*; strongly agree *N=4*) suggests that learners are not always as tech-savvy as could be thought. This finding is in line with an extensive study conducted by Kennedy et al. (2008: 117-118), who claim that "clearly we cannot assume that being a member of the 'Net Generation' is synonymous with knowing how to employ technology based tools strategically to optimise learning experiences in university settings".

Nevertheless, learners perceived the benefits of screencast technology in helping them *see/hear* their major weaknesses (agree, *N=1*; strongly agree *N=19*), consistently with findings in Figure 2. Thus, the support provided by this technology helps students adjust their learning methods for major efficiency, as well as enables teachers to address those weaknesses brought to the fore. Participants agreed (agree, *N=9*; strongly agree *N=11*) that screencast technology supports engagement in authentic professional learning tasks. This indicates that learners valued their screencasts of oral medical reports as key to building authentic physician-physician communication and in clinical care (Haber & Lingard, 2001).

All learners also strongly acknowledged (strongly agree *N=20*) that screencast affordances can support an integrated practice of all four language skills. Ultimately, the aid of screencasting was positively perceived by all participants, who agreed they would like to engage in further similar technology-enhanced experiential learning (agree, *N=2*; strongly agree *N=18*). In other words, screencast technology appears to have a positive impact on participants' motivation and interest in learning.

5. Concluding remarks

The current study has highlighted the important role played by technology-enhanced self-generated feedback in EMP processes of learning. As "successful language learning depends crucially on the activity and initiative of the learner" (van Lier, 2008: 163), students need to engage in good feedback practice which strengthens self-regulated performance (Nicol & Macfarlane-Dick, 2006). The study has shown how screencasting technology supports self-observation and self-generated feedback, leading learners to an increased awareness of their weaknesses and to choosing knowledge restructuring strategies in order to readjust their initial performances. It has also found that learners perceive technology-enhanced self-generated feedback as a positive experience of task-based instruction. Screencast technology, thus, helps place major attention on the importance of internal feedback which is still often overlooked in current pedagogical practices. According to Black and Wiliam (1998: 141),

> when anyone is trying to learn, feedback about the effort has three elements: recognition of the *desired goal*, evidence about *present position*, and some understanding of *a way to close the gap between the two*. All three must be understood to some degree by anyone before he or she can take action to improve learning (original emphasis).

The practical task of creating screencasts raises learners' awareness of the professional purposes of medical communication and initial self-assessment paved the way to more informed judgement of the desired goal. Language weaknesses were brought to light through ongoing self-generated feedback supported by screencast reviewing, thus providing learners with evidence of their present position. Engagement in knowledge restructuring processes, also as a result of other digital tools, led learners to realise how they were closing the gap between their initial performance and their expectations.

The major limitations of the study can be identified in its small-scale, which does not allow to draw general conclusions based on current results. It has also limitedly considered technology-enhanced self-generated feedback with the support of just one technological tool, namely, screencasts. While more research is needed on the issue, the study has, however,

contributed to highlighting the importance of internal feedback for improved learning. It has also revealed that learners are willing to engage in technology-enhanced tasks in which they construct meaning from their own feedback, provided that tasks are designed to reduce the gap between learners' present position and their expected goals.

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Appendix 1 – Digital Tools used as Knowledge Restructuring Strategies

Pronunciation

http://www.howjsay.com/

http://www.merriam-webster.com/

Spelling and Grammar

https://www.jspell.com/public-spell-checker.html

http://www.reverso.net/spell-checker/english-spelling-grammar/

EMP Vocabulary

http://medical-dictionary.thefreedictionary.com/

http://www.nlm.nih.gov/medlineplus/mplusdictionary.html

Fluency

http://www.naturalreaders.com/

http://www.readspeaker.com/voice-demo/

http://vocaroo.com/

http://online-voice-recorder.com/