

Technology-Enhanced Feedback on Student Writing in the English-Medium Instruction Classroom

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High quality and timely assessment feedback is central to student learning in higher education; however, written feedback has many limitations. One of the innovative approaches to delivering feedback to EFL learners is individualized audio-visual feedback (AVF) using screencast technology. Previous research on AVF has been extensively descriptive and mostly focused on student preferences for feedback and evaluation of various screencast software. The present study employed a mixed-method design using pre-post writing tasks and pre-post questionnaires to investigate what particularly beneficial affordances this type of media-rich feedback might offer for writers in the English-Medium Instruction (EMI) classroom, to identify the effects of AVF on changes in learners' motivation, and to explore students' perceptions towards screencast feedback. The results suggest that AVF is positively received by EFL learners and that simultaneous visual cues and detailed explanations promote better understanding, engagement, and active listening. In addition, AVF significantly improves learners' writing performance and academic motivation. The paper concludes with practical implications and suggestions for further research.

Key words: audio-visual feedback, technology-enhanced feedback, English-medium instruction, academic motivation, assessment

1. INTRODUCTION

One of the leading public policy issues in the world over the last few decades has been the quality of higher education (David & Abreu, 2016; Ebersole, 2014). Hence, a number of internationally oriented business schools have attempted to enhance the perceived quality and value of their programs by pursuing local and/or international accreditation. Accreditation by the Association to Advance Collegiate Schools of Business (AACSB) is

regarded as the gold standard of achievement and the hallmark of excellence in business education around the world, and has been earned by less than 5 percent of the world's business schools (AACSB, 2018). In order for an institution's to attain AACSB accreditation, it must satisfy a number of stringent requirements, including a quality assurance that requires managed and documented teaching and learning processes. Inclusion among internationally accredited schools recognizes an institution as having more highly qualified faculty, academically superior students, rigorous programs, a higher proportion of international students, and graduates that obtain sought-after positions.

The business school at which this study was conducted has recently earned AACSB accreditation, and continues to refine its curriculum and enhance its teaching effectiveness by employing innovative pedagogical approaches. The university that houses this school has an English-Medium Instruction (EMI) policy and is the only university in South Korea practicing delivery of course content 100% in English. The results from a number of recent studies demonstrate that EMI policy leads to limited learning outcomes, a lack of student participation, and communication breakdown between professors and students (Kym & Kym, 2014; Lee & Prinsloo, 2018). To overcome the challenges associated with EMI practices in the English as a Foreign Language (EFL) context and change student perceptions and beliefs towards EMI, new innovative approaches are needed to address the gap between the original intention of the policy and the actual students' and professors' performance.

Feedback has always played a crucial role in L2 learning. In addition to the traditional methods of providing corrective feedback, such as written and oral feedback, thanks to the continuing advances in and rapid integration of new technologies, new forms of feedback have emerged. A novel approach to delivering feedback in the EFL context is audio-visual feedback (AVF) using screencast technology. Although it is not a new methodology, it has been used primarily in distance learning, and to our knowledge, it has never been used in the EMI classroom for content learning. Previous research suggests that this type of feedback may resolve some of the current problems with traditional, written feedback, as it improves understanding and engagement and promotes active listening (Edwards, Dujardin & Williams, 2012; Middleton, 2011; Thompson & Lee, 2012; West & Turner, 2016). The objectives of this study are to investigate what particularly beneficial affordances this type of feedback might offer for writers in the EMI classroom; to identify the effects of AVF on changes in learners' academic motivation; and to explore students' perceptions towards AVF.

2. LITERATURE REVIEW

2.1. English-Medium Instruction

EMI is increasingly being used in non-Anglophone countries for teaching academic subjects in higher education, and South Korea is no exception. In considering the role of EMI in higher education in Korea, it is important to clarify how it should be distinguished from CBI (Content-Based Instruction) or ESP (English for Specific Purposes). Although CBI focuses on content rather than language, the overall educational goal is language instruction, and students are assessed on language learning (Brown & Bradford, 2016). ESP is one of the applications of CBI, which focuses on the teaching of academic English through content knowledge (González, Euskal, & Unibertsitatea, 2012). In EMI, though, the courses are often taught by subject content specialists, and English acts as a vehicle for content learning (Brown & Bradford, 2016). Therefore, EMI is considered to be the most suitable term for university courses that integrate content and language.

The introduction of EMI into South Korea has been accelerated by a number of factors, such as the Brain Korea 21 Project (Shin, 2009), whose stated purpose is “to develop world-class research universities, foster the creation of human resources through graduate schools, nurture quality regional universities, and reform higher education” (Lee, 2015, p. 24); media-initiated university rankings (e.g., Joong-Ang Daily & Chosun Daily), the reporting degree of internationalization via metrics such as the percentage of English-medium classes and the proportion of international faculty and students (Cho, 2012; Lee, 2014), and so on.

However, the effectiveness of EMI programs is still under discussion due to the limited learning outcomes, limited language proficiency of both professors and students (Kym & Kym, 2014; Lee & Prinsloo, 2018), little to no interaction between professors and students in EMI classrooms (Byun, Jon, & Cho, 2014; Kim, 2017), as well as lack of linguistic feedback on students’ work (Kim, 2017). Professors’ feedback, as a “powerful pedagogical tool for promoting interaction in educational guidance” (as cited in Carvalho, Martins, Santana, & Feliciano, 2014, p. 220), has a potential to strengthen EMI practices.

2.2. Feedback: Challenges and Opportunities

Over the past two decades, changes in writing pedagogy and research have replaced summative feedback focusing on the product, with formative feedback focusing on the EFL students’ writing process and future practices (Hyland & Hyland, 2006). Feedback, as a foundation of formative assessment, has always played a critical role in learning and performance in the EFL context (Black & Wiliam, 1998). The main purpose of feedback in

higher education is to develop the learners' capacity to make evaluative judgments about their own work (Nicol, 2014), and students are expected to play an active role in soliciting and using feedback (Molloy & Boud, 2013). Therefore, it is insufficient to provide feedback only at the end of the semester that simply tells students what they have done wrong.

However, despite the recognized potential of this common pedagogic practice, many academics have also consistently expressed their frustration about the perceived lack of student engagement and responsiveness to feedback. The fact that many students do not value feedback comments and are interested only in their grades (Boud & Molloy, 2012; Orsmond & Merry, 2011) represents a challenge for both instructors and students. One of the reasons behind students' disengagement could be a teacher's ambiguous and/or generic comments, which can discourage further learning (Chanock, 2000; Thompson & Lee, 2012). Comments such as 'good', 'shows insight' or 'well referenced' do not contribute to an increased understanding (Boud & Molloy, 2012). In addition, Edwards et al. (2012) emphasize "risk of miscommunication through written feedback, which misses the non-verbal element possible with richer media" (p. 98). Therefore, designed to enhance student learning, feedback must be a two-way dialogue that helps motivate students (Rønsen, 2013). On the other hand, even if students do read the feedback, they do not do much about it, which results in the wasted effort of teachers (Crisp, 2007), who already struggle with heavy teaching load and limited resources.

In order to improve the value of feedback, researchers have proposed a variety of methods for its delivery. In addition to the traditional methods of providing feedback, such as written (Evans, Hartshorn, & Strong-Krause, 2011; Han & Hyland, 2015) and oral (Lee, 2013; Lyster, 2013) feedback, thanks to continuing advances in and rapid integration of new digital technologies, which continue to propel higher education forward, new forms of feedback have emerged. Among those are audio feedback, which is more time effective (Jonsson, 2013; Lunt & Curran, 2010), easier to understand and provides greater details (Jonsson, 2013; Merry & Orsmond, 2008), as well as video-based feedback, which is considered to enhance, not replace, written feedback (Hase & Saenger, 1997), and building on relationships with students (Henderson & Phillips, 2014). Video can also be a means of providing rapid, accessible and engaging, generic feedback to large groups of students (Crook et al., 2012).

One of the latest innovative approaches to delivering feedback in the EFL context is *audio-visual feedback (AVF)*. A growing body of literature has explored the use of AVF as a supplement to written comments, which is personal, timely and meaningful (Middleton, 2011; Thompson & Lee, 2012), a method of providing individualized assessment feedback, which improves understanding and engagement and promotes active listening (Edwards et al., 2012; West & Turner, 2016), and a way of creating transparency about the professor's

evaluative process and identity (Anson, Dannels, Laboy, & Carneiro, 2016). Based on Odo and Yi's (2014) findings, AVF has "the potential to facilitate the scaffolding of academic writing development" (p. 129) of the university students in both the EFL and ESL contexts. As the findings above demonstrate, this type of feedback may be particularly helpful in EMI classes because students can not only develop their listening and writing skills but also improve their understanding of the subject matter and enhance their academic motivation (Ali, 2016; Henderson & Phillips, 2015; Perkoski, 2017).

2.3. Academic Motivation

In the area of educational psychology, motivation plays a significant role in students' learning and academic performance (Alderman, 2013; Petty, 2014). It is thought that academic achievement in higher education is affected by various factors, including studying habits, attitude, anxiety, self-confidence, academic motivation, and intelligence, to name but these few. According to Pintrich and Schunk (1995), motivation is not a product, but a process, and highly motivated students maintain high levels of self-efficacy towards tasks, have positive expectancy, put forth an effort to achieve their goals, and utilize effective strategies for learning. Since keeping university students motivated and engaged in the EMI classroom has been a challenge for instructors for many reasons (Byun, Jon & Cho, 2014; Kim, 2017; Kym & Kym, 2014; Lee & Prinsloo, 2018), new ways of integrating technology into coursework for today's tech-savvy learners could be one of the solutions. Although many researchers have found that multimedia-rich feedback fosters students' academic motivation (Ali, 2016; Henderson & Phillips, 2015; Perkoski, 2017), few have examined those effects in depth, particularly in the EMI context.

2.4. Research Purpose and Questions

Most previous research studies on screencast technology have been conducted in distance learning programs and have been generally descriptive, and focusing on learners' perceptions and attitudes towards AVF, their preferences for feedback (Henderson & Phillips, 2015; Olesova, 2011; West & Turner, 2016), as well as evaluation of various screencast software (Harper et al., 2012), with very few experiments investigating the effect of AVF on students' writing performance (Ali, 2016; Cunningham, 2015). Furthermore, this research offers some important insights into the effects AVF might have on participants' academic motivation measured by four scales (intrinsic motivation, extrinsic motivation, task value and self-efficacy). Lastly, most studies have focused on writing in the EFL context and, to our knowledge, never in EMI settings.

To fill these gaps in the empirical studies and contribute to the body of literature

examining technology-enhanced feedback on written work in the EMI classroom, the present study aims to investigate what effect AVF on content in combination with the online grammar checker tool might have on students' writing performance and motivation, by addressing the following research questions:

1. How do learners exposed to AVF perform on their written assignments in comparison with the learners exposed to traditional written feedback only?
2. What effects does AVF have on changes in learners' academic motivation?
3. What do students perceive to be the advantages and challenges of receiving AVF on their business writing assignments?

The findings of this study were expected to make a valuable contribution to the university EMI instructors by providing some insights on how to improve their EMI practices and teaching methodology, and therefore, enhance students' satisfaction with EMI courses.

3. METHOD

The study employed a mixed-method approach to answer the research questions stated above. The quantitative data were intended to provide objective results regarding the benefits of AVF and learners' motivation, while the qualitative data were expected to supply explanatory information to validate and enhance the interpretation of the quantitative results.

3.1. Participants

Participants were 67 EFL undergraduate students, who registered for two sections of a *Business Communication & Leadership* course, both taught by the researcher, in the fall semester of the 2017 academic year at a national, science-oriented university in South Korea. The university has a 100% English-medium instruction policy. One class was randomly assigned to an experimental group of 33 students (67% males, 33% females; 61% Koreans, 39% non-Koreans¹), and another one to a control group of 34 students (76% males, 24% females; 78% Koreans, 22% non-Koreans²). Out of 67 participants, 80% were sophomores and juniors, and 20% were seniors. About 70% of the participants were management and accounting & finance majors, and the remainder were engineering majors

¹ From Kazakhstan, Uzbekistan, Vietnam, Turkey, Kyrgyzstan and Mongolia.

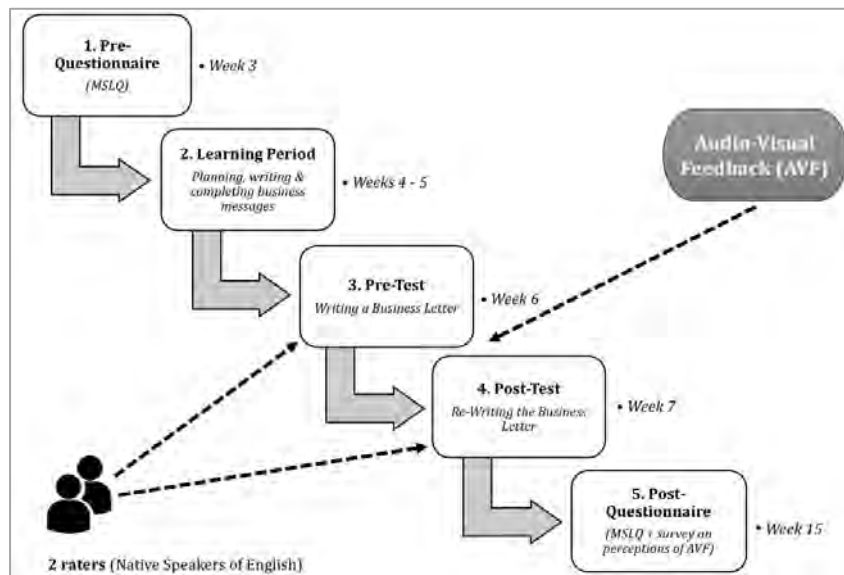
² From Kazakhstan, Tajikistan, Kyrgyzstan, and Mongolia.

(Industrial Design, Biomedical Engineering, Computer Science, etc.); 91% of the students self-reported intermediate or advanced levels of English ability. The participants were informed of the research goals and the procedure by the researcher, and consent forms to participate in the study were signed.

3.2. Research Design and Procedure

The classes met twice a week for 75 minutes each, during a regular 16-week semester. The study used a five-step process (Figure 1).

FIGURE 1
Research Procedure



First, the Motivated Strategies for Learning Questionnaire (MSLQ) (Pintrich, Smith, Garcia & McKeachie, 1991) was employed in this study to measure and compare learners' academic motivation at the beginning (week 3) and at the end (week 15) of the semester. The original MSLQ comprises 81 items and is divided into two sections: motivation and learning strategies. The motivation section assesses academic goal orientation and affective variables that are known to influence the likelihood of strategy use and type of attributions made following academic success or failure. 22 out of 31 motivational items (Table 1) selected for the present study were organized into the following four scales:

- **Intrinsic motivation** - participating in tasks for reasons: challenge, curiosity, mastery, etc.
- **Extrinsic motivation** - grades, rewards, evaluation, competition
- **Task value** - participation in terms of interest, importance, and utility, “why am I doing this?”
- **Self-efficacy** - expectancy for success based on task performance; self-appraisal of ability to master a task, confidence in skills

TABLE 1**Distribution of Items for the Motivation Scales**

Motivation Scale	Item (present study)	Item (original study)	Total
Intrinsic Motivation (IM)	1, 11, 15, 17	1, 16, 22, 24	4
Extrinsic Motivation (EM)	5, 7, 9, 21	7, 11, 13, 30	4
Task Value (TV)	2, 6, 12, 16, 18, 19	4, 10, 17, 23, 26, 27	6
Self-efficacy for Learning (SE)	3, 4, 8, 10, 13, 14, 20, 22	5, 6, 12, 15, 20, 21, 29, 31	8
Total			22

Note. Adapted from Pintrich et al. (1991).

The survey was not translated into Korean and the original English version was used. One week after administering the pre-questionnaire, all participants received the individual results indicating their motivation level against their classmates (using percentile ranking “top and bottom 25%”).

During weeks 4 and 5, participants of both the experimental and control groups were learning how to plan, write and revise business letters and emails through

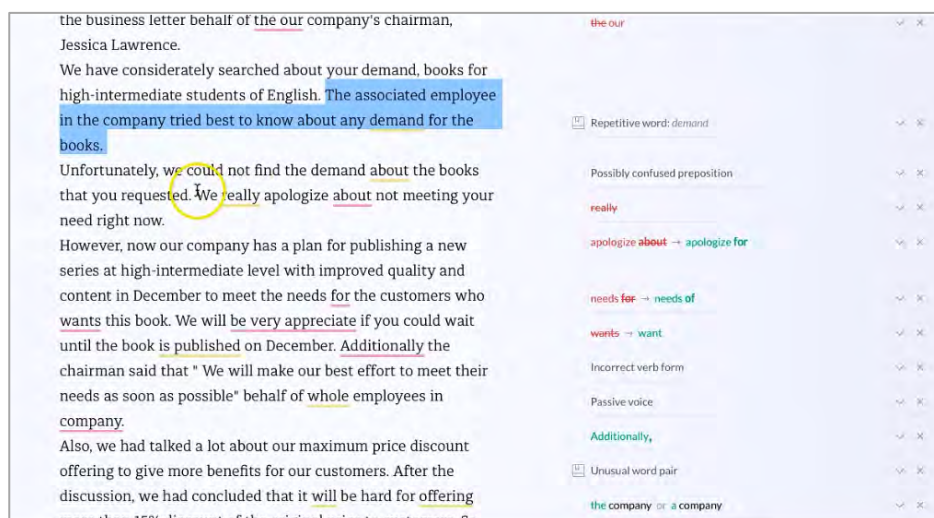
- instructor’s lectures (PowerPoint presentations) based on the course textbook
- whole-class and group discussions
- in-class group writing (using an online collaboration platform).

As a part of their coursework for a grade, participants in both groups completed the pre-test of writing (a business letter) during week 6 of the semester. They were provided with detailed instructions and a rubric designed for that purpose. The rubric contained 4 evaluation criteria: (a) structure and style, (b) vocabulary, (c) content, clarity and conciseness, and (d) technical writing skills (grammar, punctuation, spelling), as well as three levels of performance (above expectations/ meets expectations/ below expectations). After writing the first drafts in a Word document in a computer lab for one hour, students turned in their assignments via Blackboard Learn (the university’s learning management system).

The feedback process took place during the week between the pre- and post-tests, and involved viewing all submissions to gain an understanding of the general quality of written work and then grading each student's submission against assessment criteria. Video screencasts with an accompanying audio narration, which provided participants with personalized comments, were used to provide feedback focused on the ideas, content, organization, vocabulary, and layout of the business letter to the experimental group (EG). Video commentaries started by greeting an individual student and explaining the purpose of providing AVF. Next, the students were briefly introduced to *Grammarly*, an additional online grammar-checker tool (Figure 2), that was used to check their grammar mistakes, provide a clear explanation for every error found, and suggest ways to correct those mistakes. The Grammarly premium plan (Grammarly, 2018) was used in this study, since only the researcher was using it simultaneously with screencasting feedback. Initially, the researcher pointed out the positive aspects of the letter, and later highlighted the parts that needed improvement using the yellow circled cursor over the content on the screen, while also providing audio commentary (Figure 2).

FIGURE 2

A Screenshot from a Screencast Feedback Video on a Student Written Assignment



The purpose of the researcher's content feedback was not to specify all errors, but to indicate error patterns and guide students through the correction process. The video ended by providing a score for the assignment based on the evaluation rubric traits. Reviewing each student's assignment using the screencast tool took the researcher approximately 4-7

minutes depending on the student's language and writing ability. The AVF was recorded using *Screencast-O-Matic*, a free software which allows capturing the computer screen, the tutor's voice for narration, editing, and highlighting comments in a document. It is very easy to use and offers a full suite of editing tools. Moreover, its hosting service easily allows individuals to share, collaborate and set privacy options for the videos (Screencast-O-Matic, 2018). The control group (CG) received traditional, written feedback mostly on content using the MS Word Review function and without Grammarly feedback. Written feedbacks took an average of 20 minutes for each assignment.

To ensure all participants have equal Internet access and time opportunity to re-write their assignments by utilizing the feedback provided, students took the post-test in the same computer lab in the seventh week of the course. Each EG participant received a hyperlink to his/her video screencast stored in the Screencast-O-Matic cloud space and was provided with a personal passcode to avoid privacy issues. As they were sharing the same classroom, students were using headphones to listen to the audio comments. Each CG participant received individual written feedback via Blackboard. The post-test took one hour, and all submissions were made via Blackboard. Both pre- and post-tests were rated by two university professors (both native speakers of English) using the same scoring rubric. The post-questionnaires were conducted at the end of the semester (week 15).

4. RESULTS AND DISCUSSION

4.1. Quantitative Data Analysis

SPSS software was used to perform quantitative analysis of the data obtained from the tests.

4.1.1. Impact of AVF on writing performance

The first research question examined whether there was a significant difference between the control and the experimental groups' post-test writing performance in favour of the experimental group. To test the impact of AVF on students' writing performance, a between- and within-subjects experimental research design was implemented.

First, the focus was to assess inter-rater agreement by means of the Intraclass Correlation Coefficient (ICC). After running the statistical test, a high degree of reliability was found between Rater A and Rater B (two university professors, native English speakers) in evaluating the pre- and post-written assignments of both groups. The average measures ICC for the pre- and post-tests for the CG were .966 and .897, respectively;

and .931 and .917 for the EG. The average measure ICC was .827 with a 95% confidence interval from .783 to .865 ($F(162, 972) = 5.775, p < .001$). Therefore, the scores provided by the raters had a high level of internal consistency, as determined by strong ICCs.

A 2 X 2 factorial ANOVA was run to determine the effect of AVF over time on student writing performance. There was one between-subjects factor, which was the *condition* (CG and EG), and one within-subjects factor, which was *time* (pre- and post-intervention). The primary purpose of the study was to understand if there is a two-way interaction (*condition*time*, an interaction between the between-subjects and within-subjects factors); in other words, whether the post-test mean scores changed differently over time depending on feedback type (AVF for EG and written feedback for CG). There were no outliers, as assessed by box plot. The data was normally distributed, as assessed by Shapiro-Wilk's test of normality ($p > .05$). There was homogeneity of variances ($p > .05$) and covariances ($p > .05$), as assessed by Levene's test of homogeneity of variances and Box's M test, respectively. To contextualize the results, the mean scores of the pre- and post-tests of two groups (CG and EG) were compared (Table 2).

TABLE 2
Descriptive Statistics for Pre-Test and Post-Test by Research Group

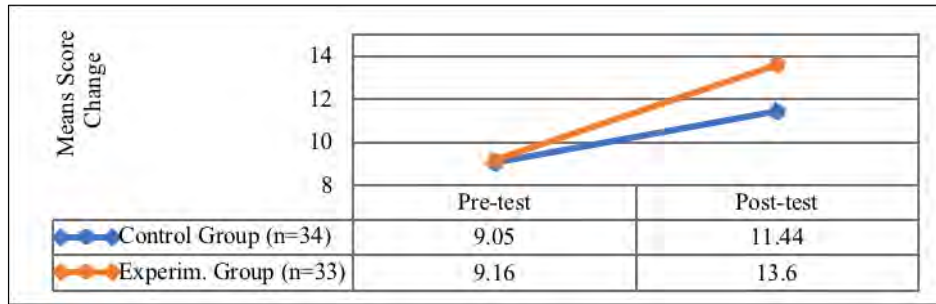
	Condition	Mean	SD	N
Pre-test	CG	9.05	2.026	34
	EG	9.16	1.539	33
	Total	9.10	1.790	67
Post-test	CG	11.44	1.307	34
	EG	13.60	1.015	33
	Total	12.50	1.594	67

Since there were only two levels of repeated measures, the Mauchly's Test of Sphericity was not conducted. Based on the results from the tests of within-subject effects, there was a statistically significant interaction between time and condition with a large effect ($F(1.000, 65.000) = 55.885, p = .000, \eta_p^2 = .462$). If we use the Greenhouse-Geisser method, the mean scores of the post-tests were significantly greater in the EG ($M = 13.60, SD = 1.015$) compared to the CG ($M = 11.44, SD = 1.307$). The output from the tests of between-subject effects also shows that there was a statistical effect for condition ($F(1, 65) = 10.859, p = .002, \eta_p^2 = .143$). This means that students in the EG outperformed their counterparts in the CG in the writing post-test, and that the effect of audio-visual feedback, as the scaffolding of academic writing development (Odo & Yi, 2014), has in the present study confirmed the results of similar studies (Edwards et al., 2012; Thompson & Lee, 2012; West & Turner, 2016).

As can be seen from Figure 3, both groups had similar mean scores in the pre-test, but in

the post-test, the EG significantly outperformed the CG.

FIGURE 3
Average Score Change in Writing Performance by Research Group



4.1.2. Changes in academic motivation

The second research question focused on the effects of AVF on changes in learners' academic motivation. The Motivated Strategies for Learning Questionnaire (MSLQ) was administered at the beginning and the end of the semester. Students were asked to rate each of the 22 motivational items using a five-point Likert scale ranging from "strongly disagree=1" to "strongly agree=5". Each of the four motivational scales (intrinsic motivation, extrinsic motivation, task value and self-efficacy) had a high level of internal consistency, as determined by a Cronbach's alpha of .733 ~ .917.

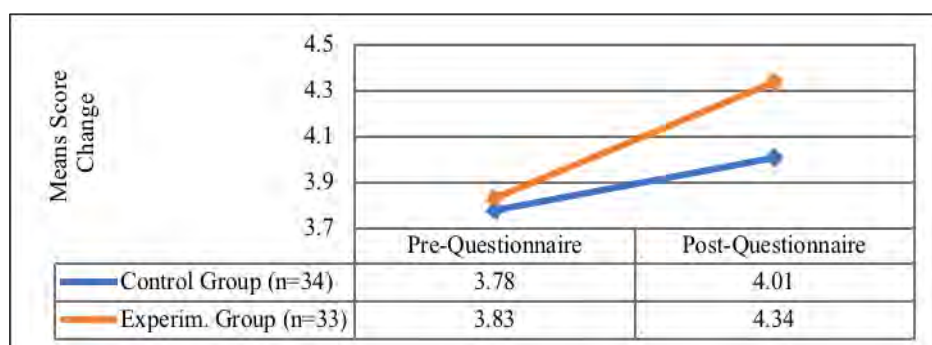
Once again, the 2 X 2 factorial ANOVA was run to determine whether AVF influences learners' academic motivation over time. The data was normally distributed, as assessed by Shapiro-Wilk's test of normality ($p > .05$). There was homogeneity of variances ($p > .05$) and covariances ($p > .05$), as assessed by Levene's test of homogeneity of variances and Box's M test, respectively. As shown in Table 3, the mean scores in the pre-questionnaire in both groups were similar.

TABLE 3
MSLQ Descriptive Statistics by Research Group

	Condition	Mean	SD	N
MSLQ-pre	CG	3.78	0.403	34
	EG	3.83	0.380	33
	Total	3.80	0.390	67
MSLQ-post	CG	4.01	0.320	34
	EG	4.34	0.371	33
	Total	4.17	0.381	67

A statistically significant difference was found between the pre-post questionnaire results of CG and EG ($F(1.000, 65.000) = 19.247, p = .000, \eta_p^2 = .228$). If we use the Greenhouse-Geisser method, the mean scores of the post-questionnaire were significantly greater in the EG ($M = 4.34, SD = .371$) compared to the CG ($M = 4.01, SD = .320$). See Figure 4.

FIGURE 4
Average Score Change in Academic Motivation by Research Group



It is important to highlight the fact that, both EG and CG had one more individual written assignment (writing a resume), which had been due during week 14. Although it was not used in the research, the same type of feedback was provided to the participants – AVF to the EG and written feedback to the CG. The participants didn't have to re-write their work, but could use the instructor's feedback for future reference. This introduces a possible confounding factor that might have contributed to the maintenance of motivation until the end of the semester.

Additionally, an independent-samples t-test was run to determine if there were differences between the two groups in each of the four motivational scales at the end of the semester (post-questionnaire). Data revealed that although EG had higher scores than CG on all scales, there was a significant effect for extrinsic motivation, $t(65) = -5.254, p < .000$, and self-efficacy, $t(65) = -2.572, p < .012$ (see Table 4). The findings suggest that AVF extrinsically motivated participants of EG to perform well in the Business Communication & Leadership course because they were being graded on it. Importantly, EG students gained confidence in performing their tasks, and accordingly, their sense of self-efficacy possibly determined "the amount of effort exerted and the persistence displayed" (as cited in Dörnyei, 2001, p. 10). Our study provides additional support for the previous research investigating the effects of multimedia-rich feedback on

general motivation (Ali, 2016; Henderson & Phillips, 2015; Perkoski, 2017), by exploring the specific types of motivation.

TABLE 4
Independent-Samples T-test Results Comparing Research Groups on Motivational Scales (Post-Questionnaire)

Motivational Scales	<i>t</i>	<i>df</i>	<i>Sig. (2-tailed)</i>	<i>MD</i>	<i>Std. Error Difference</i>
Intrinsic Motivation	-1.805	65	.076	-.22	.123
Extrinsic Motivation	-5.254	65	.000*	-.61	.116
Task Value	-1.844	65	.070	-.21	.112
Self-Efficacy	-2.572	65	.012*	-.29	.112

* $p < .05$

4.1.3. Perceptions of value of audio-visual feedback

The third research question explored learners' perceptions of AVF. In their post-questionnaires, the participants of both groups were first asked to provide their opinions on the value of the instructor's feedback in general (6 questions) and their perceptions of rubrics (3 questions) using a five-point Likert scale. See Table 5 below.

TABLE 5
Students' Perceptions of Value of Feedback and Rubrics

	Group	<i>N</i>	<i>M</i>	<i>SD</i>	<i>SEM</i>
Value of Feedback	EG	33	4.80	.279	.048
	CG	34	4.52	.590	.101
Value of Rubric	EG	33	3.97	.609	.106
	CG	34	3.49	.850	.146

An independent-samples t-test was run to determine if there were differences in the value of feedback (6 questions) between CG and EG. The results showed that although both groups had high scores on that scale, the feedback was more valuable for the EG ($M = 4.80$, $SD = .279$) than the CG ($M = 4.52$, $SD = .590$), a statistically significant difference, $M = 0.27$, 95% CI [0.05, 0.50], $t(65) = 2.412$, $p = .019$. The mean scores for the value of rubrics (3 questions) of the EG and CG were ($M = 3.97$, $SD = .609$) and ($M = 3.49$, $SD = .850$), respectively, with a statistically significant difference $M = 0.48$, 95% CI [0.12, 0.84], $t(65) = 2.648$, $p = .010$.

The next section of the post-questionnaire addressed only the EG. All respondents in the EG wrote that it was their first time receiving AVF, and when asked about their

perceptions of AVF, the responses were very positive, as the students considered it a powerful tool in learning and motivation ($M = 4.48$, $SD = .550$). See Table 6.

TABLE 6

EG Students' Perceptions of Value of AVF		(N=33)	
Question	<i>M*</i>	<i>SD</i>	
I think audio-visual feedback helped me in learning content (business communication).	4.61	.609	
I think audio-visual feedback helped me in developing my English language skills.	4.24	.902	
I think audio-visual feedback promotes active listening.	4.52	.712	
I think audio-visual feedback establishes and builds on positive relationships between me and the professor.	4.48	.755	
I think audio-visual feedback is better than written feedback (hard copy or via Blackboard Learn).	4.55	.794	
Total	4.48	.550	

* 5-point Likert scale: strongly disagree – strongly agree

Although the EG participants considered AVF particularly beneficial in learning content (business communication, in this study) ($M = 4.61$, $SD = .609$), their scores on developing English language skills ($M = 4.24$, $SD = .902$), and promoting active listening ($M = 4.52$, $SD = .712$), were also high.

4.2. Qualitative Data Analysis

For analysing and interpreting the qualitative data, the researcher used Atlas.ti to read through the EG participants' responses to the open-ended questions in the questionnaire, develop coding categories, identify patterns and trends pertaining to the provision of AVF, link the findings in a semantically meaningful way, and write a summary of the findings. The students were asked:

- What do you think of the professor's AVF on your written assignment?
- What did you like about it?
- What did you dislike?

Data from participants revealed five key themes, and the frequency of the comments was measured. According to the chart, many students mentioned the effectiveness of AVF, which accounted for 59% of all comments. The next in order are motivation and engagement, followed by the professor's concern and care. See Figure 5.

4.2.1. Effectiveness of AVF

Most of the students noted that it is *easy to understand and remember* AVF thanks to its ability to provide feedback using both auditory and visual modalities. The comments which exemplified this were:

“I liked it how I was able to take a look over whenever I want.”³

“It was really helpful and easy to understand my mistakes.”

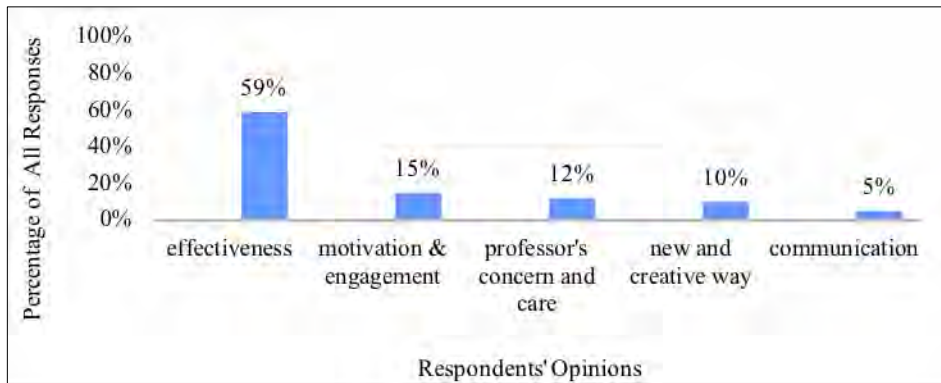
“It was easy to see where I made mistakes, and it helped me to understand more about writing assignments, contents of the class and grammar.”

“I liked that I can see my work and get feedback simultaneously.”

“It grabs more of my attention; it’s easy to concentrate, and it’s useful.”

FIGURE 5

Students’ Perceived Advantages of Receiving Audio-Visual Feedback



This strongly supports the work of West and Turner (2016), who remark that video feedback was more precise and less ambiguous than other forms of feedback, and Henderson and Phillips (2014), who believe that it is “plausible that such a detailed and richly communicative response would increase clarity of message” (p. 5). In addition, students felt that it was a good listening practice, since the AVF had been given in L2; therefore, it helps them develop an important English skill. One of the respondents wrote: “The audio-visual feedback is really good, because hearing and watching together make me understand more effectively, and I can improve my listening skills”; and another one claimed: “It is really good for me to actively listen to explanation of comments.” These

³ All quotes are verbatim.

results concur with the research of Stannard (2017), Edwards et al., (2012) and West and Turner (2016).

4.2.2. Motivation and engagement

Another theme that emerged from the responses is *motivation and engagement*, which comprised 15% of all comments. One student said that it was very motivating and engaging, and that it was his first time to wait for his feedback upload. Other comments included:

“It is very effective to improve your mistakes, and also it raises interest in a course itself.”

“I liked that the AVF was only for me, very personalized, so it motivated me.”

“It’s a very effective way to persuade students to study harder by working on their mistakes.”

Explanations for a comment such as “I like her voice tone. It’s very encouraging and motivating” could include richer communication cues (voice tone and intonation), increased clarity of message, positive encouragement, and a sense of individualization (Harper et al., 2012; Henderson & Phillips, 2014). By delivering AVF, a tutor can convey meaning in a more conversational way while using less academic language, which is very helpful in the EFL context (Edwards et al., 2012).

This theme is directly connected with the next one, which is *professor’s concern and care*, as it motivates learners to do their best on the following assignments.

4.2.3. Professor’s concern and care

A total of 12% of all comments concerned an appreciation of the teacher’s effort in building a rapport with students. One student suggested that “It shows that professor cares about students. And it’s also important for us.” Other comments demonstrating this were:

“Honestly, I am very impressed by professor’s concern about everyone. It is very nice.”

“It allows to feel pleasure that your work is not discarded, and it is evaluated and corrected.”

In their studies, a number of researchers (Henderson & Phillips, 2014; Thompson & Lee, 2012) also explain that the emotional bonding created through AVF reduces social distance,

promotes the building of stronger student-teacher relations through the teacher's cognitive engagement with the student's work, and provides learners with greater insight into the assessment process.

4.2.4. Other themes

Ten percent of all comments concerned the *newness and creativeness* of the feedback delivery method, with some students saying that it was more interesting and engaging to listen to the professor's voice than simply read written feedback. A few comments (5%) were about the enhanced communication with the professor, for instance, "It made me feel connected with professor" or "It is like a real communication between the professor and me." One of the respondents wrote that she liked it when the professor addressed her by name during AVF, and this is consistent with a number of studies, which have also shown that students like to be referred to by name, as this way they experience a greater personal connection to the teacher (Gould & Day, 2013; Knauf, 2016). Another participant noted that AVF should be implemented in other courses, too: "I think other professors should give feedback like this. Because most of times we don't get direct feedback from our professors."

4.2.5. Drawbacks of AVF

AVF, as a relatively new way of delivering interactive feedback, is not without its limitations. Some students felt they needed more clarification after watching the screencast feedback ("It was impossible to have a communication about feedback, where I tell my opinion and professor gives her opinion back again"), and a few of them had problems understanding due to their insufficient English listening skills ("It needs long time to understand the AVF because my listening skill is not good"). Low-proficiency listeners might need extra visual scaffolding and more written text to accompany AVF (Séror, 2013).

5. CONCLUSION

The results of the study suggest that screencast technology can offer particularly beneficial affordances not only for writers in the EMI classroom but also for academics who wish to deliver quality formative feedback and engage students in the learning process. Previous research on AVF has been extensively descriptive, mostly focused on preference for feedback (West & Turner, 2016) and evaluation of various screencast software (Harper et al., 2012), and has hardly involved pre- post-testing experiments. For instance, Edwards

et al. (2012) recorded student perceptions of the quality of feedback, but admitted that he didn't "measure the understanding of feedback or application to future essay assignments" (p. 101). In addition, to my knowledge, none of the existing studies have been conducted in an EMI context; neither have they explored the learners' academic motivation before and after AVF treatment, or used a combination of screencasting and grammar-checker tool to deliver feedback on content and grammar. Furthermore, in most studies, researchers have used Jing® as a tool to provide AVF (Harper et al., 2012; Woodard, 2016). However, it has multiple limitations, such as a five-minute time limit imposed by the program for each screencast, and an incapacity to edit video-recordings. This study employed Screencast-O-Matic, which is a screencasting software that allows videos for a maximum of 15 minutes and offers an unlimited-editing feature, saving to a video file and uploading to YouTube or a free cloud-based server with a password option.

Results from a mixed qualitative and quantitative approach in this descriptive-exploratory study suggest that the research participants exposed to AVF a) performed significantly better on their written assignment in comparison with the learners exposed to traditional, written feedback, and b) showed an increased academic motivation by the end of the semester. The learners also demonstrated a positive attitude towards AVF and perceived it as very innovative and effective, motivating and engaging, as well as creating a strong tutor-student bond. Furthermore, students can watch AVF multiple times by pausing and rewinding if necessary, which is very beneficial for L2 learners, and also apply the researcher's suggestions for improvement in the subsequent submission (post-test). Moreover, they can access it at any time in any location with an internet connection (Cranny, 2016). However, they also reported some disadvantages, such as one-way communication and problems with understanding due to their own insufficient English listening skills.

Not only is AVF beneficial for learners, but it also has many advantages for EMI and EFL educators. First of all, it saves a lot of time. Given that a reasonable rate of speech ranges between 140 and 160 words per minute (wpm), each student was provided with 750 words of feedback on average in a five-minute video, which is equivalent to one-and-a-half A4 pages of written comments. Thanks to screencasting technology, the amount of time the researcher usually spent on correction and feedback was reduced by more than a half. In addition, the tutor can establish a meaningful rapport with the students, as they feel that the tutor not only provides them with greater insight into the assessment process but also cares both about their written work and about them as people. Furthermore, the combination of two tech tools—Screencast-O-Matic and Grammarly—allowed the researcher to focus more on global feedback on content and organization, which is very important in the EMI context, while the students could simultaneously receive quality local feedback on grammar and mechanics.

In sum, research has shown that AVF is a positive experience for both researcher and participants. Although the adoption of technology in the EFL contexts is not without its limitations, the audio-visual feedback, which combines an animated visual with an audio presentation, proved effective in improving students' writing performance, and has a prominent potential as a new, readily available technology that can provide interactive and multimodal forms of scaffolding for academic writing development. This study can have important practical implications for researchers, educators and curriculum designers.

6. LIMITATIONS AND FURTHER RESEARCH

The present study was limited to 67 undergraduates in the EMI classroom in a Business Communication & Leadership course; therefore, findings may not be generalized or applied to other contexts. Although the sample was relatively small, the mixed method design was used in this study to complement the depth of understanding afforded by the qualitative methods (open-ended questions focusing on students' perceptions of AVF) with the breadth of understanding provided by the quantitative methods.

Another limitation is that the questionnaire did not ask the participants how many times they revisited their screencasts. This is because they were all supposed to write and re-write their assignments under the same circumstances (in the same computer lab, for 1 hour each time), and were not given the freedom to watch their AVF at home or in a dorm during the period between pre- and post-tests. They might have watched it several times later on for further improvements, though. It would be advisable to include that question in further studies, as it can, for instance, provide researchers with some insights into how to deliver AVF depending on the participants' levels of language proficiency.

In light of these research findings, EMI and EFL educators should also consider AVF to save time and generate economies of scale in the context of providing generic feedback to large groups (Crook et al., 2012). Lastly, researchers and educators should keep in mind that there is no "one size fits all" feedback model, and they can enjoy the benefits of delivering AVF if a) they are willing to provide formative assessment feedback, b) they are comfortable with technology, and c) the research participants have full and easy access to Internet.

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Applicable levels: Tertiary

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