

Screencasting to Foster Formative Assessment: Improving Undergraduate Disciplinary Writing

Action Plan for the QEP
Old Dominion University
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One page explanation:

This proposal addresses the need to improve upper-division undergraduate students' disciplinary writing by focusing on the relationship between feedback and development. Financial and technological support is needed in order to train faculty who teach upper-level, writing intensive (W) courses in how to use screencast technology to provide formative feedback on writing. The vision for this plan is based on research on the efficacy of screencast feedback as part of a framework designed to encourage student reflection during the writing process.

With screencast feedback, an instructor provides students with video captures that allow students to see their papers from the vantage point of the instructor's monitor and to hear spoken comments. Students can see the instructor's cursor movements, scrolling, visits to websites outside the students' texts, and pre-created or on-the-fly annotations. Screencast feedback will be used as part of a larger, structured plan involving formative assessment strategies. Unlike summative assessment meant to evaluate performance at the end of a process (usually when grades are assigned), formative assessments include feedback on material to build mastery.

Specific strategies that will be taught include (a) selection, management, and organization of screencast software; (b) work flow and best practices for screencast performance; (c) scaffolding techniques for formative assessment, including the use of student reflective writings, especially what Yancey calls *constructive reflection*, which comes "between and among the drafts" (51).

Three instructors will lead this project, Drs. Tim Bostic, Elizabeth Vincelette (English Department), and Jennifer Kidd (Education). The study will recruit ten faculty from across the university who teach writing intensive courses in their disciplines; they will pilot using screencasts to provide formative feedback on student papers. The proposed timeline, including recruitment of these instructors, will begin in May of 2013, with final selections made by June.

In August, we will hold several training sessions. In the fall of 2013, instructors will use screencasting for formative feedback and perform pre- and post- assessments. During the spring of 2014, we will analyze the data, report on findings, and develop a plan for scaling-up use of screencasting and formative assessment at ODU.

The assessment plan will include collection of quantitative and qualitative data including pre- and post-intervention student writing scores using the QEP rubric, two survey instruments, key-informant interviews, and focus groups. Pre- and post- surveys of students will include questions regarding feedback types, feedback delivery mechanisms, and student self-evaluation of writing.

Key informant interviews of the instructors and focus groups of students will be conducted to ascertain the efficacy of this formative feedback method. This assessment plan incorporates all aspects of the QEP rubric, with particular emphasis on the sixth item, student reflection and evaluation.

Feedback is an integral part of every course offered at ODU. Training on screencast feedback and formative assessment can be adapted widely. Screencasting is transferable and useful for face-to-face, online, or hybrid classes because of its asynchronous delivery. Because of the flexibility of this method, we envision our proposal as a pilot to be continued by faculty throughout the university, and anticipate further support to train instructors across campus. In addition, findings will be disseminated at professional conferences and in scholarly articles.

Detailed explanation.

Reasoning process and overall vision.

Because of the auditory and visual combination, a five-minute screencast allows more commentary than could reasonably be written on a student paper, whether by hand or electronically. Furthermore, in-depth explanations are augmented by the instructor's tone of voice, something impossible to provide to students with written comments alone. This method of feedback is multimodal; Kress and van Leeuwen (2001) defined *multimodality* as "the use of several semiotic modes in the design of a semiotic product or event, together with the particular way in which these modes are combined" (p. 20). Multimodal texts do not privilege alphabetic writing, but instead include a number of expressions, or modes, such as print, sound, and image. Today's students live in a world where they are immersed in multi-modal messages, and if we can find a way to make our assessments more akin to the format with which they are most comfortable, then it may in turn be more effective. For the purposes of this proposal, the screencast serves as a multimodal form of feedback.

In particular, studies indicate that students prefer multimodal feedback over other sorts of communication from their instructors (Ice, Swan, Diaz, Kupczynski, & Swan-Dagen, 2010; Crews and Wilkinson, 2009; Oomen-Early, Bold, Siginston, Gallien, & Anderson, 2008; Simonsson, Kupczynski, Ice, & Pankake, 2009; Greivenkamp, Stoll, & Johnston, 2009; Wilkinson, Crews, & Kinley, 2008). Additionally, students consider electronic feedback as more valid and valuable than handwritten comments, as indicated in a case study by Denton, Madden, Roberts, and Rowe (2008). In particular, the popular grading technique of using Track Changes in Word has been found to hinder the learning process because of instructors' tendency to focus on editing instead of providing explanations (Deans, 2009). Our learning outcomes are relevant to the problem that most feedback methods do not supply students with the same level of detail possible from screencasts. A pilot study conducted last year at Old Dominion suggests students have an overwhelmingly positive response to screencast assessment (Vincelette, 2013; Vincelette and Bostic, 2013; Kidd, 2012).

The theoretical approach to the problem builds upon Crews and Wilkinson's (2010) report on students' perceived preference for visual and auditory assessment, as well as Ice et al.'s (2010) findings regarding students' perceptions of the value and efficacy of auditory and text-based feedback modalities. Screencast assessment also addresses Stern and Solomon's (2006) three principles for effective feedback (including global, middle-level, and micro-level comment categories).

Strategies to improve upper-division undergraduate students' disciplinary writing.

Screencast feedback will be used as part of a larger, structured plan involving formative assessment strategies. Unlike summative assessment, which is meant to evaluate performance at the end of a process (usually when grades are assigned), formative assessments include feedback on material intended to build mastery. For writing, that includes feedback on drafts. Gikandi, Morrow, and Davis (2011) offer a concise definition of formative assessment as assessment that supports learning, as opposed to grading of a product. Instructors will use screencasting to provide audio and visual feedback on student drafts, providing commentary on strengths and weaknesses in writing, and students will reflect upon those comments by creating brief memos of

response, the type of writing that is “a place where students can speak on their own behalf *so that they too can begin to see how they learn*” (Yancey, 1998, p. 42).

Specific strategies taught to faculty include (a) management and organization of screencast software; (b) work flow and best practices for screencast performance; (c) techniques for scaffolding formative assessment, including the use of student reflective writings, especially what Yancey calls *constructive reflection*, which comes “between and among the drafts” (51).

Assessment plan.

The assessment plan outlined below incorporates all aspects of the QEP rubric, with particular emphasis on the sixth item, which notes that students should be able to reflect or evaluate what was learned. The learning outcomes for this proposal overlap with those of the QEP.

Specifically, we aim to incorporate the following learning outcomes:

- improvement in student writing via meaningful, effective feedback
- increased transparency of feedback
- increased revisions by students based on instructor feedback about writing
- enrichment of student reflection during the writing process
- increased engagement of students in the writing process
- support for multiple learning styles
- improved quality of teacher feedback
- reinforcement of classroom writing lessons
- integration of screencast into classroom lessons, portfolio assessment, or other assignments (intertwining assessment and teaching)

A pre-test post-test quasi-experimental design will be employed to assess the efficacy of the interventions on students’ writing performance (see Figure 1). Two groups will be used so the effects of each intervention can be measured separately in addition to the two interventions used simultaneously. This will help the researchers understand two issues: (1) what effect does multimodal, rather than text-based, feedback have on students’ writing; and, (2) how significant is the student reflection process in students’ use of faculty feedback to improve their writing? Data will be analyzed to compare pre and post-test scores after each intervention. Because the same rubric will be used to score the papers at both the pre- and post- tests, it will be possible to estimate how much improvement occurred in student writing due to each intervention. Comparisons can also be made between the interventions, using pre-test scores as covariates. This will provide evidence to the relative effects of the interventions: multimodal formative feedback alone, multimodal formative feedback with student reflection, and text-based formative feedback with student reflection.

	Paper 1			Paper 2		
	Pre-test	Intervention	Outcome	Pre-test	Intervention	Outcome
Group 1	Instructor “grades” student draft based on QEP rubric	Instructor provides formative feedback on DRAFT via Screencast	Instructor grades final paper with QEP rubric Pre and post test scores are compared to examine effects of formative feedback via screencast	Instructor “grades” student draft based on QEP rubric	Instructor provides formative feedback on DRAFT via Screencast + Student submits reflection based on feedback received	Instructor grades final paper with QEP rubric Pre and post test scores are compared to examine combined effects of formative feedback via screencast + student reflection
Group 2	Instructor “grades” student draft based on QEP rubric	Instructor provides formative text-based feedback on DRAFT + Student submits reflection based on feedback received	Instructor grades final paper with QEP rubric Pre and post test scores are compared to examine effects of text-based formative feedback + student reflection	Instructor “grades” student draft based on QEP rubric	Instructor provides formative feedback on DRAFT via Screencast + Student submits reflection based on feedback received	Instructor grades final paper with QEP rubric Pre and post test scores are compared to examine effects of formative feedback via screencast + student reflection

(Figure 1: Pre-test and post-test quasi-experimental research design.)

A group of approximately 200 students will be surveyed, the ten instructors will serve as key informants in interviews, and three focus groups of students will be interviewed in order to ascertain the efficacy of the strategy in terms of improving disciplinary writing.

The post-test survey of students will consist of 20 questions that make up four constructs of interest: how attentive and engaged the students were; the ability to incorporate the revisions suggestion; their perceptions of the feedback quality and quantity; and their preferences for using this type of feedback as opposed to the more traditional written comments given by instructors. The constructs will be measured on a 4-point Likert-type scale with responses ranging from strongly agree to strongly disagree. Additionally, students will be asked how many times they viewed the video of their paper.

During the same semester that students respond to the surveys, semi-structured individual interviews will be conducted with the ten instructors. These key informant interviews of the instructors trained in screencast feedback will ascertain the efficacy of this formative feedback method, in particular whether or not its use, along with student reflection, improves student writing in upper-level disciplinary writing.

Also during that semester, three focus groups of eight students each will be interviewed. Students will be recruited from the instructors' classes.

Implications beyond the scope of proposed activities.

Finally, before outlining our proposed budget, we would like to suggest the flexibility and efficacy of using screencasting for formative feedback. Furthermore, the method has other applications, such as for summative feedback (use for grading); peer-to-peer feedback; student-to-instructor feedback exchanges; tutorials; and longer lectures as part of a “flipping the classroom” teaching process. These methods can be adapted widely at ODU, including in face-to-face, online, or hybrid classes because of its asynchronous delivery. At the end of this project, we hope to garner further support to train instructors across campus. In addition, findings will be disseminated at professional conferences and in scholarly articles; two articles on using screencasting for feedback are forthcoming from the investigators of this proposal (Vincelette, 2012; Vincelette and Bostic, 2013, forthcoming) and one more is currently being drafted.

Budget Plan and Rationale:
Itemized Budget Plan

Budget Item (equipment, personnel, software, etc.)	Qty	Total Cost	Amount from QEP	Amount from Other Source
Jing accounts (free)	10	0.00	0.00	0.00
Screencast.com accounts (9.95 x 10 months=99.50)	10	995.00	597.00	0.00
USB headsets (28.96 each)	10	289.60	289.60	0.00
Stipends for instructors (\$500 each)	10	5000.00	5000.00	0.00
Stipends for PIs for training faculty during summer, consulting, and data analysis (\$2000 each)	3	6000.00	6000.00	0.00
Aramark gift cards for student focus group participants (10 each)	24	240.00	240.00	
transcriptions of interviews from SSRC	1	800.00	800.00	0.00
Total		13,324.60		

Budget Rationale:

Because of its ease of use and free cost, Jing has been selected as the screencasting software. Although ODU has other available software, there are several benefits to using Jing. For example, compared to AdobeConnect, Jing is simpler to learn and use; the Connect software, in fact, does more than is needed. Dr. Vincelette and Dr. Kidd have successfully used Jing to create screencast assessment of student writing for several years and have honed the work flow to a manageable, teachable number of steps.

Each 5-minute Jing screencast in the MP4 format takes up 12.0 MB of storage space, and to be able to create an MP4, instructors would need to purchase software. Therefore, we would like to suggest the use of free software, which creates FLV files; the screencast is accessible by students and the instructor via a link to online storage. The screencasts could easily be downloaded and saved by recipients in their own storage space. For this process, we recommend subscriptions to screencast.com for each instructor participating. The account will allow for a large number of screencasts to be stored during the course of a semester without the instructor having to delete any to create more space; therefore, students will be able to access screencasts from the beginning of the semester through the end of the semester.

An important part of creating a high-quality screencast involves uncluttered sound. Two years of experimenting with screencasting have suggested that headsets provide screencasters with the best quality sound. Thus, headsets are in our budget.

In addition, our budget includes stipends for instructors participating in order to compensate them for their time, particularly during summer meetings and training. Likewise, the investigators will need to meet a number of times during the summer and prepare training materials and then hold the training sessions; compensation is requested for this, as well as for data analysis during the summer after the study ends. A small amount for Aramark food gift cards is requested as an incentive for students to participate in the focus groups. The other item included in the budget is for having transcripts made of our interviews of participants transcribed at the Social Science Research Center.

Timeline and Impact.

The proposed timeline is as follows:

- recruitment of instructors in May of 2013
- final selections made by June
- training sessions held in August
- student survey at start of semester in fall of 2013
- instructor use of screencasting for formative feedback in fall of 2013
- student focus groups in fall of 2013 at the end of November and first week of December
- student survey at end of semester in fall of 2013
- analysis of data, reporting on findings, and development of plan for scaling-up use of screencasting and formative assessment at ODU in the spring of 2014

Conclusion.

Feedback, an integral part of every course at ODU, affects all students. This study will directly affect a minimum of 200 students. Furthermore, training on screencast feedback and formative assessment can be adapted widely. Screencasting is transferable and useful for face-to-face, online, or hybrid classes because of its asynchronous delivery. Because of the flexibility of this method, we envision our proposal as a pilot to be continued by faculty throughout the university, and anticipate further support to train instructors across campus. In addition, findings will be disseminated at professional conferences and in scholarly articles.

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