

Audiotape Feedback for Essays in Distance Education

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ABSTRACT: Students who were required to write three short essays for a university level course on photochemistry at the Open university of the Netherlands received either audio-cassette or written feedback on their essays. The students receiving the audio feedback described their experience as personal, enjoyable, complete and clear. Those receiving written feedback described their experience as adequate. The amount of time spent by instructors supplying the feedback differed minimally ($X_{\text{audio}} = 53$ minutes per student; $X_{\text{written}} = 49$ minutes) with the major difference lying in the amount of time spent in preparation. This difference, possibly attributable to novelty with audio as a mode for feedback, was not significant. The amount communicated to the students with audio feedback (per instructor) was significantly greater than the amount communicated with written feedback. There was no difference in the final grades for the two groups of students.

The Open university of the Netherlands (OuN) is an institution for open higher distance learning. It offers university level courses to its students in seven different subject areas. Its students may study when they want to and where they want to. This philosophy of freedom precludes requiring students to be at a certain place at a certain time for lessons or tutoring. This poses a problem for courses in which assignments need to be instructor graded and accompanied by instructor feedback when returned to the student. This problem is compounded by the fact that upper level courses may have as few as one part-time instructor for the whole of the Netherlands. A final problem is the isolation and solitude experienced by students at such an institution for distance education. The students have no structural contact with fellow students and practically no personal contact with the

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course instructors. The OuN tries constantly to find simple ways to alleviate these feelings and to make its courses more personal for its students. As you can see, tutoring at a distance is a philosophical as well as a logistical question.

A graduate level course in photochemistry (Meester & Visser, 1990) required students to produce three essays (800, 1000 and 2500 words). The grades obtained on the essays formed the basis of the final grade for the course. A problem which the course developers needed to overcome was how to give effective feedback with a minimum of time and effort. The course team decided to experiment with the use of audiotape feedback as an alternative to written feedback.

Recent investigations with audiotape feedback show that this form of feedback appears to be preferred by students while not increasing the workload of the instructors. Logan, Logan, Fuller and Denehy (1976) in a study using university level dental exams stated that students consider audiotape feedback to be more informative, complete and obtainable than written feedback. This form of feedback also seemed more personalized than the usual written comments. They noted further that student achievement "significantly increased following an experimental procedure using audiotape cassette feedback." A sobering comment by the researchers was that instructors using the audio procedure for the first time reported it to be "initially cumbersome and time-consuming."

Cryer and Kaikumba (1987) discussed their findings from two different points of view, that of the "giver of feedback" and that of the "receiver of feedback." From the point of view of the giver of feedback, they noted that audio feedback:

- saves time because speaking is quicker than writing,
- avoids the stress of having to structure a written argument, and
- is more informative because intonation can be varied (criticism is softened, encouragement is sincere, etc.).

From the point of view of the receiver of feedback, they note that audio feedback:

- is less cryptic than written feedback,
- is motivating as a result of vocal intonation,
- is less "fleeting" than face-to-face meetings,
- motivates quick revision through its "extent and detail of advice,"

- gives a feeling of security in that it can be replayed as many times as necessary, and
- gives a feeling of relationship with the giver.

Kelly and Ryan (1984) in their guide for making instructor tapes at the British Open University noted that one of the strengths of the human voice over the written word is that it conveys tone as well as content. They stated that being "supportive, encouraging, friendly and reassuring may be as valuable to students who are feeling isolated or lacking in confidence as the formal content" of a tape. Kelly and Ryan also echoed Logan et al.'s drawback that since most instructors are unfamiliar with the technique, it requires some time to become familiar with the medium and feel confident in making tapes.

Carson and McTasney (1978) in a study at the United States Air Force Academy found that audiotape feedback was perceived by students as more complete, more intelligible and more personal than written feedback. They also found that students appreciated the fact that they could read the passage in question in their own essay while listening to the comments of the instructor.

Finally, to quote Nicole Durbridge (1981) of the British Open University:

Student feedback on OU-courses suggests that tutors [instructors] who adopt a friendly, personal approach in their cassette teaching are very highly regarded. Such a style appears to be educationally effective for the way it can evolve the sense of a one-to-one tutorial for many listeners, and appears to draw even the distant student to active and participant work rather than to passive and unthinking listening. It is then, the fact of modulation which distinguishes a spoken text from a written text and which can provide it with educational advantages. (p. 6)

The Experiment

Subjects

Twelve students (three female, nine male) were recruited through the OuN newspaper *Modulair* to participate in the formative evaluation of the course *Photochemistry - Light: chemical change, life and environment*.

Participants knew that their grade would be based upon success on

two short and one long essay and that the essays would be graded and returned with feedback. They did not know that the feedback would be either written or audiotaped and that they would be randomly assigned to one of the two conditions. Six subjects thus received audiotape feedback and six received written feedback. Of the original twelve, ten completed the course.

Instructors

Two instructors (one female, one male) who also developed the course acted as instructors. Though each instructor read all of the essays and gave each essay a grade, students received feedback from only one of the instructors.

Student materials

Students received course content materials, an assignment book (containing study instructions and the three essay assignments) and a handbook for writing essays. They also received assessment questionnaires and study-time logbooks for the formative evaluation of the course and a final evaluation questionnaire on specific aspects of the course such as language, assignments, feedback, etc.

Instructor materials

Instructors received a voice actuated cassette recorder, audio-cassettes, guidelines for evaluating and commenting on essays, guidelines for preparing written and audiotape feedback, protocols for grading essays (answer keys) and a log to record the time spent evaluating essays and producing feedback. The log allowed the instructors to record the amount of time spent: reading and annotating an essay, preparing feedback and producing feedback for each essay.

Method/Design

The course *Photochemistry* calls for students to submit three essays on different aspects of photochemistry to a course instructor for evaluation. The grades received for these essays are weighted (in a ratio of 1:2:7) and form the final grade in the course. Because taking a course (including the *writing* of the essays) is an educational experience, it was decided that the subjects would receive feedback about their

efforts on their essays within a week of their submission. The first two essays were meant to be a learning experience. This explains the low weighting they received in the final grade. A subject could either accept the grade received or could revise the essay on the basis of the feedback received. The subject could then resubmit the essay for a new grade (and receive new feedback). Only two subjects made use of this possibility. Both subjects, members of the audio feedback group, did this on the first essay.

Half of the subjects participating in the formative evaluation of the course received audiotape feedback on their essays; the other half received written feedback. Neither group knew that the other existed and thus that a different mode of feedback existed. Because of the near 100% saturation of cassette players among the OuN students, the use of audiotape feedback was not considered a problem (Van Meurs, 1988).

The subjects mailed their essays to one of the researchers (the distributor) who made a copy and then forwarded them to both of the instructors with instructions as to whether the essay should receive audiotape or written feedback. Each instructor graded all of the essays, but only one of the instructors (the grader) sent (via the distributor) a corrected essay with grade and feedback back to the student. The other instructor functioned only as a "reader." The two instructors alternated in the role of grader and reader. In this way the researchers also gained data for determining the interrater reliability and for improvement of the answer keys without confusing the students with differing feedback on each essay.

The instructors alternated the type of feedback which they gave such that no students received feedback on two consecutive essays from the same instructor. For example Student 1 received feedback from Instructor 1 on Essay 1, Instructor 2 on Essay 2 and Instructor 1 on Essay 3, Student 2 received feedback from Instructor 2 on Essay 1, Instructor 1 on Essay 2 and Instructor 2 on Essay 3. The feedback scheme is shown in Table 1. This means that each instructor was responsible for producing nine audiotape feedbacks and nine written feedbacks. In this way, we hoped to avoid a possible treatment contamination which could occur either if one instructor made all of the audiotape feedback and the other all of the written feedback or if a subject received feedback from only one instructor.

The distributor kept copies of the essays, the corrected essays, the written feedback and the audiotape feedback. Thus the quality and quantity of both the essays and the feedback could be studied.

Table 1
Feedback Scheme

<i>Subject</i>	<i>Feedback type</i>	<i>Grader on</i>			<i>Reader on</i>		
		<i>Essay 1</i>	<i>Essay 2</i>	<i>Essay 3</i>	<i>Essay 1</i>	<i>Essay 2</i>	<i>Essay 3</i>
1, 3, 5	audio	T1	T2	T1	T2	T1	T2
2, 4, 6	audio	T2	T1	T2	T1	T2	T1
7, 9, 11	written	T1	T2	T1	T2	T1	T2
8, 10, 12	written	T2	T1	T2	T1	T2	T1

Note: T1 is Instructor 1, T2 is Instructor 2. When T1 is the grader, T2 is the reader and vice versa.

During the course of their study, subjects were required to respond to short questionnaires about the materials, essay assignments and feedback (one open-ended question on each topic). After completing their third essay, the subjects received a more detailed final evaluation questionnaire and were required to attend an evaluation session. This questionnaire contained semantic differential scales, multiple choice questions and open questions dealing with all aspects of the course and course materials.

Results

Quantitative analysis

The average amount of time spent by the instructors reading and correcting the essays, preparing the feedback and producing the feedback was 53 minutes per subject for the audiotape feedback and 49 minutes for the written feedback. The difference was not significant ($t = .775, p > .40$). The time spent, broken down into its component parts can be seen in Table 2.

This result is especially noteworthy when the length of the feedback is taken into account. Table 3 gives the average length of the feedback

Table 2
Average Time Spent per Essay (in Minutes)

	<i>Audiotape</i>			<i>Written</i>		
	<i>T1</i>	<i>T2</i>	<i>AV*</i>	<i>T1</i>	<i>T2</i>	<i>AV*</i>
Correction and annotation	16	30	24	13	30	23
Preparation of feedback	19	12	15	13	11	12
Production of feedback	21	9	14	22	9	14
Total	56	51	53	48	50	49

Note: *AV = Average of the two instructors

Table 3
Average Length of the Feedback in Words

	<i>Audiotape</i>	<i>Written</i>
Instructor 1	808	452*
Instructor 2	196	120**
Combined average	502	280***

Note: * $t = 4.98, p < .005$; ** $t = 2.19, p < .05$; ***n.s.

for each of the instructors separately and for the instructors together for the two feedback modes.

As can be seen, the length of the audiotape feedback is 1.7 times that of the written feedback. Thus, each instructor was able to tell the students a significantly larger amount in essentially the same amount of time. The combined average for audiotape feedback was not significantly greater than that for the written feedback. This is due to the large difference in the length of the feedback between the instructors (causing a very large variance and thus depressing the value of t). This difference in style was noted by the students and is discussed in the next session.

Finally, the grades given by the instructors did not differ as a result of the feedback condition. The average final grade for the subjects receiving audio feedback was 7.2, while the average for the subjects receiving written feedback was 7.0. This difference was not significant ($t = .57, p > .60$).

Qualitative analysis

The answers on the questionnaires which the subjects completed while studying the course were markedly different between the audiotape and the written feedback groups. Subjects receiving written feedback characterized the feedback as adequate, useful and helpful. Subjects receiving audiotape feedback characterized the feedback as "more complete and more valuable" than a letter, *very* lucid, "the only thing better is a telephone call," and *very* useful. Both forms of feedback were appreciated, but the spontaneous use of qualifying adjectives (more, very) by subjects in the audiotape condition was not present in the responses of subjects in the written feedback condition.

The qualitative difference in evaluation was also seen in the final evaluation session. Subjects in the written condition never went further than qualifying the feedback as "adequate" or "useful." Subjects in the audiotape condition spontaneously noted:

- It was an advantage to hear the pronunciation of the terminology.
- The intonation of the instructor made the feedback seem personal.
- It was an advantage to be able to reread the essay while listening to the comments.
- It was clearer than written feedback usually is.
- It was refreshing [Hawthorne effect?]

More sobering were comments such as:

- The difference in style between the instructors was quite large.
- The background noise was sometimes a problem.

The semantic differential scales in the final evaluation questionnaire showed similar trends. While both groups appreciated the feedback, the audiotape feedback was consistently considered more personal, more pleasant and more lucid than the written feedback.

Discussion

Although this study was small, there are a number of tentative conclusions which may be made. First of all, audiotape feedback was positively received by the student. Although the design of the study did not allow for subjects to receive and compare both types of feedback (something which a follow up experiment can do), both the spontaneous comments as well as the results of the semantic differential analysis point to a clear cut preference for audiotape feedback.

The time necessary for making audiotape feedback was statistically equivalent to that of the written feedback. If other researchers are correct, then it is possible that with instructor practice, audiotape feedback could become less time consuming than written feedback.

It is important to consider that either an increase in efficiency with effectiveness remaining static or an increase in effectiveness without a concomitant increase in costs (efficiency remaining static) is an improvement for the quality of the course. In this study we note an increase in appreciation for the feedback (also in the estimation of its future worth) without a concomitant increase in costs. In other words, students liked it more, but it did not cost more. A future study might appraise whether the increase in quality of essays (represented by higher grades) reported by other researchers also occurs in a Dutch language distance education setting or appraise whether practice by instructors leads to a decrease in time spent making feedback, or both. If either occurs, then there is no reason to hesitate in implementing this form of feedback.

One of the instructors offered a possibility of using neither of the feedback modes studied, but rather to use telephone feedback preceded by written feedback. In this way, the student could enter into a dialogue with the instructor. This idea was positively received by the

subjects. The initial enthusiasm was slightly tempered when it came to light during discussion that such a scheme could be:

- logistically hard to achieve. It is difficult to arrange times when the instructor could reach the student,
- time consuming. The instructor not only needs to prepare and produce written feedback, but she/he also needs to spend time preparing the phone call and speaking with the student. A conservative estimate based upon the figures in Table 2 (half of the preparation time of audiotape feedback plus the production time) would be an increase of 30 minutes per student per essay. This estimate does not include the extra time that a dialogue between student *and* instructor would add,
- often unnecessary. If there is little to comment on and/or the commentary is clear, a telephone call would only be redundant.

An alternative whereby the course material makes emphatically clear that students call the instructor if they need explanation of the commentary, was in the end considered a good compromise.

The two problems which the subjects raised, namely, that there was a notable difference in style between instructors and that the background noise was distracting are easily remedied.

In the case of the former, more detailed instruction and training on how to prepare and produce feedback would partially eliminate this problem. We say "partially" because there will always be differences in style as long as there are differences in people.

The latter problem can be remedied by suggesting instructors seek out a quieter place to record feedback, preferably an acoustically sound room away from traffic.

Conclusions

The results of this study point to a positive approach to the use of audiotape feedback, for the correction of and commentary on students' essays, especially in distance education. In order to get "the bugs out" of this approach to instruction, a follow up study is in order with a larger group of students, better trained instructors and a design in which the students themselves can compare the feedback forms.

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