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PROVIDING EFFECTIVE FEEDBACK ONLINE

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In the context of teaching and learning, both students and teachers give and receive feedback. A course should provide a non-threatening environment where students can express themselves to the instructor and other students. Students need continuing and timely feedback about their work and their performance. Using effective feedback helps ensure that students' needs are being met and that they engage in high quality learning.

The focus of this paper is to explore *formative feedback* where the main purpose is to instruct and help the learner have a greater opportunity to learn in the future. Examples, lessons learnt, and best practices are included from the author's experience of teaching online, and from nearly 200 online teachers. This paper is mainly concerned with providing *feedback to students*, and as such, feedback is a response to a learner's work or activity that helps the learner *understand* more clearly his or her progress, or serves to help the learner *improve* his or her learning or performance. This can be communication between the instructor and the student, among the students, or self-reflection and self-evaluation of the student in terms of his or her strengths and aspects related to improvement regarding learning activities. To be effective, feedback provided to students should focus on closing the gap between the student's present thinking or performance and the desired goal. Ongoing *formative assessment* should be undertaken during the course or the programme.

Introduction

As online instructors we are constantly seeking to improve our students' learning experiences. After a number of conversations around the topic of providing feedback to students, we decided to elicit the experiences of a number of other online faculty. Their comments illustrate the points made in the following paper.

Providing Effective Feedback Online

Feedback can be defined as "1) the return of a portion of the output of a process or system to the input, especially when used to maintain performance or to control a system or process, or 2) the return of information about the result of a process or activity; an evaluative response" (American Heritage Dictionary, 2000). In essence, feedback in the context of this paper, is the student's outputs returned to them, with an evaluative response. This output from the student can be "verbal", as in their participation in discussion, or in any of the traditional forms of recording output used for the assessment of student learning (essays, papers, reports, portfolios, spreadsheets, presentations etc.). The *evaluative response* can come from other students, or the instructor, or both, depending on the design of the course. Feedback, in this sense, is a communication to the learner, regarding the extent to which they are meeting the learning outcomes of the course. *Formative feedback* is designed to assist the students to adjust their progress towards the learning outcomes; *summative feedback* tells them the extent to which their final performances met those outcomes. When using summative feedback for motivational purposes, it is often most effective when given immediately *after* the performance, test, quiz, etc.

Obviously not all responses to students meet our definition of *feedback* and this is sometimes confusing to instructors. For instance, we have heard an instructor talk about "feedback" as being the part of her syllabus in the sections that stated her expectations for the course. While providing critical information for students, this is not *feedback* since at that time most students read the syllabus, they have not produced any products on which feedback can be given. We have heard other instructors refer to their FAQ (frequently asked questions) file as feedback. It is a communication with students about the course and its content, but it is not feedback in the sense used in this paper. Many instructors believe that showing warmth, a personal touch, sympathy, empathy, being humane, and having an

enjoyable course provides the student with valuable feedback on their learning. But these are faculty initiated behaviors and states of mind, independent of any outputs from the students. Attempts at connecting people or building community, or activities that show respect for the individual, can be very important and can occur while giving feedback, but since they are independent of student effort and outputs, we would not call them feedback.

Summative feedback, is generally an evaluation of assessment data collected at the conclusion of a learning activity or term such as a quiz or test, and has as its main purpose, an indication of the degree to which the major instructional outcomes were mastered by the student. A prime example is final grades for a particular course. Summative feedback or evaluation may be used to address: 1) student reaction, 2) learning gains, 3) performance changes, 4) education system changes, and 5) impact on the greater society (RWK Enterprises, Inc., n.d.).

The focus of this paper, however, is to explore the role of *formative feedback* where the main purpose is to instruct and to help the learner have a greater opportunity to benefit from and succeed with subsequent learning within the ongoing learning term. Ongoing *formative assessment* should be undertaken during the learning event, term, course or program. The challenge for online learning facilitators is to find ways to actively clarify, and then challenge learners' ideas, providing them with feedback on progress, while also leading them to the next learning step. The learner can use formative feedback to revise and correct learning gaps and misconceptions. The teacher is able to use the results of formative assessment to adjust content and activities to better meet the learning needs of the students (New Zealand Council for Educational Research 2004).

Feedback in Learning

The benefits to be gained from feedback are potentially profound:

> Both Hattie (1999) and Black and William (1998a, 1998b) suggest that the average effect size, for feedback on student achievement ranges between 0.4 and 1.0, depending on the type of feedback. For example, comparing the results of some 180,000 studies, Hattie found that diagnosis feedback (pointing out student errors) had an average effect size of 0.52, while corrective feedback (pointing out errors and suggesting how they might be overcome) had an effect size of 0.92 (University of Otago, 2001, p. 3).[1]

Feedback can have such a strong influence on a student's learning that it lead Hattie (1999) to state that it is "the most powerful single moderator that enhances achievement" (p. 13). This is borne out by our observation that students are anxious and eager for feedback in online courses. They cannot see their peers and have little communication with them, against which to gauge their own progress.

Feedback for motivation

Feedback to students needs to be specific, not general and it should reward appropriate performances. The instructor's interest and attention, encapsulated in specific feedback directed at the students' outputs, can be perceived as a "reward" and increase the likelihood that students will spend more time on the task. Feedback with motivational intent raises a positive expectancy in the student that they can succeed, and recognizes their dedication and hard work, providing positive reinforcement and creating an intrinsically rewarding feedback loop (Keller & Suzuki, 1988).

> My feedback intends to be motivational, even if not obviously so, and most of it occurs in the course conferences. I rarely directly contradict anyone's contribution. I may add an additional perspective, raise a question, or suggest that the contributor examine some readings or issues they have overlooked. I never tell someone they are wrong, since I wish to encourage conferencing activity. However, I do compliment students for especially insightful

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contributions. There is one exception to this: I will criticize a contribution that is merely a summary -- e.g. a regurgitation of the readings. As a constructivist, I wish to encourage students to be effective meaning-makers through the creation of thoughtful responses to the various course materials.[2]

Feedback to clarify and facilitate learning

Students need *formative feedback* throughout the course to guide their learning. This requires careful design of instruction and the development of activities, discussion, and projects that encourage student-to-student interaction, as well as strategic use of teacher time to provide feedback. Online tasks, tests, and quizzes can also be useful in giving students a picture of their learning progress (New Zealand Council for Educational Research 2004; University of Otago, 2001).

With the diversity in most classrooms today, how does the instructor provide for relevant, specific, timely, valuable, and accurate feedback? Each of these aspects needs elaboration. (Muirhead, 2002; Rankin, 2004; RKW Enterprises, n.d.).

Relevant - The feedback given to the student must be relevant to that person's career, mission, goals, objectives, or tasks. This requires that the learning facilitator know the student well enough to be able to provide such feedback. This process can be initiated by encouraging the students to introduce themselves in their online courses and by providing trigger questions to elicit the kind of information that will be useful in framing future feedback. One online instructor reinforced this by stating that:

> [There isn't any feedback that will] work in all cases. For example, it is a waste of time using Russian when speaking to an Englishman, unless he understands Russian. The answers I give are dependent on the student's style of communication, his or her personality, his or her belief systems and what the feedback is about.[2]

Specific - Feedback that is specific gives the learner an indication of where he or she has taken a right or wrong direction. Specific feedback clearly informs the student that the instructor is paying attention to them and has an interest in performance of their learning activities. An example:

For knowledge check questions embedded in the course, I remediate/reinforce immediately, for example:

- You are right! Increased competition usually results in a lower cost.
- That's not correct. It is increased competition that usually results in lower costs. (I don't mention the incorrect choice so the learner remembers only the correct choice.)
- That's partially correct. Knowing your BATNA (Best Alternative To a Negotiated Agreement) is a key element in a negotiation (reinforces what the student had correct), but knowing the other side's BATNA is equally important (remediates the missing part).[2]

In many cases, especially with more knowledgeable learners, what may be even better is to both acknowledge the student's contribution and also stimulate further discussion (Ko 2004a; b). An example is, "Geraldo and others have made the point that leadership is important in strategic business planning, but has anyone found in their reading any research to support this?" Students often find engagement in discussion with the learning facilitator to be highly motivating.

Timely - Providing feedback that is timely is consistently found in the literature and practice to be critical to effective instruction. This does not necessarily mean immediate in all cases—especially for

formative feedback. When formative feedback is used for instructional purposes, it is usually most effective when given immediately *before* the next performance (Tosti, 1978, 1986).

> One thing I have discovered after 15 years of teaching online is that promptness is the key to good feedback. Distance students are involved in many things and have busy lives. When they turn in a paper or post on-line, they are thinking about the topic at hand and open to feedback for a couple of days. Beyond that period their minds are on other things and the feedback has less-to-no value. My rule is two-day turn around if at all possible.[2]

Valuable – For feedback to be effective it must be internally valued and found rewarding by the student. Students value feedback that indicates a genuine interest on the part of the learning facilitator.

> I also use metaphors in order to associate the new, to something old that the student(s) already know(s). An online course differs from a "normal" class but not so much to be treated differently.[2]

Accurate - If feedback is inaccurate, the learner may perceive the instructor or other person giving the feedback does not care about the situation, or lose confidence in the ability of the instructor. Inaccurate feedback indicates a lack of knowledge, and that usually leads to negating any positive benefits of accurate feedback.

> I am prompt and give blunt feedback. That which is fact deserves to be corrected (if necessary with reference). That which is opinion needs to be stated as such perhaps with suggested readings.[2]

Relationship between feedback and student practice

It is important to build ample practice opportunities into learning experiences (Zull, 2004). Teachers need to provide specific feedback about the connections learners are making between their existing knowledge and the new ideas and skills they are developing. In designing and introducing elearning components of programs, teachers will need to consider what, when, and how formative assessment will take place, and how they will use information from formative assessment to guide their teaching (New Zealand Council for Educational Research, 2004).

Relationship between feedback and assessment

Broadly defined, assessment includes all activities that teachers and students use to obtain information that guides changes in teaching and learning. Thus, assessment includes teacher observation, classroom discussion, and analysis of student work. Assessments become formative when the information gathered is used to meet student needs (Boston, 2002) and to allow the student to direct the course of their learning to meet the objectives of the instruction.

Specific comments about errors in processes students are using and suggestions for improvement, encourages students to focus their attention on the task rather than only on getting the right answer (Bangert-Drowns, Kulick, & Morgan, 1991; Elawar & Corno, 1985). This type of feedback is most helpful on tests and homework and may be particularly helpful because it emphasizes that students can improve as a result of effort, rather than feeling doomed to low achievement due to some presumed lack of innate ability. Formative feedback often helps support the expectation that everyone can learn successfully and counteracts the cycle in which students attribute poor performance to lack of ability and, therefore, become discouraged and unwilling to invest in further learning (Boston, 2002), losing the motivation to attempt more learning.

Peer feedback

What is the value of online student peer review, evaluation and feedback? Is learning how to assess peers' work a practical skill for the learners? Students evaluating each other's work and offering substantive comments and suggestions (formative feedback) regarding the quality of that work is usually a learning activity itself. The instructor can even grade students on the quality of their feedback. Being able to evaluate is a high form of thinking. Creating a criteria rubric for students guides their comments in an appropriate way. However, in most cases the grading should be administered by the teacher (Guillot, 2003).

> Some teachers are overwhelmed by discussions and feedback. What faculty need to know is how to craft an online discussion and offer feedback. For example, in my online writing course, students are not allowed to send their paper to me directly. They must send it to their peer editing group and get their feedback first. When they have done 3 edits of their paper with feedback from their group, then they can send me the paper for my feedback.[2]

Given the value placed on the acquisition of higher order thinking skills, such as evaluation, it is important that learners engaged in these activities receive timely, formative feedback. Additionally, it is important that students corroborate, dispute, and discuss their constructed knowledge before misconceptions are built. High student to teacher ratios make alternative, effective sources of feedback besides the teacher necessary (Doiron, 2003).

Self-feedback

Self-assessment and reflection are vital components in learning (Berge, 2002). Feedback, especially regarding assessment, will not be effective unless students accept that their work can be improved. Self-monitoring is a key element in the professionals' work. If a goal is for students to become professional learners and professionals in their fields, we should actively promote self-assessment. As students are asked and encouraged to critically examine and comment on their work, assessment can become a part of a dialogue they expect and can contribute powerfully to their educational growth (University of Otago, 2001).

Dewey defined reflective thought as "active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (Dewey, 1933: 118). Students can be encouraged to closely examine the state of their current learning, and when comparing their present state with the learning outcomes, determine, for themselves, how much further they need to go. When reflection is engaged in with others, it allows students to adjust their frame of reference. Reflection can also engage the student's emotions in their learning process. They can "recapture their experience, think about it, mull it over and evaluate it" (Boud, Keogh & Walker, 1985: 19), thus providing feedback for themselves on their current learning.

Opportunities for self-assessment and reflection occur more than first impressions would suggest. Of course, a reflective journal is an obvious, structured opportunity, as are short essays assigned at the end of a learning term where the students can write a short "then–now–next" essay. The students note where they were in the course of their learning at the beginning of the learning term, where they are now, and how they plan to apply their new learning in their lives. Sometimes other occasions that are not as obvious can be found, such as :

> When a student asks what their Discussion Board grade is, I refer them back to the grading rubric and ask them to self evaluate and then I will comment.[2]

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Lack of time

Kearsley (2000) expresses the problem this way: In a class of 30 students, assume an instructor spends at least 20 minutes per student evaluating assignments and providing feedback each week. Therefore, the instructor is spending 10 hours per week on the one course. This is without counting the time spent moderating discussion forums, or for such things as preparing course materials, learning to use new software, and troubleshooting problems. So how can an instructor provide feedback without the process consuming their lives? Compose your comments in a word processor, save them and then reuse, refine and re-cycle, adapting general comments to each particular student. As mentioned above, providing clear assessment criteria or rubrics for self-assessment, to which the students can be re-directed can also save time. Learning to weave comments in online discussions by combining elements from several posts, and asking the next question acknowledges each contributor without having to compose a separate response to each one. Providing model answers also helps the student to assess their own work when they can see examples of the responses expected of them.

Aligning Feedback/Evaluation, Learning Goals, and Learning Activities

Essentially, the secret to designing successful learning is to align three elements: 1) learning goals, 2) learning activities, and 3) feedback and evaluation (see Figure 1). This is true whether the instruction is designed and delivered from a constructivist or a behaviorist perspective, or if the learning is done completely online, in-person, or in a blended environment. Blended or hybrid environments require careful attention to media characteristics and to the use of the most appropriate delivery system, including in-person, if called for. The appropriateness of a delivery system should be based on the benefits of each medium, the course content and the needs of the learner, not on the convenience to the designer or instructor. This places the focus on learning and the learner, rather than on instruction or teaching.
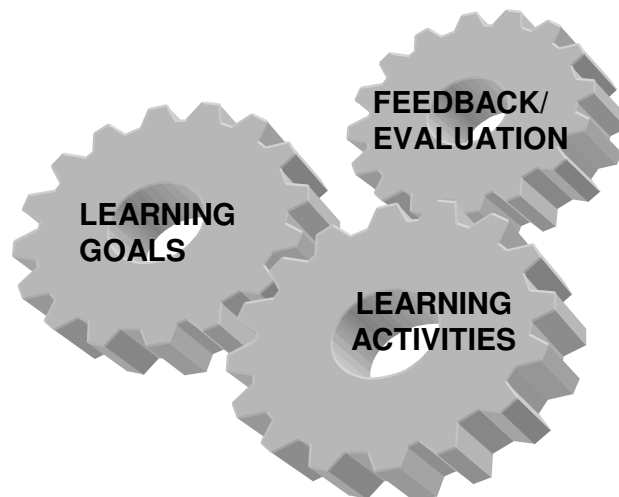

Figure 1: Aligning Feedback/Evaluation, Learning Goals, and Learning Activities

Along with the three key elements shown in Figure 1, let me quickly note that the learning process occurs, among other things, within a particular infrastructure, it relies on support services from the organization, and exists within a learning environment created for the purpose of learning. Appendix A provides an activity that may be useful when designing student practice for providing feedback.

Conclusions

Feedback is an important way to illuminate the learning paths for students. There are key elements that instructors can do to provide effective feedback. Before feedback is provided, at least three things can be done to make it's positive reception more likely:

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- Environment that builds confidence, trust, and community feeling;
- Align goals, activities, and evaluation and make sure students understand them;
- Set clear expectations.

All feedback should be given at the right time: generally formative feedback is most effective immediately before the next performance. While giving feedback, as part of direct instruction, the more cues and prompts that can be given regarding the right answers, the more help will be provided.

Provide students with the opportunity to continuously provide outputs, so that the feedback will tell them where they are, where they are going (goals) and prompts them on how to close the gap. This strategy keeps the students involved in the learning process, with a bright hope of successful accomplishment. When the learning activities are not as structured or direct, alternative assessments and feedback are used. That is, when authentic learning is the goal, students are given frequent opportunities to display their depth of knowledge, critical thinking skills, connections to daily life, and both individual and group activities (Muirhead 2002).

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Appendix A

An example activity to start students thinking about feedback is given as follows. It is flexible in how much the teacher provides for the students in the way of the case study and suggested readings. The idea is to have students ponder a vignette that they create or that is provided to them. After reading tips on feedback (again, that the student finds or that is provided to them), the activity is for each student or group of students to find applications of the tips for feedback in the vignette.

Some tips for providing feedback to students:

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Case Study

I use an integrated feedback model in my online classes for the weekly assignments (some assignments are individual and others are team assignments). That is, I construct my feedback sheet based on all the responses received on time. In part, I do a kind of content analysis of the responses (e.g., so many people said this, so many said that) using excerpts from selected responses to represent a position (naming who said it if it was a good example). In some cases I'll represent a position of a student with which I disagree, stating my reasons, but not saying who had that position (e.g., "One student said....") I also relate the responses and my assessment back to the content as presented in the course. In situations where a particular position was not presented by any of the current student responses, I'll mention or quote positions taken by students in previous classes saying something like "In a previous class, one student said..." The feedback sheet usually ends up being five or six in-depth pages. The feedback sheet is sent by e-mail to all students who submitted a response on time or were an active contributors to a team response. The same feedback sheet is sent to the remaining students if and when they do post their responses, but it of course does not represent their submissions. They know that will be the case when they are late and it is just one of the penalties for being tardy or not participating.

I use this integrated feedback process for a number of reasons. First, it helps the students see the big picture on their assignment (e.g., how other people "attacked" the assignment). Second, students get more in-depth feedback (e.g., 5-6 pages) individually on a given assignment than if the instructor provided individual feedback to each student (often, just a paragraph). Third, it actually takes less time for the instructor to prepare, especially after he or she had conducted the same class a number of times. That is, for any given assignment, about half of the feedback sheet is derived from ones used in past classes and the other half is customized to the particular group of responses from the new class. It usually takes me two-to-three hours to construct the feedback sheet for a class of 30 students. If I spent the same period of time providing individual feedback, I would be able to devote a maximum of six minutes to each student in a class of 30. In course critiques, students invariably mention the feedback they received as a positive attribute of the course. If a student requests individual feedback for any assignment, I would provide it. But the requests for individual feedback are rare and never twice by the same student.[2]

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[1] Tests for significance can determine if an instructional practice makes a difference at all, but for purposes of comparing alternative approaches, it is important to know how much difference to expect. Effect size can be expressed in several ways, a common one being as a proportion of standard deviation. For example, if students take a test with a standard deviation of 100 and those who prepared using computer-assisted instruction (CAI) score an average of 30 points higher than those who studied using a conventional text, we would say the effect size of CAI was .3. Current research standards call for reporting effect sizes on any quantitative study. This allows readers to gauge whether results have practical importance as well as statistical significance, and also allows other researchers to conduct a meta-analysis to compute an average effect size for similar studies. According to meta-analyses reviewed in CARET, average effect sizes of successful technology-based

interventions range from around .2 to .6 standard deviation units (Center for Applied Research in Educational Technology – Glossary. http://caret.iste.org/index.cfm?fuseaction=glossary#e); retrieved on August 10, 2005.

[2]   We wish to thank the many online educators who responded to our email correspondence with their ideas about, and examples of feedback. These persons include those whose quotes are used throughout this article (in alpha order): Jay Alden, Lance C. Beste, Betsy Frank, John Hughes, Gail Kelley, Lucy MacDonald, Ralph A. Miller, and Jim Rawson.