

The Role of Feedback in Adult Learning: A Literature Review with Instructor Recommendations¹

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ABSTRACT

Teachers' feedback to students is a common instructional activity that is expected to follow upon completion of course assignments and examinations or after students demonstrate their attainment of targeted skills. Teachers, including adult educators, receive little pre-professional preparation that helps them understand the purposes, timing, and effects of feedback—or of students' responses to it. Thus, many educators lack knowledge of how to provide feedback to adult learners that is corrective and informative and which contributes to helping students develop self-regulation skills. This paper reviews recent literature on the effects of teacher feedback for adult learners and adult students' perceptions of the purpose, efficacy, and value of feedback. Implications and recommendations for instruction are described.

The idea of instructor feedback to learners is ubiquitous in education. Students anticipate that, whenever they complete and submit assigned work or sit for examinations, they will receive some kind of feedback about their performance—even if only a score or grade. Likewise, teachers plan and arrange their schedules so that they have time to evaluate students' work and provide them with information that tells the students something about how well (or poorly) they have performed. While such feedback may be limited to a brief comment, score or grade, it might also provide detailed information about how, why, and where the student was incorrect, how they could improve their performance, or what they did well (Hattie & Timperley, 2007).

This paper surveys both contemporary and classic research on instructors' feedback to students with a particular focus on adult learners' needs for and responses to such feedback, and how feedback can benefit adults' learning. Millions of U.S. adults across the age span participate in a great variety of formal (i.e., institutionally sanctioned programs of study), informal (i.e., self-directed and independent learning), and non-formal (i.e., organized learning that does not lead to a degree or certification) education and training programs and activities. Depending upon the structure of these programs, students may interact with and learn from multiple instructors, trainers, or mentors or they may learn entirely on their own. Typically, participation in formal and non-formal education provides many opportunities for adult learners to demonstrate the degree to which they are acquiring and mastering knowledge and/or skills in a given domain. Various methods of assessing adults' learning—whether homework assignments, group standardized or teacher-constructed tests, collaborative learning projects, oral presentations, professional

licensure examinations, or demonstrations of skills—enable instructors to provide feedback to learners about their performance and progress in learning.

The act of giving feedback to students is commonplace to the point of seeming mundane. Yet, as Thurlings, Vermeulen, Bastiaens, and Stijnen (2013) point out, feedback processes are complex and multidimensional. Giving effective feedback to students depends upon a variety of factors: the students themselves, the assigned learning tasks (in terms of complexity and goals), the instructors who provide the feedback, the student-teacher relationship, and the content of the feedback message, among other factors. Teachers—including adult educators—may assume that they know and understand the purpose of feedback and how to provide feedback to students so that they learn from it. After all, teachers have also been students and have received many forms of feedback throughout the course of their studies and professional preparation. Presumably, such feedback models influence teachers' approaches to giving feedback.

Adult Learners

One quarter (25.4%) of all beginning postsecondary students in the U.S. during the 2011-12 academic year were over 20 years of age, according to data from the U.S. Department of Education (2014). Fully one-third (36.2%) of all students enrolled in postsecondary undergraduate degree programs in the U.S. for the 2015-16 academic year were adults, ages 25 and older (U.S. Department of Education, 2015-16). Among the 1.9 million adults who have completed some kind of work experience program (i.e., workplace training or apprenticeship), about nine percent (~177,000) participated in programs that included instruction, training, or classes and evaluation led by a supervisor or coworker. These statistics demonstrate that millions of adult learners are pursuing education and

training through both formal and nonformal programs. Many more millions of adults take part in informal learning activities through individual pursuits, community-based offerings, social clubs, and other venues. For example, the Pew Research Center (2016) reported that three out of four (74%) U.S. adults had undertaken an informal “personal learning activity” within the previous year.

Teacher Preparation for Feedback

It appears to be rare for teachers-in-training to be explicitly taught, as part of teacher preparation curricula, about feedback characteristics and how to give feedback to students. Feedback may be a topic that is mentioned by teacher educators—perhaps quite frequently—as an important component of instruction, but one for which little time is devoted to demonstrating how to perform. An extensive search of the general education, teacher training, and educational psychology literatures revealed few descriptions and no investigations of *how* teachers-in-training are taught to give feedback of any kind to their students. Likewise, professional development programs for in-service teachers may not address the role of feedback for improving students’ achievement. There are, however, innumerable websites and online materials that provide information, resources, and advice to educators about how to give feedback to students. Many of these describe characteristics of effective feedback (e.g., “timely,” “consistent,” “specific”) and provide guidelines for when and why to give performance feedback. Undoubtedly, some teachers and teachers-in-training turn to such readily available information sources. But, reading a website is not training or professional development. As Molloy and Boud (2014) observe, it requires skill for teachers to determine the correct kind of feedback—positive and affirming or negative and corrective—that students need that will lead to improved performance. Therefore, it is

likely that many teachers—including adult educators--lack in-depth knowledge about feedback and how to skillfully provide it so that it helps students to learn.

Feedback in Adult Education

The adult education literature is rather sparse regarding the need for and consequences of feedback in helping adults learn, acquire skills and knowledge, and achieve mastery. An exception is adult educator Malcolm Knowles who observed in his classic work, *The Adult Learner* (1973), that teacher feedback is one of several external conditions of learning that can lead to desired changes in performance (Knowles, Holton, & Swanson, 2011). Adult learners are, in fact, just as likely to both need and to benefit from instructor feedback as are younger learners.

In the sections that follow, I summarize various definitions of feedback found in the education literature. Next, I describe the purposes of instructors' feedback to students, what feedback is intended to do for the learner, and the different types of feedback that have been described in the literature. Then, I describe the various ways in which feedback can be communicated to learners following task performances. The timing of feedback is critical to learning and differences between immediate and delayed feedback are described. How learners perceive feedback, in terms of quality and utility, is also important and will be discussed. Based on the understood characteristics of adult learners in educational settings, I conclude with recommendations for adult educators to follow when providing feedback to their students.

Feedback, Defined

Feedback typically follows from some performance on the part of the student, such as completion of an academic assignment, a test or other formal assessment, or a

demonstration of a target skill. Two types of assessments are formative and summative. When feedback is provided early on in the course of learning, it is considered to be formative, according to Brown, Peterson, and Yao (2016). Feedback given at this time helps learners to improve. Feedback following a learning trial or assessment is summative and typically takes the form of a grade or score.

There are a variety of definitions of feedback in the education literature that indicate its importance to student learning. At its most basic, feedback is an outcome of the evaluation of learners (Alderman, 2004). Hattie and Timperly (2007) define feedback as “information provided by an agent to a learner about aspects of performance or understanding” (p. 81). More specifically, feedback is “any communication or procedure given to inform a learner of the accuracy of a response, usually to an instructional question,” according to Mory (2003, p.745).

Frequently, however, some authors do not bother to define feedback at all given its everyday use in classrooms (e.g., Thurlings et al., 2013). Yet, failing to define feedback may lead to confusion about the characteristics, purposes, and outcomes of feedback. According to Hattie and Yates (2014), feedback is not the same as reward or reinforcement (which are factors that can motivate learning), although feedback can—under certain conditions--be reinforcing for learners (Anderson, Kulhavy, & Andre, 1972). Rather, feedback is “the process of securing information enabling change through adjustment or calibration of efforts...to bring a person closer to a well-defined goal” (Hattie & Yates, p. 66).

Thus, feedback is a complex response to students’ efforts at learning. It takes multiple forms, is expressed in a variety of ways, and has any number of consequences for learners. Feedback is typically descriptive (e.g., an instructor’s written comments on a

student's paper) and evaluative (e.g., letter grades on assigned tasks). Feedback can provide information to students to help them correct their errors (Kulhavy & Stock, 1989). Yet, to have any effect on learning outcomes, teacher feedback has to be processed in a mindful manner by students (Bangert-Drowns et al., 1991). According to Elawar and Corno (1985), effective feedback can include both positive evaluations of performance as well as critical comments. Thus, feedback may be perceived by the learner as positive and motivating or as negative criticism, and either perception may have different effects on students' critical thinking and problem solving. Also, an instructor's critical feedback of a student's work may be delivered in a gentle manner or a harsh way--or may be perceived either way by the student, regardless of the instructor's intent.

Early behaviorist perspectives on learning (Skinner, 1954) emphasized operant conditioning and held that whenever feedback informed learners that their responses were correct, the feedback served as a positive reinforcer. Such feedback was said to increase the likelihood that the learner would give the same response under similar task conditions. In contrast, feedback informing the learner that a response was incorrect served as a form of punishment and, thus, decreased the likelihood of the same response under the same task conditions. Yet, research conducted in the 1970s failed to find systematic effects for feedback of the sort described by behaviorists. As Mory (2003) reported, research of that era determined that feedback functions to correct errors, not to reinforce responses.

Contemporary research on feedback is rooted in cognitive and information processing perspectives that seek to understand learners' thinking processes (i.e., mindfulness) in response to feedback, as well as the role of the learners' prior knowledge, learning goals and interests, and ability to self-regulate their thinking and strategy uses as

they engage in learning tasks (William, 2013). Hattie and Timperly (2007) thus described four levels of feedback that focus on the *self*, the learning *task*, the behavioral or cognitive *processing* needed to perform the task, and students' *self-regulation* skills. According to Shute (2008), feedback should focus on the learning task rather than the learner, and provide guidance on how to improve one's performance. Such feedback is particularly powerful whenever learners use it to improve their cognitive strategies or self-regulation skills (Hattie & Timperley, 2007). Brown et al. (2016) found that university students who reported acting upon the feedback that they received were more self-regulated in their studying and had higher self-reported academic self-efficacy.

The Importance of Feedback for Learning

Hattie and Timperly (2007) claim that the main purpose of feedback is to reduce the discrepancies between the learner's current understanding or performance and the intended learning or performance goal. Feedback should provide information to learners that is pertinent to their goal pursuits. In academic contexts, learners' goals relate to achievement and mastery. Van der Kleij, Feskens, and Eggen (2015) state that there is no generally accepted model of how feedback leads to learning (p. 476). Earlier, Butler and Winne (1995) proposed a model of feedback in which feedback not only helps learners to improve their performance on subsequent tasks, but also leads to self-regulated learning. Thus, at the very least, feedback provides information to the student—which they may then act upon or ignore. When acting upon feedback, students may, according to Winne and Butler (1994), “confirm, add to, overwrite, tune, or restructure information in memory” (p. 5740). Feedback can help learners correct errors, gain knowledge, improve skills and,

thereby, improve performance and learning. To improve, students must take action following the feedback.

Students need to understand what they must do to improve their performance, so feedback should contain such information. Hattie and Yates (2014) point out that feedback is powerful when learners know: (a) what success looks like; (b) appreciate that it is aimed at reducing the gap between where they are now and where they need to be; and, (c) when it is focused on giving them information about what to do next. Bangert-Drowns et al. (1991) found that not only pointing out errors, but also telling students *why* they are incorrect, is helpful to them. Students will often make the same mistake repeatedly unless they receive informational feedback about their mistakes.

Feedback encourages self-regulation. The self-regulation of learning involves planning, monitoring, and reflecting on how and what one is studying and learning (Zimmerman, 2008). Butler and Winne's (1995) self-regulation model of feedback positions the learner at the center of the feedback process; the learner actively makes connections between their learning goals, the strategies needed to achieve these goals, and the outcomes of their effort. Thus, instructor feedback enables students to better plan and set learning goals and monitor their performance relative to these goals. When reflecting on their efforts, learners can make adjustments and engage in strategic action to achieve desired outcomes (Butler & Winne, 1995; Locke & Latham, 1990). Students who do these things in response to feedback are self-regulating learners. Bandura (1993) argued for giving feedback relating to students' progress toward goals, which serves to enhance both their self-efficacy and self-regulation, rather than giving feedback that highlights observed deficiencies, which undermines self-regulation.

Learner attributions. Graham (1984) claimed that feedback can promote feelings among students that they are in control of their own learning. In part, teacher feedback does this by imparting information to students that helps shape their attributions for success and failure, as well as their self-competency beliefs (Brophy, 1998). Whenever students experience either success or failure on academic learning tasks, they are likely to attribute these outcomes to any of a number of factors, such as their intelligence, skills, effort, or luck--or lack thereof (Weiner, 1980). Students may also attribute their success or failure to other people—teachers and coaches, for example, thereby deflecting their own successful efforts or blaming others for failures. Some factors are under the control of the learner, such as the amount of effort devoted to mastery of a skill, for example. Intelligence is something that students cannot control. Those who believe that intelligence is a stable trait demonstrate a “fixed” mindset, according to Dweck (2006). In contrast, students who believe that basic abilities, such as intelligence, can be improved through effort, training and practice, and learning have a “growth” mindset. Because growth-oriented learners attribute their academic success to effort and practice they are more likely to benefit from instructor feedback than fixed-mindset learners. Schunk (1982) reported that giving effort attributional feedback to students for their successes (e.g., “you got this correct because you worked hard at solving it”) promotes their achievement expectancies. Self-regulation enables learners to respond appropriately when success at learning tasks do not appear to be under their control.

Types of Feedback

Feedback has been categorized into three types by Shute (2008). The first type is feedback that provides knowledge of results (“KR”), i.e., the answer is correct or incorrect,

but gives no additional information about how the learner should respond to future tasks. This is closest to the behaviorist, operant conditioning form of feedback that is thought to reinforce learner responding. The second type of feedback provides knowledge about the correct response (“KCR”), i.e., the correct answer is provided to the learner. This type of feedback does not tell the learner how to arrive at the correct response, however. The final type is elaborated or explanatory feedback (“EF”) which takes many forms (e.g., hints, additional information). EF might be paired with either KR or KCR in some circumstances, such as when a student is informed that a response is incorrect (KR), is then given the correct response (KCR), and also a worked-out solution to the problem (EF). Smith, Ralph, MacLeod, and Smilek (2019) examined university students’ preference for quiz feedback and their perceptions of how the feedback affected their learning. Smith et al. gave three forms of feedback: none; KCR only; and, EF (i.e., correct answer plus the source materials from lecture). Students preferred feedback over no feedback and EF over KCR; they also perceived EF to be more helpful than KCR or no feedback. At least within computer-based learning environments, evidence from Van der Kleij et al. (2015) shows that EF leads to better and higher order learning outcomes compared to KR or KCR.

In a comprehensive review of the literature on feedback, Mory (2003) identified four types of feedback and the functions that each feedback type serves for learners. One type of feedback is that which serves to strengthen the incentives of learning goals. Here, for example, teachers can emphasize effort as a tool for increasing one’s skills. Such feedback helps students see that their abilities can be improved through hard work and practice (thereby emphasizing a growth mindset). Effort feedback is more effective than ability feedback, according to Dweck (2006), as it impacts students’ persistence, enjoyment,

and performance--particularly after they have experienced setbacks when attempting to learn something new.

A second type of feedback is that which minimizes the effect of the difficulty level of learning tasks. So, a teacher might emphasize that having difficulty with challenging tasks is both positive and normative and that struggling to complete an assignment does not indicate a lack of ability. A third type of feedback is that which serves to increase the student's self-efficacy or feelings of competence. To the extent possible, the teacher should allow the student to control their learning activities, and provide support only as needed. A final type of feedback, according to Mory (2003), is that which enables learners to gain a sense of control over their learning. For example, when teachers observe and reinforce students for adopting more effective learning strategies, such feedback helps them attribute their successes to their own efforts.

Sources of Feedback

Feedback comes to adult learners through many sources, including teachers, mentors and coaches, from peers, study guides and textbooks, from the self (resulting from study, self-testing, and reflection), and from computer-based assessments (CBAs).

Teacher feedback. How should teachers communicate performance feedback to students? Gibbs and Simpson (2004) state that teachers' feedback to students should not only be timely, specific, and informative, but should also be *understandable*. That is, the feedback should be in a form that is meaningful to students. Thus, it should relate specifically to the assigned learning task, inform the student of their errors, and describe the necessary steps to correct the errors (i.e., elaboration feedback). Feedback should

reveal the concrete actions that learners can take to further improve their knowledge, develop their ideas, and hone their skills (Hattie & Yates, 2014).

There is some disagreement in the literature about the value of teacher praise, as a type of feedback, for reinforcing students' efforts and motivation for learning. When a teacher's praise is directed to a student's effort, self-regulation, engagement, or processes related to the task and performance, it can be effective, according to Timperly (2013). Hattie and Yates (2014) claim that praise is not a strong source of reinforcement, however. Brophy (1998) observed that teacher praise can be either effective and supportive or ineffective and debilitating. Among other characteristics, praise is most effective when it is contingent upon the students' task performance, identifies the particulars of the accomplishment, rewards the student for attaining a specific, agreed-upon performance criterion, and attributes their success to effort and ability (thereby implying that similar success can be anticipated in the future). Praise is ineffective when it is given randomly, rewards students merely for participating in an activity without regard to their performance, given without acknowledging students' efforts, provides no meaningful information to students about their status, or when it focuses on the teacher as an external authority (Alexander, 2006).

Typically, instructor feedback is delivered through three modalities, exclusively or in combination: orally, in writing, or computer-generated. Oral feedback communication is the most "intimate" of these three modalities as it often occurs in face-to-face interactions between the student(s) and the teacher. Individualized feedback usually is given in private meetings between the instructor and the learner so that confidentiality of the learner's performance is maintained. Such meetings may also yield opportunities for further

instruction and the ensuing conversation may strengthen the student-teacher relationship. Oral feedback to students may also coincide with any written feedback (i.e., comments on papers) that the teacher wishes to provide.

Written feedback to students, including reporting of test scores, is somewhat less “intimate” in nature, although it may coincide with face-to-face meetings between the student and the teacher. Written feedback may be quite extensive and detailed, or very brief. Often, the amount of written feedback depends upon the time and effort that the teachers puts into the task of providing the feedback, as well as the learning objectives that the teacher has identified for students. Written feedback must be clear and specific so that students understand and can respond to it (Brookhart, 2008).

As automated assessment systems and cognitive tutors become more common in schools and classrooms, software-driven artificial intelligence (AI) agents can provide immediate feedback to learners in response to assessments and other learning tasks. Typically, cognitive tutors not only provide feedback, but also prompts, hints, and cues to learners as they work on tasks (Anderson, Corbett, Koedinger, & Pelletier, 1995). Feedback from computer-based assessments (CBAs) can be provided at the individual task or item level, or for the overall assessment. Such digital feedback is the least intimate feedback method because the student is informed of their task performance by an impersonal AI agent. Students typically have no opportunity to rebut the provided feedback and must wait until they can meet with the course instructor or a live tutor to appeal a test score or obtain a more detailed explanation of their errors.

Self-feedback (reflection). Feedback does not come only from others; the learners, too, may give themselves feedback after monitoring, evaluating, and reflecting upon their

performance. Such self-feedback can lead students toward self-improvement. Learners provide feedback to themselves by, for example, looking up or otherwise obtaining correct answers to assigned problems and then analyzing their errors. Ideally, students should set their own learning goals and learn how to analyze data about their performance. While most adults are capable of identifying and setting personal learning goals, they may need assistance in analyzing performance data (e.g., are changes in a series of test scores over time due to actual change, or to measurement error?), depending upon their prior knowledge, the complexity of the learning tasks, and the problem solutions. One danger of self-feedback is that students may be too hard on themselves in response to poor performance. Students also might not possess the correct information or be misinformed and, therefore, their self-feedback will be off the mark. The use of self-assessment rubrics that indicate performance criteria can be helpful in guiding students' efforts to evaluate and reflect upon their work (Boud, 1995).

Peer feedback. Hattie and Yates (2014) note that peer feedback is valuable to learners, and much of what students learn in classrooms derives from their peer interactions. Students receive a good deal of feedback related to academic learning tasks from their peers. However, as Nutall (2007) observed, much of peer feedback is incorrect—which is a problem for both students and teachers. Thus, it is important for instructors to prepare students to provide accurate feedback to one another whenever they are collaborating on academic work, sharing information about what they know, or assessing one another's work. Hattie and Gan (2011) suggest that teachers should teach students how to engage in critical, elaborative discourse with peers (p. 264). Such peer talk enables

students to think about the diverse perspectives that their peers have and to make connections between different ideas and their own prior knowledge.

When teachers employ peer assessment, it can help students learn how to give appropriate and helpful feedback to one another. Peer assessment involves students engaging in reflective criticism of others' work and giving constructive feedback using the instructors' pre-determined criteria (Hattie & Gan, 2011). Generally, deliberate preparation is required so that students perform peer assessments in ways that friendships are not threatened, peers do not resort to collusion, and can demonstrate that they are able to interpret and follow an evaluation rubric or other guide. Emphasizing that peer evaluation contributes to one's own learning and mastery of the assigned materials can achieve buy-in from students who might otherwise be reluctant to assess their peers' work.

Textbooks and study materials. Typically, feedback of the sort provided in textbooks and related study materials is static, appearing as correct answers to inserted study questions within or at the conclusion of textbook chapters. Students can use these textbook questions to self-test their understanding and then check their answers when (and if) correct responses are provided in the text. Such feedback is typically in the forms of KCR and ER, depending upon how much and what kind of information is provided.

Timing of Feedback

Another critical variable in feedback effects pertains to when the feedback is received by the learner. A large body of research has examined differential effects on student learning for the timing of feedback, i.e., is feedback provided immediately following an assessment event or after some period of delay?). These effects may also vary depending

upon the specific learning task. For many formative assessment situations, prompt, if not immediate, feedback is given soon after students' responses have been recorded.

Immediate feedback. Many educators believe that immediate feedback is most beneficial for students. Boud & Falchikov (2007) claim that more immediate and precise feedback has a stronger effect on learning than does delayed, non-specific feedback (p. 58). Immediate feedback is preferred when students are working on new or difficult tasks, or whenever tasks deal with procedural ("how to") knowledge (Dihoff, Brosvic, & Epstein, 2003). Cognitive tutoring systems and CBAs can give immediate, nearly instantaneous feedback following a student's response to each item on an assessment. Giving immediate feedback to learners is more challenging for instructors to do given the time needed to assess learners' performance. Generally, immediate feedback should not be given when students are engaged in the learning task, as the feedback may interfere with their learning (e.g., it may be distracting or may result in information overload).

Research evidence suggests that students prefer immediate over delayed feedback. Students are more likely to respond to immediate than to delayed feedback and they spend more time considering immediate feedback (Van der Kleij, Eggen, Timmers, & Veldkamp, 2012). Sogunro's (2015) interviews with adult learners found that they reported that timely (not necessarily immediate) feedback was highly motivating, encouraging them to continue efforts toward improvement. Because teachers need time to check responses, evaluate, confirm and report to the student, most such feedback is more accurately considered to be delayed feedback.

Lefevre and Cox (2017) presented a sample of nearly 600 British college students with a series of multiple choice quizzes on various topics. Participants were given the

choice to view performance feedback immediately (after attempting each quiz question) or following a delay (after completion of all quiz questions). Nearly all participants (95.33%) indicated a preference for immediate feedback. Interviews with a subsample of the participants revealed that these students preferred immediate feedback because they deemed it more efficient, requiring less cognitive effort to recall the relevant information.

Delayed feedback. Some research suggests that learning is facilitated whenever feedback is delayed, particularly in regards to complex learning tasks (Clariana, Wagner, & Murphy, 2000). Mullet, Butler, Verdin, von Borries, and Marsh (2014) reported two experiments in which the timing of feedback was manipulated. Students in an upper-level engineering course were assigned to apply their knowledge of complex engineering concepts and then received feedback--either immediately following the assignment deadline or one week later. Students receiving delayed feedback performed better on subsequent course exams that contained new problems, but which had the same engineering concepts. Nonetheless, students in both the immediate- and delayed-feedback conditions reported that they benefited the most from immediate feedback. Thus, as Mullet et al. note, students demonstrated a metacognitive disconnect between actual and perceived effectiveness of feedback.

Mullaney, Carpenter, Grotenhuis, and Burianek (2014) reported that delayed feedback benefits learners because it encourages them to anticipate the upcoming feedback, and it is particularly effective whenever learners are curious to know the correct response. It is also likely that delayed feedback gives learners opportunities to think about and evaluate their performance and consider alternative approaches to problem solving with similar tasks.

There is little evidence to suggest that delaying performance feedback to learners is harmful. Yet, it seems possible that learners may forget the target tasks by the time they receive delayed instructor feedback. They may also be looking ahead to other tasks and assignments and not give full attention to the feedback. Lengthy delays in giving feedback may also signal to students that the assessment—or the feedback itself—is unimportant.

Harmful Effects of Feedback

Does feedback ever have harmful side effects? Feedback can sometimes lead students to adopt strategies that are ineffective. Harsh feedback may lead some students to abandon their original learning goals, or not identify and pursue further goals, for example. Students may “cherry-pick” easier goals, settling for a somewhat lower but nonetheless successful performance (Timperley, 2013). Sometimes, feedback can have a negative effect on a student’s confidence and self-perceptions as a learner (Chanock, 2000; Higgins, Hartley, & Skelton, 2001; James, 2000). Also, students sometimes do not know what to do in response to negative feedback (Forsyth, 2015). Finally, Deci and Ryan (1985) claim that feedback can be counterproductive under the following conditions: (1) when learners feel too closely monitored by the instructor; (2) when learners interpret feedback as the instructor’s attempt to control rather than guide them on how to improve; and, (3) when learners feel an uncomfortable sense of competition with other students. In such situations, learners may discount or ignore the feedback and, subsequently, fail to improve their performance.

Benefits of Feedback to Motivation

Research has shown that feedback is strongly related to students’ motivation for learning. According to Stipek (2003), specific and constructive feedback—both positive and

negative—is the most motivating form of feedback that teachers can provide to students. Bandura (1997) observed that, in that space between where students are performing and where they need to be performing, they are best motivated when they have a good sense of their current status and know how much they need to improve. Further, positive feedback can increase learners' confidence in their ability to pursue their achievement goals. Negative feedback, however, undermines learners' confidence and expectations of success (Fishbach, Eyal, & Finkelstein, 2010).

As Schunk and Zimmerman (2006) observed, when teacher feedback informs students that they are improving their skills or knowledge and becoming more competent at tasks, then students' intrinsic motivation also improves (p. 360). Intrinsic motivation is doing an activity for its inherent satisfaction rather than for some separable consequence, such as receiving a reward (e.g., a grade, a gold star, teacher praise) (Ryan & Deci, 2000). Intrinsic motivation is considered to be a necessary but not sufficient factor in students' academic performance; sometimes, extrinsic motivation (i.e., students pursuing tasks to reap rewards such as good grades, praise, or special privileges) is also necessary to promote learning and achievement. Skillful instructors seek to create conditions where there is a balance between intrinsic and extrinsic motivation. Feedback to learners on their performance can play an important role in striking that balance.

Learners' Perceptions of Feedback

It is important to understand how students feel about the feedback that they receive from their teachers. Much of the efficacy of feedback depends on how learners perceive the feedback that is given to them, in terms of its' information value, timeliness, and source (e.g., teacher, peer). As students advance through their school years, they become more

adept at processing evaluative feedback and adjusting their approaches to classroom learning tasks (Perry, Turner, & Meyer, 2006, p. 331). Thus, adult learners typically have a lengthy history of experiences in school where they have received and responded to teacher feedback. Adult learners with a history of school failure may view the instructor as a powerful authority figure and expert and, therefore, be reluctant to question or debate teacher-provided feedback. Such learners may not know how to respond to feedback or the steps necessary to correct their errors (Carless, 2006). Apps (1991) emphasized the importance of honesty and diplomacy in giving feedback to adult learners, observing that “[i]f a learner is not doing well, she or he deserves to know this, but we must present the message in such a way that the person doesn’t give up” (p. 42).

One survey of British university students found that they preferred having both written feedback and one-on-one meetings with their instructors rather than receiving only written feedback (Blair & McGinty, 2012). Undoubtedly, students can benefit when they have opportunities to receive verbal feedback in face-to-face meetings with their instructors. Higgins et al. (2001) observed that, in order to make sense of feedback, interpret it correctly, and use it to improve subsequent performance, students need to have such interactions with their instructors. But, many students may not feel comfortable talking with their instructors in post-evaluation situations. Also, instructors may lack the time necessary to schedule individual feedback meetings with each student.

Bailey (2009) interviewed both traditional and non-traditional (“mature”) undergraduate students enrolled in social work and nursing programs to determine their experiences with instructor feedback. These students reported that they valued feedback when it helped them to correct errors and provided specific ways for them to improve. But

students' efforts to do so were impaired when the feedback was vague and confusing or when their instructors did not follow the assessment rubrics. Likewise, Poulos and Mahony (2008) observed that students want consistency, transparency, clear criteria, early (timely) feedback, and explanations from their instructors about how they can make the best use of the feedback to improve their learning.

A study of Turkish university students (Seker & Dincer, 2014) found that when they felt positive about the feedback they received on their work (second language writing), they immediately took steps to correct errors and improve their performance. However, when they felt negatively about the feedback, they put off responding to the feedback. This suggests that instructors need to be aware of students' feelings about feedback and be willing to help them process those feelings so that they can respond positively and promptly to improve their work.

Students' background characteristics may also play a role in how they respond to feedback. For example, a study of first generation Australian university students (Small & Attree, 2016) found that these students appreciated the feedback they received from their instructors—particularly when that feedback was clear and instructive. They also demonstrated a degree of sophistication in using provided feedback to become more self-reflective learners. Adult educators should pay special attention to the ways in which they give performance feedback to students from diverse backgrounds. Adult learners from non-majority backgrounds may, for example, have different perspectives on the role of the teacher (i.e., as an expert and respected authority figure) that may be at odds with the adult educator's views on instructor roles and responsibilities (Pratt-Johnson, 2006).

Implications for Instruction

Feedback in response to adult students' performance on academic tasks is essential to increasing their learning, skill mastery, and academic achievement. The research cited in this paper suggests several implications for adult educators when giving feedback to students.

First, given the complexity of feedback as a tool for improving students' learning and performance, adult education instructors should participate in professional development that emphasizes the characteristics, purposes, and effects of feedback—and how to deliver feedback so that students learn from it. Adult educators should be mindful of their approaches to learner feedback and what they want to accomplish when they give performance feedback to their students.

Second, adult educators should understand that praise for adult students' efforts and achievements is effective only under specific circumstances. Giving praise to students who excel comes naturally to educators. But, praise should only be used when it focuses on specific aspects of students' performance and when it acknowledges students' abilities.

Third, adult educators should help students develop self-monitoring and self-regulation skills. Self-regulation processes determine how instructors' feedback is received and acted upon by learners. Thus, adult educators need to be knowledgeable about the relationship between feedback and self-regulation of learning.

Fourth, adult educators should be cognizant for students' perceptions of the value of instructor feedback. Although students often prefer immediate feedback, this is not always possible; therefore, teachers should encourage students to use feedback to improve their performance without regard to the time lag between assessment and feedback provision.

Finally, adult learners are ultimately the determinants of the impact and value of feedback to their learning and achievement. As Hattie (2015) reported, feedback is most powerful when learners seek it out, receive it, and respond to it. Thus, adult educators should encourage and support adult learners to take control over their learning whenever possible.

Conclusion

The intent of this paper is to help adult educators better understand how feedback contributes to improving adults' learning. Because learning is often a trial-and-error and unpredictable process, feedback is often essential to the learner. The best feedback, in terms of effectiveness in promoting learning, provides information to the learner about the source of their errors and what they should do to repair these mistakes, but does not do the problem solving for the learner. Effective feedback focuses on the task, not the learner. It is timely and follows fairly immediately upon task completion; delayed feedback tends to impede additional learning.

Adult students, like all learners, need feedback to correct errors in learning and improve their study efforts, cognitive processing, and self-regulation. Adult educators should strive to learn about the characteristics of effective feedback, the methods for providing such feedback, and collaborate with their students to ensure that feedback is received and acted upon so that students achieve their learning goals.

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