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The Practice of Giving Feedback to Improve Teaching

What Is Effective?

Although the vast majority of colleges and universities claim teaching as their primary mission, recent studies have expressed disappointment with American higher education. Over the past decade, a number of individuals and organizations have found undergraduates to be inadequately prepared and have pressed for substantive change in higher education [1, 11, 52]. Consistently these reports have criticized the quality of postsecondary instruction and have clamored for the improvement of teaching.

Among all instructional development efforts, the most promising way of fundamentally changing postsecondary teaching is to provide faculty with individualized formative feedback. In this process, information about an instructor's teaching is collected, summarized, and fed back to the faculty member. Although this method has been found to be extremely powerful, it has not been consistently successful [19, 50], possibly because many who feed back the information to the teacher are not trained in feedback-giving practice [13].

Although there exists an abundance of literature about feedback to improve teaching, most studies focus on the kind of information that is fed back to the instructor rather than the process by which the instructor receives the information. Rarely do researchers observe the way in which information is conveyed to instructors, and fewer still analyze this

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process [12]. Thus a review of the literature on feedback was undertaken to extrapolate feedback-giving practices that may be effective in helping postsecondary teachers to improve their teaching.

Method of Analysis

Literature pertaining to feedback in the fields of education, psychology, and organizational behavior was reviewed. From this literature, pertinent theoretical pieces, empirical studies, and prior reviews of the literature were analyzed in order to determine the state of the art in the practice of giving feedback.

Readers are cautioned on the degree of confidence that can be placed on some findings of this review. First, because all of the literature was not derived from the fields of education and faculty development, the findings may not be as generalizable to the teaching improvement process as expected. Psychology students as research subjects differ considerably from postsecondary faculty; likewise, business and industrial settings are quite different from college and university settings. However, related studies from education, psychology, and organizational behavior were included when the underlying issues of the study seemed to be applicable to faculty in a teaching improvement setting. Second, because all of the literature was not derived from empirical studies but also included theoretical and consensual pieces, some findings may command greater confidence than others. However, when the theory seemed logical or the consensus was broad-based, they were included; to ignore them seemed short-sighted.

Organizing the Literature. Ilgen, Fisher, and Taylor [41] conceptualize feedback as "a special case of the general communication process in which some sender (hereafter referred to as a *source*) conveys a *message* to a *recipient*" (p. 350, italics in original). Therefore, giving feedback can be considered an event. One effective method for understanding events is to ask the essential *W* questions: *who, what, when, where, why,* and *how.* In this article, *who* denotes the players in the event, the feedback source and the feedback recipient. *What* denotes the information that is fed back to the feedback recipient. *When* denotes the occasion upon which the information is fed back. *Where* denotes the location in which the information is fed back. *Why* denotes the reason that the information is fed back. *How* denotes the manner in which the information is given and received.

Why feedback is being given and received is not answered within the scope of this article. The majority of the studies reviewed do not explicitly or implicitly discuss why the feedback was given. Some studies involve

naturalistic settings, such as providing feedback to teachers to improve their teaching, and some studies involve artificial settings, such as classroom or laboratory experiments. In neither case is it possible to determine the true motivation of the subjects.

The issue of *where* feedback occurs was addressed only by Carroll and Goldberg [15] who advise that the feedback setting needs to be psychologically safe. It would be safe to assume that feedback sources and recipients are also affected by lighting, temperature, noise, physical safety, and other variables. However, this issue was not examined in depth and the impact of *where* feedback is given is an avenue yet to be explored.

The elimination of *why* and *where* leaves four other *W* questions: *who, what, when,* and *how.* Analysis of the data reveals that the answers to the questions of *what* (content of message), *when* (occasion of feedback), and *how* (mode of feedback) often vary with *who.* Givers and receivers of feedback have very different and distinct roles and attitudes toward the feedback process. Therefore, two separate discussions are warranted: one dealing with the *what, when,* and *how* as it relates to the source of the feedback, and one discussion concerning the *what, when,* and *how* as it relates to the recipient of feedback.

Findings about the Source of Feedback

Analysis of the literature revealed a number of feedback-giving practices related to the source that can enhance the effectiveness of feedback. Each practice and the supporting literature are reviewed below.

Source of Feedback: Who

The most widely researched variable concerning feedback is the source of the feedback: *who.* Sources of feedback may be individuals who make an evaluative judgment on the teacher — such as students, alumni, peers, colleagues, chair, or dean — or may be data generated by the performance of the teacher — such as audio recordings, video recordings, objective observation protocols [46], office hour logs, or student achievement scores. In general, the following characteristics and practices relative to the source of feedback tend to increase the effectiveness of feedback.

Feedback is more effective when information is gathered from a number of sources. Early studies in the educational literature on the effects of feedback on teaching generally examined information collected from one source. More recently, several researchers reviewed the literature on these single-source methods: Batista [7] on peer consultation; Fuller and Manning [34] and Perlberg [61] on video self-confrontation; and Newfield [54] and Seldin [67] on self-assessment. Though each reviewer

advocated the theoretical usefulness of information from his respective source, none could conclude that feedback from that source alone was valid, reliable, or effective. Feedback from student ratings has been found to be valid and reliable [20, 48] but only marginally helpful in improving instruction when used alone [19, 50, 73].

Researchers who reviewed the literature on multiple sources of information [35, 36, 56] concur with the single-source reviewers; they suggest that several different sources of information ought to be employed in any feedback event. Several teaching improvement programs that integrate feedback information from various sources have reported successful results [23, 29, 39, 57, 62, 63, 70].

Feedback is more effective when information is gathered from oneself as well as from others. Because feedback from the self is more valued, better recalled, and more credible than feedback from other sources [41, 55], it is not surprising that the feedback process is perceived as more positive when feedback recipients are involved in the assessment [28]. Perhaps this positive attitude results in part from the stimulation of cognitive dissonance created by discrepancies between feedback recipients' self-ratings and feedback sources' assessments. In any case, if the cognitive dissonance is not too large or too small, it is likely to facilitate a change in behavior [45, 59, 74].

Feedback is more effective when the source of the information is perceived as credible, knowledgeable, and well-intentioned. Credibility [5, 41, 74, 76] implies two qualities: first, the source of the feedback information must be perceived by the recipient as being knowledgeable enough to make an accurate judgment on performance; second, the recipient must trust the motives and intentions of the source. Podsakoff and Farh [64] found that subjects who received more credible negative feedback set higher goals and performed tasks at higher levels than those who received less credible negative feedback.

Feedback is more effective when the source of feedback is lower or equal in status to the feedback recipient. As reviewed above, self is the source of feedback upon which people rely most heavily. However, uncertainty regarding performance coerces faculty to actively seek feedback from other sources [2].

Problems may arise when the source of feedback is higher in status than the recipient. The power of the source of feedback may greatly affect the perception of, acceptance of, and desire to respond to feedback [37, 41]. Interestingly, Tuckman and Oliver [75] found that feedback from supervisors produces changes in teacher behavior *opposite* to that advocated in the feedback session. Unfortunately, no studies have been

located that specifically examine status and power differentials between the feedback recipient and the consultant.

Feedback is more effective when mediated by a consultant. Changes in teacher behavior are more likely to occur when someone other than the individual who made the evaluative judgment on the teacher reviews and discusses it with the teacher. Although many advocate the use of consultation [15, 25, 29, 45, 56, 57, 76], the most compelling argument comes from two separate meta-analyses which found that student ratings feedback coupled with consultation was significantly more effective than feedback from student ratings alone [19, 50].

A number of theorists have examined the role of the consultant and conclude that the feedback process must be a client-centered and democratic process if it is to be useful to the feedback recipient and if it is to be effective in producing behavior change [8, 15, 23, 25, 57, 70]. Rather than assuming the role of expert or problem solver, the consultant acts as facilitator, helping the client identify problem areas, set priorities, set goals, brainstorm for alternative behaviors and strategies, and so forth. This collaborator/facilitator role ensures that all authority, as well as responsibility, lies with the client rather than the consultant.

However, there is some evidence that a collaborative consultant may not be effective for all clients all of the time. Wergin, Mason, and Munson [76] reported that an expert role worked better with new clients and novice teachers, whereas a collaborative role worked better with returning clients and experienced teachers. Likewise, the consultants in Brinko's [13] study reported that they were likely to be collaborative with experienced teachers and more likely to be prescriptive with novice teachers. However, analysis of their behavior contradicted these self-reports: their actual behavior ran along a continuum from prescriptive to collaborative, both with novice teachers and with experienced teachers and with new clients and returning clients. These mixed results lead to the conclusion that consultants may have a preferred style of interacting with clients, but that the consulting style within a particular feedback session emerges from the dynamic interaction between the consultant and the client [13]. It is still unknown which of these styles of consulting, if any, actually effect change in teaching behavior.

Feedback is more effective when the consultant is authentic, respectful, supportive, empathic, non-judgmental, and able to keep consultations confidential. [8, 15, 25, 34, 39].

Mode of Feedback: How

Another variable to be considered in the feedback process is the mode of feedback, or *how* feedback is communicated to the recipient. Feed-

back may be verbal, written, statistical, graphical, or behavioral in the manner in which it is conveyed; it may be unstructured or structured in nature. In general, the following behaviors tend to make feedback more effective.

Feedback is more effective when conveyed in a variety of modes. Little systematic research has been conducted comparing different modes of feedback. Kotula [44] found no difference between structured and unstructured feedback sessions. Similarly, Cohen and Herr [21] found that feedback from student ratings that was conveyed in a written format was almost as effective as feedback conveyed verbally, via a consultant.

The question "Which mode of feedback is most effective?" is difficult to extricate from the question "Which source of feedback information is most effective?" It makes sense that an individual's preference will affect her understanding. Visual learners would probably prefer video recordings or graphical summaries; aural learners would probably prefer presentation of the data by a consultant. A paucity of research on the topic makes it impossible to determine from current research in which cases one mode is most effective — just as it is impossible to determine under which circumstances a specific source is most effective.

Content of Feedback: What

Probably the most critical component of the feedback process is the content of the message. Several theoretical and empirical researchers in education, psychology, and organizational behavior have explored the impact of content within feedback episodes. In general, the following kinds of content information tend to make feedback more effective.

Feedback is more effective when it contains accurate data and irrefutable evidence. Feedback information must provide clear, incontrovertible evidence of behavior [74]. Proponents of video self-confrontation [34, 62, 69] argue that one of the inherent strengths of videotape feedback is its irrefutable portrayal of events. However, videotape — or a systematic observation [46, 66] or a structured interview [72] — can be biased if only a portion of the reality is recorded. Hence, irrefutable evidence is accurate only if it is complete.

Feedback is more effective when it contains concrete information. The helpfulness of feedback is dependent upon the amount of information contained in the feedback message [15, 74]. Feedback with little or no content is ineffective: "Thus an observed nod of the head or pat on the back from a supervisor has little or no informational value in and of itself" [41, p. 351].

Feedback is more effective when it contains specific data. Feedback recipients prefer specific feedback over nonspecific feedback [47, 51].

Vague, general impressions offer little assistance to instructors; on the contrary, specific information is essential when providing feedback to teachers [35]. Specific critical incidents help feedback recipients to perform more effectively [77] and to understand better the results of their evaluation [41].

Feedback is more effective when it is focused. Helping faculty to focus on specific issues helps avoid a shallow analysis of teaching. Thus, concentrating on only one skill (such as lecturing or leading discussions) or one goal (such as allowing enough wait time or asking higher-order questions) is a technique advocated by researchers in microteaching [62, 63], peer consultation [15], video self-confrontation [34, 69] and stimulated video recall [71]. Rezler and Anderson [65] found that feedback from videotape had to focus upon specific behaviors in order to produce behavioral change.

Feedback is more effective when it focuses upon behavior rather than on the person. "The former allows for the possibility of change; the latter implies a fixed personality trait" [8, p. 224].

Feedback is more effective when it is descriptive rather than evaluative. Feedback information that describes rather than evaluates reduces defensiveness [8, 40].

Feedback is more effective when it creates cognitive dissonance. Effective feedback makes salient the discrepancies between one's self-perceptions and one's ideals [34, 74] and creates a psychological climate that prepares people for change [60].

Feedback is more effective when it contains models for appropriate behavior. Live or filmed models demonstrate proper skill execution of expected behaviors and provide practice in the desired behavior [34, 69, 74]. Farrell [31] found that teachers who viewed models were perceived by students to be more effective than teachers who did not view models.

Occasion of Feedback: When

Compared with the other variables of *who* and *what,* the issue of *when* feedback should be given has received relatively little attention. Feedback can be given during or after the performance. If given after the performance, there remains the question of *how long* after the performance. In this regard, there are two principles that tend to make feedback more effective.

Feedback is more effective when given as soon as possible after performance. Bergquist and Phillips [8] advised that feedback is most useful when given at the earliest opportunity. Fuller and Manning [34] argued that video feedback should be reviewed soon after taping to reduce feel-

ings of detachment to the videotaped image and to avoid perceptions of the videotaped image as an "older, no-longer-me" self. Ilgen, Fisher, and Taylor [41] found a complex relationship of three factors that influence the effectiveness of feedback: the length of post-feedback interval, the frequency of feedback itself, and the nature of the intervening activity between the behaviors and the feedback. In general, however, they concluded that "the longer the delay in the receipt of feedback, the less the effect of feedback on performance" (p. 354).

Feedback is more effective when it is considered as a process, not a one-time quick fix. Repeated instances of feedback are necessary to change one's self-perceptions and behavior [41, 65]. Currently, the trend in instructional improvement programs is to provide several instances of feedback [10, 15, 23, 39, 53, 62, 63, 68, 70].

Findings about the Recipient of Feedback

Analysis of the literature revealed a number of feedback-giving practices related to the recipient that can enhance the effectiveness of feedback. Each practice and the supporting literature are reviewed below.

Recipient of Feedback: Who

Studies in education, psychology, and organizational behavior had initially focused their attention on the source of the feedback. However, as the process of feedback became better understood, researchers began to view feedback as an episode of two-way communication. Thus, it became necessary to study the characteristics of both participants in the interaction. In general, the following characteristics and practices related to the recipient tend to make feedback more effective.

Feedback is more effective when recipients voluntarily engage in the feedback process or when recipients engage in the feedback process as part of routine professional expectations. Some researchers believe that feedback will be more effective if instructors receiving feedback actively seek the feedback [2, 8] or are already motivated to improve their teaching [35]. Many practitioners who have implemented instructional improvement research programs found volunteers to be the most receptive to receiving feedback [8, 10, 15, 18, 29, 30, 31, 33, 44, 53, 57, 70]. Ilgen and Moore [42] found that performance improved when feedback recipients were free to access or not access the feedback.

However, others believe that feedback can be effective with nonvoluntary recipients *if* the professional expectations of an academic unit include the practice. For example, many instructional consultants report teaching improvement in graduate teaching assistants who do not volun-

tarily seek feedback but who are required to receive it. Some campuses have been routinely requiring feedback for all instructors in a specific rank or in a specific academic unit for decades.

Feedback is more effective when it considers the recipient's amount of experience and the developmental stage. Cytrynbaum, Lee, and Wadner [24] and Baldwin and Blackburn [4] examined the nexus between academic career stages and adult developmental stages. Cytrynbaum, Lee, and Wadner contended that periods of transition are particularly stressful and may result either in a burst of creative productivity or in stagnation. Baldwin and Blackburn found that two periods were especially difficult for faculty members: the first three years of teaching and periods in which new professional responsibilities were shouldered. Similarly, in the organizational literature, Dalton, Thompson, and Price [26] proposed that there are four stages in professional careers: apprentice, colleague, mentor, and sponsor. As the central activities and major psychological issues differ between stages in one's career, feedback needs also differ.

Mode of Feedback: How

Because feedback may take a variety of forms (for example, verbal, written, statistical, graphical, or behavioral; structured or unstructured), some forms may be more amenable than others to feedback recipients. Thus, the manner in which feedback is conveyed can affect its effectiveness. In general, the following practices tend to make feedback more effective.

Feedback is more effective when the recipient is able to select the way in which it is conveyed. Proponents of video self-confrontation [34, 61, 69] argue that video feedback is not for everyone. In many cases it can be a useful tool; in other cases it can be a threatening and stressful experience, actually inhibiting performance or even increasing those behaviors which are desired to be extinguished. This same reasoning can be applied to all methods of feedback: the literature on individual differences makes clear the point that a wide range of perceptions and preferences exist among people in their reactions to feedback [41] and in their learning styles [43]. Thus, different modes of feedback will be more informative, meaningful, and relevant than other modes to different individuals.

Content of Feedback: What

Like the manner in which feedback is conveyed, the content of the feedback can be perceived differently by different people. In general, attention to the following variables tends to make feedback more effective.

Feedback is more effective when it is sensitive to the recipient's locus of control. Individuals with an internal locus of control respond better to feedback that is derived from the task and/or self-discovery. Those with an external locus of control respond better to feedback that is derived from others, such as cues, opinions, and advice from students, peers, or external consultants [41].

Feedback is more effective when it is sensitive to the recipient's self-esteem. Individuals high in self-esteem who seek feedback rely more on their own self-perceptions; individuals low in self-esteem rely more on feedback from external sources [41]. These conclusions may help explain why high self-esteem individuals benefit from video feedback more than low self-esteem individuals [34].

Feedback is more effective when it contains a moderate amount of positive feedback with a selected and limited amount of negative feedback. In general, positive feedback is more accurately perceived and more accurately recalled than negative feedback; however, individuals given only positive feedback tend to become complacent [64].

There is some evidence that individuals with high self-esteem do not perceive negative information as clearly as they perceive positive information; therefore, those high in self-esteem respond less to negative information than those low in self-esteem. Conversely, individuals low in self-esteem respond more to negative information [14, 41]. In addition, the amount of information given should be the amount of information that the faculty member can actually use. "To overload a person with feedback is to reduce the possibility that he may be able to use what he receives effectively" [8, p. 224].

Feedback is more effective when negative information is "sandwiched" between positive information. Feedback is more effective when feedback conversations begin and end with complimentary information [27].

Feedback is more effective when negative information is self-referenced. Negative information that is self-referenced (that is, negative information that compares one's performance to other measures of one's ability) increases individuals' attributions of performance to effort and heightens their expectations about their performance [49]. Conversely, negative information that is norm-referenced (that is, negative information that compares one's performance to other's performance) produces low self-esteem, low expectations, and decreased motivation.

Feedback is more effective when positive information is attributed to internal causes. Feedback that attributes successful performance to internal causes (such as skill and effort) produces a more favorable response toward the feedback [5, 47]. Conversely, feedback that attributes

poor performance to internal causes may produce lower levels of self-efficacy and higher levels of anger, tension, and conflict among individuals [6].

Feedback is more effective when it creates a moderate amount of cognitive dissonance. Cognitive dissonance creates a psychological climate that prepares people for change. However, feedback is more effective when the discrepancies between feedback givers' and feedback recipients' perceptions are moderate, rather than large or small [15, 34, 59]. Additionally, it appears that instructors who rate themselves more favorably than their source tend to exhibit the most behavior change [45].

Feedback is more effective when it reduces uncertainty for the recipient. Feedback recipients perceive the value of feedback in direct proportion to their uncertainty about their performance [2]. Ilgen, Fisher, and Taylor [41] found that feedback is most valuable and most efficient when "it increases knowledge through a reduction in uncertainty by eliminating half of the alternative or competing explanations for behavior" (p. 351).

Feedback is more effective when it is relevant and meaningful to the recipient. Relevancy has three aspects. First, as previously discussed, feedback must be delivered in a timely fashion [8, 56], preferably shortly after observation of the performance. Second, feedback must relate specifically to the behaviors of that particular recipient [56]. Finally, feedback must be conveyed in a language understandable to the recipient [74].

Feedback is more effective when it allows for response and interaction. The success of an interactive feedback system is exemplified by the work of Collins and Stevens [22]. In the traditional unidirectional cybernetic approach to feedback, one element responds to another element's changing conditions (such as a thermostat accommodates to fluctuations in temperature). In Collins and Stevens's theory, the feedback cycle is bidirectional. In other words, the recipient responds to the source who in turn responds to the recipient, who responds to the source, and so on. Increasingly, educators are advocating feedback systems in which the recipient plays an active role [23, 25, 57]. This movement complements and directly relates to the literature discussed above on the effectiveness of self as one source of feedback.

Feedback is more effective when it relates to goals that are defined by the recipient or to rewards that result from positive performance. Problem-identification and goal-formulation by the feedback recipient is one of the significant steps in the feedback process according to many educational researchers [15, 23, 25, 39, 57, 62, 63, 70]. In the organizational

behavior literature, Balcazar, Hopkins, and Suarez [3] found that the effects of feedback are more consistent when rewards or goal-setting is part of the feedback process.

It should be noted that this issue relates to the role of consultant. When the consultant acts as expert — that is, in systems where the feedback source takes primary responsibility for problem identification and goal formulation — the consultant must set well-specified and well-defined goals and rewards. When the consultant acts as collaborator/facilitator — that is, in systems where the feedback recipient takes primary responsibility for problem identification and goal formulation — the consultant must assist the client in defining rewards and goals. Either role may be effective depending upon the needs of the client.

Occasion of Feedback: When

The perceptions of feedback recipients vary also with regard to *when* feedback should be given. Considering their perceptions, the following practices tend to make feedback more effective.

Feedback is more effective when given frequently, but not excessively. In general, most researchers agree that the more frequent the feedback, the better. However, in instances where the recipient perceives that feedback is too frequent, a loss of personal control may be felt, and/or the recipient may come to depend primarily on external cues rather than relying primarily on self for feedback [17, 32]. In this case "increasing feedback frequency may not only fail to improve performance but actually may be detrimental to it" [41, p. 369]. In her study of feedback intervals, Haemmerlie [38] found that feedback provided after each item more negatively affected performance than feedback provided after the entire exam was completed.

Reflections of a Practitioner

Based upon the author's experience as an instructional consultant, some additional practices have been observed to increase the effectiveness of feedback. While the literature did not address these issues either empirically or theoretically, several colleagues practicing in the field of instructional consultation agree that the following practices have helped faculty to hear and accept the feedback message more readily.

Feedback is more effective when positive information is given in the grammatical second person. Feedback that is personalized is more powerful than feedback that is depersonalized. Thus, the grammatical second person can make positive information more powerful. For example,

the following statement explicitly compliments the feedback recipient: "You were very successful in eliciting responses in your whole group discussion. And that's not easy with freshmen!"

Feedback is more effective when negative information is given in the grammatical first person, in the grammatical third person, or in a question. Just as positive information that is personalized is more powerful than positive information that is depersonalized, negative information that is personalized is more powerful than negative information that is depersonalized. Thus negative information presented in the grammatical first person is less injurious and more "hearable." For example, the following statements in the grammatical second person may sound accusatory: "You lost the class about halfway through. First you were talking about Erickson, then you were talking about Levinson, and then you lost us." On the other hand, feedback recipients may be more apt to hear and heed statements that are in the grammatical first person and focus on the speaker's reactions, such as "I thought I understood the organization of the material from the outline on the board. But then about halfway through the class I wasn't sure if we were talking about Erickson's or Levinson's theory."

An alternative to using the grammatical first person with negative information is to use the grammatical third person. For example, this statement in the grammatical second person may put the feedback recipient on the defensive: "You ignored the women and dismissed their contributions when they did speak." On the other hand, the grammatical third person frames the problem more objectively: "The male students got more air time than the female students."

Another way to provide negative information is to turn the information into a question. Questions can soften the effect by calling attention to a problem without labeling it as such and can stimulate critical thinking about the teaching process. For example, rather than telling a professor that he did not deal effectively with disruptive students, one might broach the subject by asking, "What do you suppose was going on in that back row? . . . Did you find them distracting?" These questions then could lead to a discussion about students distracting other students, techniques to prevent disruptions, and techniques to quell future disruptions.

Feedback is more effective when negative information is devoid of inflammatory language. Because personalized feedback is more powerful than depersonalized feedback and because negative information is very difficult to hear, it is important that language used to convey negative information is chosen very carefully. For example, a statement such as "The students were very concerned when . . ." is more "hearable" than a

strong statement such as "The students said that they were appalled when. . . ."

Implications for Instructional Improvement

Combining evidence from the research literature in the fields of education, psychology, and organizational behavior, it appears that the more effective feedback program for instructional improvement will follow the following process.

A faculty member will voluntarily contact an instructional consultant. At their initial meeting, the consultant will explore the instructor's teaching history, professional history, learning style, locus of control, and self-esteem. The consultant will assist the instructor in identifying those areas in his/her teaching that are rewarding and troublesome, in formulating a limited number of appropriate goals, in selecting the sources and modes of feedback that are particularly interesting, and in setting up a comfortable work/feedback schedule.

With the background data collected, the consultant arranges for the types of feedback requested by the faculty member — videotape recordings, peer teams for classroom visits, peer groups for discussion of class materials, student ratings, student interviews, alumni surveys, systematic observation, interaction analysis, and so forth. While data are being collected from the other sources, the instructor with an internal locus of control and/or high self-esteem records his/her self-perceptions either through a structured instrument (for example, the instructor fills out the same rating form used by the students) or through an unstructured interview (for example, "What do you think was the weakest part of your lecture?"). An alternative procedure for instructors with an external locus of control and/or low self-esteem would be to collect the instructor's perceptions of how he/she thinks others are going to evaluate him/her. In this case, for example, the instructor would fill out the student rating form indicating expected student response, rather than self perceptions; in an unstructured interview, for example, the question would be "What do you think your colleague thought was the weakest part of your lecture?" After the data are collected, the consultant synthesizes the information and chooses a liberal amount of positive and a limited amount of negative information to feed back to the client.

As soon as possible after the data collection, the consultant and faculty member meet to discuss the results. The consultant presents the synthesized information which is supported by specific raw data. The information is accurate, concrete, specific, relevant, and focused toward the

problems and goals identified earlier. The consultant points out areas where the instructor's perceptions are moderately discrepant from the perceptions of other sources. The consultant provides live or filmed models if the instructor wishes. If the instructor has an internal locus of control and/or high self-esteem, the consultant will focus on intrinsic feedback and internal cues; if the instructor has an external locus of control and/or low self-esteem, the consultant will focus on extrinsic feedback and external cues. In either case, the instructor should feel free to respond to and interact with the feedback.

Problems, strategies, and goals are now renegotiated; the feedback cycle begins again, and continues until the instructor wishes to discontinue the feedback process.

Implications for Research

As noted previously, some of the feedback practices outlined above were derived from theoretical or consensual literature, or from the author's experience as an instructional consultant. It would be very useful to theoreticians and practitioners alike to strengthen this body of literature in those areas that are lacking empirical studies.

In addition to the above outlined feedback practices that have no empirical support, there are several aspects of feedback that have yet to be explored. As mentioned earlier, the *why* of feedback has received inadequate attention. Little is known about the motivation of the subjects (that is, the faculty) with regard to their feedback-seeking behaviors [2]. Depending on the individual campus, instructional feedback may be suggested, required, routinized, or frowned upon, which would considerably influence the *why*.

Another area that needs systematic study is the impact of language on the effectiveness of feedback: the structure of sentences, the choice of words, the framework within which problems are approached, how problems are named.

Investigation is also needed in the cognitive processes of consultants and how they make decisions within the feedback session: how they decide which information to feed back to the faculty client, why they structure their sentences and phrase their comments as they do, why they choose certain words over others, how they decide to frame a problem, how they decide to name a problem, if and how they offer solutions, and how they use silence.

Research also needs to be conducted in gender differences with regard to feedback. Although a small sample revealed no gender differences in number of questions, number of statements, and kinds of questions and

statements in instructional consultation sessions [13], we need more information on how women and men give feedback and the differences, if any, in how they convey feedback information. We need information about how women and men respond to various feedback-giving practices. We also need to know if there is a difference in how feedback recipients react to feedback givers of the same or opposite gender.

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