**Learning through Loops:**

**Feedback as a POWERFUL teaching tool**

 Feedback about student performance is inherent in education yet it often inappropriately used. The design and delivery of feedback is important as it has significant effects, positive and negative, on learning. Generally thought of as a simple element of communication, feedback loops are complex mechanisms with many uses and forms, each subject to many contextual variables. In this roundtable session, we aim to bring awareness to common paradigms related to feedback, to share practices and experiences, to highlight insights from research on feedback, and to discuss practical design and delivery ideas to better apply feedback for enhanced learning.

Keywords: feedback; assessments; course planning

 Feedback is a form of communication in which a sender gives a recipient evaluative information about an act, behavior, performance, or communication. The output of the recipient is compared to the ideal or desired result and that comparison information is ‘looped’ back to the recipient to guide them in learning from and improving for their next performance. Providing feedback is an automatic – and essential – act of teaching. It is automatic in that teachers give it without much thought. Examples: the simple act of giving grades on quizzes; giving a nod in response to a student comment; and working through an example solution to demonstrate how to answer a problem that challenged or confused students. Feedback is essential and required for learning as it provides information necessary to be aware of and correct errors in knowledge, skills, or the application of methods and tools (Gielen, Peeters, Dochy, Onghema, & Struyven, 2010; Narciss & Huth, 2004). The design and delivery of feedback are powerful tools to foster and motivate learning, but although seemingly simple, feedback is rather poorly understood (Schute, 2008).

 As a basic component of communication, teachers usually take the giving of feedback for granted and assume it is well-received and has value for students’ learning and progress. Gibbs and Simpson (2005), however, describe how wide discrepancies often exit between a teacher’s perception of their feedback’s value and how their students rate the value of that feedback. Worse yet, feedback is often not understood or given any attention. Students may not feel motived to invest time in reading and applying feedback toward learning, instead only regarding the grade received as the only important feedback information.

Toward the specific aim of teaching, research highlights the complex, multi-dimensional nature of feedback and how its many forms and contextual factors can positively – or negatively – affect learning, task performance, and the endurance of learning (Gielen et al., 2010; Schute, 2008). Feedback has many types, modes, and uses (Schute, 2008). Further, the effect feedback has on a learner is determined by a variety of contextual and delivery variables (Narciss & Huth, 2004). To design and use feedback toward positive student outcomes, it thus is important to understand these complexities and variables. If not well understood, there is risk that good intentions with feedback may not help those most needing correction (Crisostomo & Chauhan, 2019) or worse yet, it may cause harm to motivation and learning (Goodman, Wood, & Hendricks, 2004).

 The purpose of this roundtable session is to unpack the concept of feedback to improve how management educators design and deliver this critical aspect of teaching. We will discuss experiences, expose paradigms, and discuss feedback practices. Participants will learn about important research findings about feedback. Reflection and discussion will complete the session as participants share and discuss practical ideas for better designing and delivering different modes of feedback to improve student learning outcomes and experiences.

 Certainly, new educators who have had little time to think about details such as feedback will benefit by attending. Experienced educators, who may be giving feedback reflexively and without considerable thought to its design and delivery, can also benefit. The intended outcome for participants is a greater awareness and appreciation of this complex teaching mechanism. Participants should take away from this session new insights and knowledge of the implications various feedback design and delivery choices may have on students’ learning. This will be accomplished by first discussing their baseline understanding, practice, and paradigms related to giving feedback and then by receiving feedback in the form of research findings that support, refute, or extend their knowledge. Through this process, participants will be able to recognize and correct errors in their practice and better plan for and exploit the positive effects of feedback on student learning outcomes.

**THEORETICAL FOUNDATIONS AND TEACHING IMPLICATIONS**

 As communication intended to correct or improve another’s performance of a task or learning of new knowledge, feedback is a message signaling the necessary information for the recipient to be aware of an error or failure with the intent to stimulate corrective action leading to successful performance or learning (Gielen et al., 2010; Goodman et al., 2004; Schute (2008). This definition of feedback as a form of basic communication has clear and direct implications for its use in teaching. Research demonstrates that feedback that is more specific, objective, and coupled with performative criteria will result in greater improvement in performance (Goodman et al., 2004). Some scholars claim that how student performance and knowledge is assessed and how subsequent feedback is delivered may matter more toward student learning than how they are taught. That is, “students decide what to learn based mostly on how they are assessed and whether they have opportunities to respond to feedback from those assessments” (Herman et al., 2020, p.56). Implicit in this statement is that the quality and nature of feedback given provides the appropriate information to foster learning and retention.

 In contemplating the concept of feedback and its critical role in teaching and learning, it becomes apparent that the effective design and delivery of feedback requires an understanding of its complexities. Rather than reflexive practice, instructors must design and deliver feedback with specific intentions and aims toward improving student learning outcomes (Narciss & Huth, 2004). Of particular value is formative feedback designed to increase student knowledge and understanding. Assessment grades only provide summative feedback which provides only information on the state (i.e., success) of learning achieved. Alternatively, formative feedback messages stimulate feedback loops and cognitive cycles that can clarify learning deficiencies, stimulate reflection and information retrieval, and motivate self-learning resulting in more durable knowledge gains (Armacost & Pet-Armacost, 2003; Schute, 2008).

Formative feedback has many uses, forms, benefits, contingency factors, and implications on learning (Schute, 2008). It can be response-specific, goal-directed, past-referent, etc. By signaling a gap in knowledge or skill, it can motivate goal setting and more study or practice, reduce students’ uncertainty about the state and nature of their knowledge and performance, and thus it can reduce cognitive load and enhance focus (Paas, Renkl, & Sweller, 2003). Implications and outcomes are also complex. For example, research demonstrates that the greater the richness and specificity of feedback the greater the improvement in subsequent performance. Greater specificity in feedback, however, results in reduced systematic exploration by the learner. That is, the student does less to self-correct through research, study, and reflection. As a result, the improved learning and performance from high feedback specificity does not endure over time (Goodman et al., 2004). Well-designed feedback, therefore, can be a powerful tool to stimulate and direct students in learning how to learn. Poorly designed feedback often works against that aim, and often most severely to those students needing to benefit the most from formative feedback (Crisostomo & Chauhan, 2019).

 In her review of feedback in education, Schute (2008) highlights a variety of feedback variables including: purpose (e.g., formative, summative, directive); type of message (e.g., verification or elaboration); complexity; and timing. Narciss and Huth (2004) argued a multi-dimensional theory of feedback in which variables related to (a) the feedback message, (b) the instructional context, and (c) the learner context interact to affect the degree and direction of effects of feedback. Through understanding these dimensions and the variables within each, the authors argued that with proper design, systematic formative feedback can have positive effects on achievement, motivation, and durable learning.

 Through their meta-analysis of research on feedback’s effect on learning, Kluger and DiNisi (1998) proposed feedback interventions theory (FIT). The primary notion of FIT is that feedback changes the locus of a learner’s attention and that where that attention goes is critical. Thus, FIT describes a hierarchy of learner attention from the least positive influence of learning (what they term meta-task processes) to a focus that has significant positive benefits for learning (task-learning attention). Through their work, Kluger and DiNisi (1998) also provided important findings including that giving praise rarely has a positive effect on learning and, alternatively, that self-referent and goal-referent feedback have positive effects on motivation. Considering the feedback theorizing of Bangert-Drowns and colleagues (1991), which emphasizes that feedback stimulates a cycle of reflection, evaluation, and adjustment, it is understandable that praise and ambiguous feedback can be weak or even detrimental modes of feedback.

 The quality of feedback given by management educators has clear and direct impact on student learning. Good, intentional, and appropriate design uses formative feedback as a key communication mechanism that can enhance student motivation, engagement, self-confidence, and competence in life-long learning. Less thoughtful practice of feedback, practice that may rely on flawed assumptions or paradigms, may in fact harm student learning and, in-turn, frustrate instructors who believe they are doing a decent job with feedback.

**SESSION DESCRIPTION**

 Following is a summary of the intended agenda and format for the 60-minute session.

1. INTRODUCTION: 5 minutes

 Introduction of session leaders, topic, and agenda

1. PARTICIPANT ENGAGEMENT: 20 minutes

 A questionnaire will draw out participant’s practices, paradigms, and assumptions about feedback. Perspectives on and experiences with feedback, both good and bad, will be shared. Participants will have an opportunity to raise questions, challenges, or concerns about designing and delivering feedback.

1. A LITTLE THEORY: 15 minutes

 An overview of theory and implications of feedback will be presented. Time will allow of

questions to clarify and absorb the information.

1. REFLECTIONS, OBSERVATIONS, and TAKE-AWAYS: 20 minutes

 Participants will engage in a guided reflection exercise followed by an open debrief and discussion to share things learned, ideas developed, and further questions to research and consider.

Participants will leave the session with an information sheet summarizing the key pieces of research and theory presented as well as a starter reading list for further investigation. A ‘tip sheet’ will offer simple ideas useful toward participants’ design and delivery of more effective feedback.

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