Understanding the Advising Learning Process Using Learning Taxonomies

Jeanette K. Muehleck, Portland Community College
Cathleen L. Smith, Portland State University
Janine M. Allen, Portland State University

To better understand the learning that transpires in advising, we used Anderson et al.'s (2001) revision of Bloom's (1956) taxonomy and Krathwohl, Bloom, and Masia's (1964) affective taxonomy to analyze eight student-reported advising outcomes from Smith and Allen (2014). Using the cognitive processes and knowledge domains of Anderson et al.'s revised taxonomy, we discuss the learning processes that underlie cognitive-based outcomes. We also describe the way the affective taxonomy developed by Krathwohl et al. contributes to understanding learning processes that promote affective outcomes. Through these analyses, we describe how learning occurs in advising and show that advising, as represented by Smith and Allen's eight defined outcomes, delivers the array of cognitive and affective changes presumed to constitute learning as articulated by these frameworks.

[doi:10.12930/NACADA-13-013]

KEY WORDS: advising learning outcomes, affective outcomes, affective taxomony, Bloom's taxonomy, cognitive outcomes, cognitive processes

The introduction of the learning-centered paradigm (Hagen, 2005) has prompted advisors to focus on what students learn in advising encounters, shifting attention to the value of clearly identified advising learning outcomes (Martin, 2007). Proponents of learning-centered advising have suggested strategies for developing advising learning outcomes (Adams, 2007), templates for advising syllabi (Thurmond & Nutt, 2009), and advising models that communicate the purpose of the institutional mission (Hemwall & Trachte, 2005) and curriculum (Lowenstein, 2005). As useful as they are for practitioners, these recommendations do not provide detail on the mechanics of learning. Hurt (2007) suggested that learning frameworks developed for the wider sphere of education offer useful constructs for advising. We agree, as models that explain not merely what students should learn, but also how they learn can contribute to the understanding of learning in advising. Accordingly, we propose using models that describe the ways students acquire knowledge and values as tools for understanding learning in advising, and in this article we analyze the advising learning process through established educational frameworks. We also suggest strategies that advisors can use to intentionally foster learning in their advisees.

Although students may derive a number of outcomes from advising, many of which are institution specific, our discussion centers on the eight outcomes described by Smith and Allen (2014). We chose these outcomes because of the evidence that links them to students' advising encounters at nine institutions (two community colleges and seven universities). Specifically, Smith and Allen showed that students who had been frequently advised reported higher levels of agreement with eight statements describing learning outcomes than students who had been advised occasionally or had not been advised. Furthermore, students who consulted with advisors to choose required courses reported higher levels of agreement with the eight statements of advising outcomes than did students who self-advised using official materials or who relied upon advice from friends or family members. Table 1 presents the eight advising outcomes and their variable names.

Smith and Allen (2014) described five cognitive and three affective outcomes that involve students' perceptions of their knowledge and values, and stand as indirect measures of student learning outcomes (Aiken-Wisniewski, 2010). In an effective evaluation of student learning, self-evaluations constitute one of multiple, including direct, measures of learning (Robbins, 2009). However, because they have been empirically associated with advising, the Smith and Allen (2014) outcomes provide a practical basis for dialogue about learning in advising. Accordingly, we describe learning frameworks that explain how students achieve cognitive and affective learning and use these frameworks to examine advising learning outcomes.

Table 1. Advising learning outcomes and variable names

Variable	Advising Learning Outcome
Knows Requirements	University students: I know what requirements (e.g., major, general education, other university requirements) I must fulfill in order to earn my degree. Community college students: I know what requirements (e.g., prerequisites, general education, transfer requirements) I must fulfill at [name of institution] in order to meet my educational goals.
Understands How Things Work	I understand how things work at [name of institution] (time lines, policies, and procedures with regard to registration, financial aid, grading, graduation, petition and appeals, etc.).
Knows Resources	When I have a problem, I know where at [name of institution] I can go to get help.
Understands Connections	I understand how my academic choices at [name of institution] connect to my career and life goals.
Has Educational Plan	I have a plan to achieve my educational goals.
Values Advisor–Advisee Relationship	It is important to develop an advisor–advisee relationship with someone on campus.
Supports Mandatory Advising	There should be mandatory academic advising for students.
Has Significant Relationship	I have had at least one relationship with a faculty or staff member at [name of institution] that has had a significant and positive influence on me.

Note. From Smith and Allen (2014, p. 53). Used with permission.

Bloom's Taxonomy and the Anderson et al. Revision

We selected Anderson et al.'s (2001) revision of Bloom's (1956) taxonomy as the conceptual framework for evaluating the cognitive outcomes from Smith and Allen (2014). Like Bloom's influential original work, the revised taxonomy offers a method of classifying learning into a systematic hierarchy of objectives. However, Anderson et al. built on Bloom's taxonomy to differentiate between the learning behaviors that produce knowledge (the cognitive process dimension) and the knowledge that results from learning (the knowledge dimension). As a result, the revised taxonomy separates learning into process (how) and product (what) (Krathwohl, 1994).

The cognitive process dimension categorizes learning into six levels of activity that students perform to effect learning. Anderson et al. (2001) described these cognitive levels as remember (recall knowledge), understand (construct meaning), apply (execute a procedure), analyze (differentiate parts and relationships), evaluate (make criteria-based judgments), and create (plan or produce a new structure or hypothesis). The knowledge dimension in the Anderson et al. (2001) revised taxonomy includes concrete and abstract types of knowledge (see also Krathwohl, 2002). Anderson et al. condensed Bloom's (1956) many subcategories of knowledge into factual, conceptual, and procedural knowledge, and they added a new category: meta-cognitive knowledge. These four knowledge domains acquaint students with the terms and basic elements of a field (factual), equip them to understand how these elements are structured and interrelate within a field (conceptual), teach them the skills and procedures involved (procedural), and deepen their self-knowledge and awareness of the utility of thinking and strategizing (meta-cognitive) (Anderson et al., 2001; Krathwohl, 2002).

Applying the Revised Taxonomy to Advising Outcomes

We analyze Smith and Allen's (2014) outcomes to illustrate ways advisors might use the revised taxonomy to identify the cognitive learning processes characterizing their own advising outcomes. We also describe ways advisors might promote learning as they guide students through Anderson et al.'s (2001) six cognitive learning processes.

Table 2. Using Anderson et al.'s (2001) revised taxonomy table for the has-educational-plan variable

Advising Learning Outcome: "I have a plan to achieve my educational goals."

	Cognitive Process Dimension					
Knowledge Dimension	**Remember**	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Create**
Factual	X	X	X	X		
Conceptual	X	X	X	X	X	X
Procedural	X	X	X	X	X	X
Meta-cognitive	X	X	X	X	X	X

Note. Adapted from Anderson, Lorin W.; Krathwohl, David R.; Airasian, Peter W.; Cruikshank, Kathleen A.; Mayer, Richard E.; Pintrich, Paul R.; Raths, James; Wittrock, Merlin C., *A Taxonomy For Learning, Teaching, and Assessing: A Revision of Bloom's Taxonomy of Educational Objectives, Complete Edition*, 1st Edition, ©2001, p. 28. Reprinted by permission of Pearson Education, Inc., Upper Saddle River, NJ.

Identifying Learning Processes Using the Taxonomy Table

Anderson et al. (2001) devised the taxonomy table, a tool used to determine the types of knowledge and cognitive process involved in learning. The taxonomy table presents the knowledge dimension along the vertical line (y-axis) and the cognitive process dimension along the horizontal line (x-axis). Using the taxonomy table, advisors can plot the types of knowledge and learning processes associated with different advising outcomes. This exercise will help clarify for advisors what students will learn in advising, for example, what they will know, do, and value (NACADA: The Global Community of Academic Advising, 2006) as well as the processes they will use to learn. When advisors identify the type of knowledge students will learn and the processes through which they will gain it, advisors can target their advising practice to promote exactly the learning that leads to the desired outcome.

For example, for students to achieve some of the advising outcomes in Table 1, advisors must reinforce the information students need to remember and understand: "I know what requirements (e.g., major, general education, other university requirements) I must fulfill in order to earn my degree." Various advising outcomes that entail remembering and understanding information may also indicate that advisors should encourage advisees to apply knowledge: "When I have a problem, I know where at [my institution] I can go to get help." Other outcomes call for advisors to advance advisees' ability to analyze parts of a system: "I understand how things work at [my institution] (time lines, policies, and procedures with regard to registration, financial aid, grading, graduation, petition and appeals, etc.)." Still others necessitate that advisors develop students' ability to evaluate connections: "I understand how my academic choices at [my institution] connect to my career and life goals." Some challenging advising outcomes call for advisors to assist students to create: "I have a plan to achieve my educational goals."

Using the Taxonomy Table to Examine Has-Educational-Plan Outcome

Our discussion of ways advisors may promote cognitive learning using the revised taxonomy (Anderson et al., 2001) centers on the advising outcome "I have a plan to achieve my educational goals" (hereafter, has-educational-plan outcome). We selected this outcome because our analysis of it produced a nearly complete taxonomy table in both the knowledge and the cognitive process dimensions of the revised taxonomy (as per Anderson et al., 2001). Additionally, we chose has-educational-plan because we believe Smith and Allen's (2014) four other cognitive outcomes are prerequisites for creating an educational plan. Table 2 identifies the learning expected of students in advising as they advance toward formation of an educational plan and shows that has-educational-plan promotes a full spectrum of learning; students who develop a plan must remember, understand, apply, analyze, evaluate, and create considerable factual, conceptual, procedural, and meta-cognitive knowledge.

Our discussion of the learning required for students to achieve the has-educational-plan outcome moves from lower order cognitive processes such as remember and understand to the higher order process *create* using the prerequisite cognitive outcomes from Smith and

Allen (2014) (Table 1): knows requirements, understands how things work, knows resources, and understands connections. The cognitive processes and types of knowledge pertaining to these outcomes lead to learning that equips students to create an educational plan. We provide examples of learning opportunities advisors might include in their practice to promote the learning necessary for students to create an educational plan.

Learning by remembering and understanding. As a first step in equipping students to create an educational plan, advisors must facilitate student's learning of the basic vocabulary of the institution (i.e., factual knowledge) (e.g., credit, major, and prerequisite). To help students master factual knowledge, advisors can ask students to recognize and recall information (*remember*) as well as interpret, summarize, and explain information (*understand*) (Anderson et al., 2001).

To reinforce and monitor the full extent to which students remember and understand factual information, advisors can adapt active learning strategies from Davis (2009), who suggested that students' ability to remember information improves when they are asked to restate it. For example, when explaining academic terminology, advisors can ask students to paraphrase the information shared. Advisors also can reinforce learning by encouraging students to take notes or by requiring them to report one fact they learned and one question left unanswered after each advising encounter (Davis, 2009).

To create an educational plan, students also must remember and understand degree requirements (knows requirements). They also must know the ways in which their major, general education, and other degree requirements fit together to comprise the degree they seek. This understanding calls for conceptual knowledge, defined as "the interrelationship among the basic elements within a larger structure that enable them to function together" (Anderson et al., 2001, p. 46). Lowenstein (2000) referred to the interrelationship of educational requirements as one aspect of the logic of the curriculum. To promote student understanding of conceptual knowledge, advisors might use Lowenstein's (2000) strategy of Socratic teaching, which helps students understand and interpret how, taken together, their chosen courses create a meaningful whole. In addition to that strategy, advisors might ask students to form mental pictures or to capture their knowledge in writing (Davis, 2009).

Table 2 illustrates that to develop an educational plan, students also need to remember and understand procedural knowledge, practical knowledge of "how to do something" (Anderson et al., 2001, p. 29) and meta-cognitive knowledge, which focuses on one's strengths, weaknesses, goals, interests, and motivations (Anderson et al., 2001). We base the remainder of our discussion on the assumption that college students have mastered the lower order cognitive processes of remembering and understanding, which serve as foundations for each higher order cognitive process.

Learning by applying. To equip students to craft an educational plan, advisors must prepare students not only to acquire and recall knowledge, but also to use it. This type of advising results in procedural knowledge, which is reinforced through the cognitive process of apply. In the revised Bloom's taxonomy, *apply* is defined as the process of executing or implementing a procedure (Anderson et al., 2001). Students need to remember, understand, and apply factual, procedural, conceptual, and meta-cognitive knowledge to achieve their educational goals. For example, to help students learn about campus resources (knows resources) and understand the policies and procedures of the institution (understands how things work), advisors must provide factual knowledge about services and procedures as well as facilitate students' access to resources and navigation of the institution. Advisors ask students to apply procedural knowledge when performing necessary tasks such as acquiring referrals, registering, or filing an appeal. In addition, advisors can encourage students to apply conceptual knowledge about how resource networks and procedures work as well as meta-cognitive knowledge about their own particular learning needs to develop a personalized educational plan that includes essential elements (e.g., declaration of a major and timely application for graduation) and makes the most of support resources such as TRiO programs and disability services.

Advisors teach students to apply learning gained in advising by asking them to carry out the processes they learn. As Melander (2007) stated, advisors teach students by providing how-to experiences. They can provide practice simulations (Davis, 2009) of the steps required to carry out an educational plan, such as registering or declaring a major, and can promote students' understanding of the reasons such processes are necessary to their educational plan. In essence,

advisors provide oversight for students through the processes of filing an appeal, applying for graduation, and undertaking other essential procedures that move them forward in their educational plan.

Learning by analyzing. As they assist students in acquiring important procedural knowledge about policies and procedures (understands how things work), advisors also help students gain conceptual knowledge by explaining how the policies of one institutional department relate to those in others. For example, advisors help students understand how credit load affects qualification for financial aid. To promote this type of learning, advisors can introduce the cognitive process *analyze* to students' repertoire of advising learning behaviors. Anderson et al. (2001) defined *analyze* as the process of determining how different parts relate to the overall function of a whole; it includes cognitive skills such as distinguishing, focusing, integrating, and finding coherence. Through advising, students learn to distinguish the coherent patterns and systems of the institution and the ways they fit together. To do this, they must analyze the factual, conceptual, procedural, and meta-cognitive knowledge they learn from advising. For example, students can analyze their own knowledge to differentiate various parts and practices of the institution that fulfill essential steps in their overall educational plan. Advisors can promote students' analysis of institutional workings by asking them to develop a concept map, a teaching tool used to diagram the relationships among different elements (Davis, 2009). With the map, students can visualize ways various units such as financial aid, registration, experiential learning, and student employment interact and influence their educational goals. When they learn to analyze how things work (Smith & Allen, 2014), students are equipped to integrate institutional policies into their educational plan.

Learning by evaluating. In the penultimate task of creating an educational plan, advisors lead students to a constructed understanding of how their major, minor, internships, and other educational choices support their individual career and life goals (understands connections). This complex advising learning outcome requires self-knowledge, which falls into the meta-cognitive dimension of Anderson et al.'s (2001) taxonomy and includes knowledge about one's strengths, weaknesses, goals, interests, and motivations (Anderson et al., 2001). According to Raths (2002), meta-cognitive knowledge connects students to learning by helping them understand their individual relationship to academic learning. For example, students use meta-cognitive knowledge to identify the academic disciplines that most interest them (Raths, 2002). Advisors can help students acquire self-knowledge by assigning reflective exercises such as journaling about their strengths, researching and reflecting on different careers and goals, and completing assessment inventories to identify their skills and interests.

Once students have identified career and life goals, advisors can assist students in using the cognitive process *evaluate* (Anderson et al., 2001) to determine the level of congruence between their academic choices and career and life goals. A process or product is evaluated through judging, checking, coordinating, or testing based on a set of criteria or standards, including level of internal consistency (Anderson et al., 2001).

Advisors can help students develop skill in evaluating the consistency of their academic choices. For example, by directing students to research professional standards and licensure requirements for their chosen career, advisors show students ways to measure academic choices against the criteria required to succeed in their career or postgraduate study. In addition, advisors can suggest that students evaluate their overall educational experience to determine whether their out-of-class choices provide opportunities consistent with their interests and life goals (e.g., internships, service learning, undergraduate research, or study abroad). Advisors can connect students with mentors in their prospective profession, support student involvement in enriching campus and community opportunities, and encourage them to assess the relative merits of their academic and extracurricular options to select those that align best with their long-term career and life goals.

Learning by creating. In the final step of helping students create an educational plan, advisors provide planning and problem-solving strategies. At this point, students typically have gained the factual, conceptual, procedural, and meta-cognitive (self) knowledge they need to build a plan. They are experienced in remembering, understanding, applying, analyzing, and evaluating their knowledge about the institution and themselves. Students must use this knowledge from advising to form an overall educational plan. This calls for students to *create*, which Anderson et al. (2001) described as planning or producing by

bringing together different elements into one workable solution.

According to Davis (2009), many students display unfamiliarity with planning and problem-solving techniques. Advisors can introduce students to two strategies for creating an educational plan: setting subgoals and working backward from a goal. By setting subgoals, individuals break down a large task into a series of smaller, more attainable goals (Anderson et al., 2001). Knowledge related to setting subgoals may be particularly useful to part-time students for whom degree attainment may seem a distant and daunting objective. By helping students identify smaller, more manageable goals in their overall plan, such as completing general education requirements, advisors can foster a sense of achievement and encourage persistence.

To work backward from a goal, one identifies a definite end point and then breaks down the intermediary steps that lead to it (Anderson et al., 2001). By teaching how to work backward from a goal, advisors prepare students to outline an educational plan according to a specific time line and a clear academic objective. Using this strategy, advisors lead students to a better understanding of the ways prerequisites serve as scaffolding for the end-stage upper division courses in their degree plan. By providing students with opportunities to develop planning and problem-solving techniques in an atmosphere of shared responsibility (Frost, 1991), advisors equip students with frameworks for integrating and charting all the knowledge constructed in advising.

Advisors support students' efforts to create an educational plan by helping them remember and understand basic information about the institution such as degree requirements (factual knowledge); apply policies and procedures (procedural knowledge); analyze the interrelationship of institutional requirements and policies (conceptual knowledge); evaluate their aspirations and abilities (meta-cognitive knowledge) as well as how closely their academic and career and life choices connect; and bring together all their factual, conceptual, procedural, and meta-cognitive knowledge to create a unified scheme for achieving their educational goals. As a result, advising prepares students to acquire knowledge about the institution, develop self-knowledge, and practice cognitive skills that allow them to construct a well-informed, connected, consistent, personalized, and feasible plan that synthesizes the various dimensions of their education into a coherent whole.

Affective Learning

Consistent with that of educators seeking to understand not just what students know or can do as a result of their learning but also their learned attitudes and values (Angelo & Cross, 1993), our interest lies in students' values as well their knowledge and abilities. As Komives and Schoper (2006) stated, "Learning is not merely academic or cognitive learning; it is a transformative process including affective development and identity" (p. 28). Our advising outcomes reflect the recognition that advising results in affective as well as cognitive learning.

Affective learning encompasses the learning that supports achievement of three outcomes we identified in Smith and Allen (2014) (see Table 1): values advisor–advisee relationship, supports mandatory advising, and has significant relationship. These outcomes center on students' appreciation of the advising relationship as well as other significant relationships with faculty members and staff, and the potential for these relationships to advance students' education. Borrego (2006) stated, "Successful learning happens in relationship" (p. 14), and our affective outcomes reflect the view that relationship is a major component of advising (Mottarella, Fritzsche, & Cerabino, 2004; Reynolds, 2003). We recognize that the broad affective domain holds potential for a variety of learned attitudes and values that result from advising in addition to the appreciation for relationship. For example, advisors can also teach students to value lifelong learning (Hemwall & Trachte, 2003) and embrace learning for the sake of learning (Reynolds, 2003).

Furthermore, as Banta, Hansen, Black, and Jackson (2002) stated, the various approaches and goals of advising result in program-specific learning outcomes. Moreover, when advising programs align learning outcomes with the mission of the college, learning objectives vary from institution to institution (Campbell & Nutt, 2008; Hemwall & Trachte, 2003, 2005; Martin, 2007).

The Affective Taxonomy

We selected Krathwohl, Bloom, and Masia's (1964) affective taxonomy to understand learning in the affective domain. Not only do Krathwohl et al. offer a thorough analysis of the affective learning process, their taxonomy provides continuity with Anderson et al.'s (2001) cognitive model. After the publication of *Handbook I* for

the cognitive domain (Bloom, 1956), Krathwohl et al. (1964) produced *Handbook II*, a framework for affective learning. Like Bloom (1956) and Anderson et al. did with the cognitive domain, Krathwohl et al. described how learning transpires in the affective domain.

According to Krathwohl et al. (1964), affective learning follows a continuum of response to a specific affective quality, such as a value, through which an individual proceeds from awareness of the value to development of a worldview based on that value. The continuum comprises the basis of Krathwohl et al.'s (1964) taxonomy, which categorizes learning into five behavioral levels: receiving (notice and pay attention), responding (actively react), and valuing (assign worth) as well as organization (integrate with existing values) and characterization (develop into general behavior). According to Krathwohl et al., students progress through learning substeps at each of the five behavioral levels: receiving (awareness, willingness, attention), responding (acquiescence, willingness, satisfaction), and valuing (acceptance, preference, commitment) as well as organization (conceptualization, organization) and characterization (generalization, characterization).

Applying the Affective Taxonomy to Advising Outcomes

We explore the learning process that supports the three affective advising outcomes that center on students' regard for the advising relationship. Students' appreciation of advising and other significant relationships is the affective quality common to the three outcomes. This affective quality provides evidence that students have adopted this value (values advisor–advisee relationship), acted on it (has significant relationship), and so fully embraced it that they regard advising as a critical opportunity for all students (supports mandatory advising).

In the following analysis, we show how advisors may employ the learning behaviors of Krathwohl et al.'s (1964) affective taxonomy to advance students' esteem of the advising relationship. For each level of learning in the affective process, we suggest ways to include affective learning behaviors in advising practice.

Learning by receiving. According to Krathwohl et al. (1964), awareness is the first step of receiving, a learning behavior that increases students' consciousness of and attendance to a phenomenon. To engender learning by *receiving*, advisors must create awareness of advising as an important venue for learning in relationship. At this stage, advisors and others at the institution can promote advising awareness through admission materials, student orientation venues, and college web sites.

The next step in receiving is willingness to receive, defined as an openness but not a response (Krathwohl et al., 1964). Advisors can facilitate willingness to receive by delivering advising through formats that best meet students' needs. For example, offering live chat, drop-in, and afterhours advising may increase students' openness to seek advising. In another strategy to promote willingness, nonnative speakers can choose to receive advising from a person conversant in their language of origin.

In the final stage of receiving (attention), advisors engage students in the process of attending to selected stimuli (Krathwohl et al., 1964). At this stage, students identify and attend to particular characteristics from among competing stimuli, a phenomenon Krathwohl et al. (1964) likened to the perceptual process of discerning figure (main points) from ground (background). Some students are confused by and even fearful of seeking advising (Allen, Smith, & Muehleck, 2011), but advisors can encourage students to participate fully in advising by clarifying expectations. Specifically, advisors can provide an advising syllabus that helps students single out the reasons advising contributes to their success. An advising syllabus outlines the purposes and goals of advising, communicates the responsibilities of advisors and students, and explains proper student preparation for a productive advising experience (Trabant, 2006). Information about the roles of advisor and student may help students recognize the benefits of an advising relationship.

Learning by responding. The learning behavior *responding* moves a student from merely perceiving a phenomenon to reacting to it (Krathwohl et al., 1964). At the lowest level of response, acquiescence means that students comply when faced with a lack of alternatives or simply conform to expectations (Krathwohl et al., 1964). Advisors can promote acquiescence through a mandatory advising policy, which requires students to meet with an advisor before they can accomplish necessary tasks, most often registration. However, students who merely acquiesce to mandatory advising are avoiding consequences, not seeking an advising relationship.

Unlike students who acquiesce, those who exhibit a willingness to respond demonstrate a choice (Krathwohl et al., 1964) to actively seek advising. Advisors can promote willingness to respond by practicing intentional, proactive (formerly called *intrusive*) advising. In the proactive process, advisors motivate students to seek advising by reaching out to them through letters, phone calls, and e-mail to introduce advisors, explain their role, and identify their means of availability, such as an office or Internet address (Varney, 2007). A personalized invitation from a specific advisor conveys the relational nature of advising. Such an introduction for a relationship prepares students to embrace the next behavior in the affective continuum, *valuing*.

Learning by valuing. The creation of a personal value begins with acceptance, the process of assigning worth to a phenomenon (Krathwohl et al., 1964). By offering advising that matters to students, advisors show the advising relationship as worthwhile and thus strengthen the valuing process undertaken by advisees. For example, students regard information about policies and procedures (understands how things work) and practical advice on ways to connect academic, career, and life goals to each other and to choice of courses in the major or program of study (understands connections) as important (Allen & Smith, 2008; Smith & Allen, 2006). Accurate information about degree requirements also clearly matters to students; in recent research, they rated this advising function as more important than any other (Allen & Smith, 2008; Allen, Smith, & Muehleck, 2013; Smith & Allen, 2006).

Advisors who provide accurate information positively affect students' opinion of the advising relationship and may also influence their preference for it by producing satisfaction. Although Krathwohl et al. (1964) introduced satisfaction as the positive emotion that accompanies a response in their discussion of responding, they acknowledge their placement of satisfaction as arbitrary and a component of the valuing process as well. Krathwohl et al. explained that the emotional reward of satisfaction reinforces valuing behavior. In fact, according to research reported by Allen and Smith (2008), Allen, Smith, and Muehleck (2014), and Smith and Allen (2006), students not only rated accurate information about degree requirements as the most important advising function, they also identified it as among the advising functions with which they are the most satisfied; this finding suggests that advisors who provide accurate information may increase students' preference for an advising relationship.

In the final stage of the valuing process, an individual demonstrates commitment by unequivocally adopting a value and demonstrating personal conviction to it (Krathwohl et al., 1964). Students who commit to an advising relationship may take the lead in scheduling advising appointments and consistently work with advisors to make decisions. According to Krathwohl et al. (1964), a central quality of commitment is duration. Accordingly, long-term advisor–advisee associations may strengthen students' commitment to the relationship. Advisors can help students commit to the advising relationship by structuring ongoing communication throughout the student's enrollment at the institution.

Learning by organizing. Affective learning that continues beyond valuing includes organization and, ultimately, characterization (Krathwohl et al., 1964). One clearly sees the influence of Bloom's (1956) cognitive taxonomy on Krathwohl et al.'s (1964) affective taxonomy in the discussion of organization and characterization, which are similar to Bloom's analysis, synthesis (Bloom's terminology for *create*), and evaluation. Krathwohl et al. acknowledged the cognitive parallels but noted affective behavior in the organization and characterization processes that is distinct from that in the cognitive realm.

Although labeled the fourth stage of learning behavior in the affective taxonomy, *organization* may be demonstrated earlier in the affective learning process as students identify values and organize them into a system (Krathwohl et al., 1964). In the organization phase, the student undergoes conceptualization of a value to determine its relationship to other values (Krathwohl et al., 1964). To help students conceptualize and integrate the advising relationship into their existing system of support at the institution, advisors can identify distinctions from and compatibility with student relationships with other advisors, instructors, counselors, and mentors. Helping students understand the system of support at the institution may alleviate the fragmentation of advising students experience at some institutions (e.g., Karp, 2013). Advisors can help students understand how these support relationships combine to advance student success.

Learning by characterization. The final stage of learning in the affective taxonomy, *characterization*, includes the complex subcategories

generalization and characterization. *Generalization* refers to a consistent orientation to related sets of values, and it includes student behavior and evaluation of circumstances according to a learned value (Krathwohl et al., 1964). The supports-mandatory-advising learning outcome is an example of generalization as it suggests that students who attribute value to advising recommend it for others and believe it should be compulsory. Advisors can assist students in generalizing their regard for the advising relationship by encouraging them to practice help-seeking behavior with other support resources and by connecting them with opportunities to serve as peer advisors to other students.

The final learning process in the affective taxonomy, *characterization*, involves the evolution of a value into a life philosophy. Krathwohl et al. (1964) recognized that this subcategory of learning extends beyond the scope of most educators' objectives. However, we found some application to advising for an end-stage learning process that cements value adoption to the extent that the value characterizes a student's code of behavior and life choices. For example, students who learn to value lifelong learning or global citizenship may well choose ongoing academic pursuits or seek careers that further international cooperation. Advisors can encourage students to develop a pattern of behavior based on learned values by discussing course, career, and life choices that reflect their values. As for valuing the advising relationship, advisors can encourage students to adopt an ongoing practice of seeking advice and equip them for future advisee–advisor relationships by promoting skills in interdependence and collaboration using self-assessment, reflection, and exposure to other points of view (Council for the Advancement of Standards in Higher Education, 2008). Through these processes, students learn to regard learning through relationship and a readiness to seek and accept advice.

The continuum of learning behaviors Krathwohl et al. (1964) described provides an outline for affective learning opportunities that result in new attitudes and values. The affective taxonomy (Krathwohl et al., 1964) describes the process students might undergo as they learn to appreciate and value potential affective advising learning outcomes. Advisors can encourage students to adopt a value by providing opportunities for students to receive, respond, value, organize, and characterize a learned attitude. The learning behaviors in the affective taxonomy are mechanisms that advisors can promote to encourage students to adopt important affective outcomes such as valuing an advising relationship.

In this paper, we used the revised taxonomy (Anderson et al., 2001) and the affective taxonomy (Krathwohl et al., 1964) to better understand the learning processes for the eight advising outcomes from Smith and Allen (2014), and we determined that those outcomes represent a range of learning behaviors that lead to various types of knowledge as well as learned values. We suggest that the revised taxonomy (Anderson et al., 2001) and the affective taxonomy (Krathwohl et al., 1964) generally apply to cognitive and affective advising learning outcomes and serve as constructive guides for advisors who wish to examine the learning process for advising learning outcomes at their institution.

Future Research

We have discussed how learning frameworks from Anderson et al. (2001) and Krathwohl et al. (1964) can provide advisors with information about how students achieve cognitive and affective outcomes as outlined in Smith and Allen (2014). Advisors can use these frameworks to understand the processes students undergo to achieve other advising learning outcomes. As advisors apply the concepts to the advising outcomes they identify for students, they can determine the range of cognitive and affective learning processes associated with each outcome, and as a result, intentionally design strategies that support the level of learning required for achieving each advising outcome in their individual programs. Advisors might also use these frameworks as the basis for advising rubrics, adapting the cognitive and affective learning stages as scale points and the corresponding learning strategies they devise as scoring criteria for each level of learning achieved for different outcomes.

Researchers might examine whether advising that utilizes these frameworks and resulting learning strategies produces higher levels of cognitive and affective learning in students than advising that does not. Additionally, researchers could determine whether the learning strategies we suggest show efficacy, identify other strategies that support cognitive and affective learning, and clarify the learning strategies most effective for promoting cognitive and affective learning in advising. Furthermore, it would be useful to know whether some student populations groups (e.g., first-generation students) benefit more from

cognitive and affective learning strategies than others. Research could also shed light on when in the advising process these learning strategies produce the most effect.

The foregoing areas of research are proposed to help identify best practices that result in increased learning in advising. We suggest that advisors continue to examine how advising contributes to what and how students learn to know, do, and value (Angelo & Cross, 1993; NACADA: The Global Community of Academic Advising, 2006; Palomba & Banta, 1999; Thurmond & Nutt, 2009).

References

Adams, T. (2007, April). *Student learning outcomes: Evidence of the teaching and learning components of academic advising* [Webinar]. Manhattan, KS: National Academic Advising Association.

Aiken-Wisniewski, S. A. (Ed.). (2010). *Guide to assessment of academic advising, 2nd ed*. [CD] (Monograph No. 23) (pp. 33–42). Manhattan, KS: National Academic Advising Association.

Allen, J. M., & Smith, C. L. (2008). Faculty and student perspectives on advising: Implications for student dissatisfaction. *Journal of College Student Development*, *49*, 397–411.

Allen, J. M., Smith, C. L., & Muehleck, J. K. (2011, February) *Community college vs. university advising: What transfer students say about the difference*. Paper presented at the Student Success and Retention Conference, Portland, OR.

Allen, J. M., Smith, C. L., & Muehleck, J. K. (2013). What kinds of advising are important to community college pre- and post-transfer students? *Community College Review*, *41*(4), 330–345.

Allen, J. M., Smith, C. L., & Muehleck, J. K. (2014). Pre- and post-transfer student academic advising: What students say are the similarities and differences. *Journal of College Student Development*, *55*, 353–367.

Anderson, L. W., Krathwohl, D. R., Airasian, P. W., Cruikshank, K. A., Mayer, R. E., Pintrich, P. R., Raths, J., Wittrock, M. C. (2001). *A taxonomy for learning, teaching, and assessing: A revision of Bloom's taxonomy of educational objectives* (Complete ed.). Upper Saddle River, NJ: Pearson.

Angelo, T. A., & Cross, K. P. (1993). *Classroom assessment techniques: A handbook for college teachers*. San Francisco, CA: Jossey-Bass.

Banta, T. W., Hansen, M. J., Black, K. E., & Jackson, J. E. (2002). Assessing advising outcomes. *NACADA Journal, 22*(1), 5–14.

Bloom, B. S. (1956*). Taxonomy of educational objectives: The classification of educational goals. Handbook 1: Cognitive domain*. New York, NY: David McKay.

Borrego, S. E. (2006). Mapping the learning environment. In R. P. Keeling (Ed.), *Learning reconsidered 2: Implementing a campus-wide focus on the student experience* (pp. 11–16). Washington, DC: American College Personnel Association, Association of College and University Housing Officers–International, Association of College Unions–International, National Academic Advising Association, National Association for Campus Activities, National Association of Student Personnel Administrators, National Intramural-Recreational Sports Association.

Campbell, S. M., & Nutt. C. L. (2008). Academic advising in the new global century: Supporting student engagement and learning outcomes. *Peer Review*, *10*(1), 4–7.

Council for the Advancement of Standards in Higher Education. (2008). *CAS learning and development outcomes*. Retrieved from http://standards.cas.edu/getpdf.cfm?PDF=D87A29DC-D1D6-D014-83AA8667902C480B

Davis, B. G. (2009). *Tools for teaching* (2nd ed.). San Francisco, CA: Jossey-Bass.

Frost, S. H. (1991). *Academic advising for student success: A system of shared responsibility* (ASHE-ERIC Higher Education Report No. 3). Washington, DC: George Washington University, School of Education and Human Development.

Hagen, P. (2005). Theory building in academic advising. *NACADA Journal, 25*(2), 3–8.

Hemwall, M. K., & Trachte, K. C. (2003). Academic advising and a learning paradigm. In M. K. Hemwall & K. C. Trachte (Eds.), *Advising and learning: Academic advising from the perspective of small colleges and universities* (Monograph No. 8) (pp. 13–19). Manhattan, KS: National Academic Advising Association.

Hemwall, M., & Trachte, K. C. (2005). Academic advising as learning: 10 organizing principles. *NACADA Journal, 25*(2), 74–83.

Hurt, R. L. (2007). Advising as teaching: Establishing outcomes, developing tools, and assessing student learning. *NACADA Journal, 27*(2), 36–40.

Karp, M. M. (2013). *Entering a program: Helping students make academic and career decisions* (CCRC Working Paper No. 59, Assessment of Evidence Series). New York, NY: Columbia University, Teachers College, Community College Research Center.

Komives, S. R., & Schoper, S. (2006). Developing learning outcomes. In R. P. Keeling (Ed.), *Learning reconsidered 2: Implementing a campus-wide focus on the student experience* (pp. 17–41). Washington, DC: American College Personnel Association, Association of College and University Housing Officers–International, Association of College Unions–International, National Academic Advising Association, National Association for Campus Activities, National Association of Student Personnel Administrators, National Intramural-Recreational Sports Association.

Krathwohl, D. R. (1994). Reflections on the taxonomy: Its past, present, and future. In L. W. Anderson & L. A. Sosniak (Eds.), *Bloom's taxonomy: A forty-year retrospective. Ninety-third yearbook of the National Society for the Study of Education* (pp. 181–202). Chicago, IL: University of Chicago Press.

Krathwohl, D. R. (2002). A revision of Bloom's taxonomy: An overview. *Theory Into Practice, 41*, 212–218.

Krathwohl, D. R., Bloom, B. S., & Masia, B. B. (1964). *Taxonomy of educational objectives: The classification of educational goals. Handbook II: Affective domain*. New York, NY: David McKay.

Lowenstein, M. (2000, April). Academic advising and the "logic" of the curriculum. *The Mentor: An Academic Advising Journal, 2*. Retrieved from http://dus.psu.edu/mentor/old/articles/000414ml.htm

Lowenstein, M. (2005). If advising is teaching, what do advisors teach? *NACADA Journal, 25*(2), 65–73.

Martin, H. (2007). *Constructing learning objectives for academic advising*. Retrieved from http://www.nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Constructing-student-learning-outcomes.aspx

Melander, E. R. (2007, February 12). The theory of academic advising as educating: Implications for practicing advisers and advisees. *The Mentor: An Academic Advising Journal, 8*. http://dus.psu.edu/mentor/old/articles/proc01gm.htm

Mottarella, K. E., Fritzsche, B. A., & Cerabino, K. C. (2004). What do students want in advising? A policy capturing study. *NACADA Journal, 24* (1&2), 48–61.

NACADA: The Global Community for Academic Advising. (2006). *NACADA concept of academic advising*. Retrieved from http://www.nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Concept-of-Academic-Advising-a598.aspx

Palomba, C. A., & Banta, T. W. (1999). *Assessment essentials: Planning, implementing, and improving assessment in higher education*. San Francisco, CA: Jossey-Bass.

Raths, J. (2002). Improving instruction. *Theory into Practice, 41*, 233–238.

Reynolds, M. (2003). Faculty advising at small colleges: Realities and responses. In M. K. Hemwall & K. C. Trachte (Eds.), *Advising and learning: Academic advising from the perspective of small colleges and universities* (Monograph No. 8) (pp. 21–23). Manhattan, KS: National Academic Advising Association.

Robbins, R. (2009). Evaluation and assessment in career advising. In K. F. Hughey, D. B. Nelson, J. K. Damminger, & B. McCalla-Wriggins (Eds.), *The handbook of career advising* (pp. 226–292). San Francisco, CA: Jossey-Bass.

Smith, C. L., & Allen, J. M. (2006). Essential functions of academic advising: What students want and get. *NACADA Journal, 26*(1), 56–66.

Smith, C. L., & Allen, J. M. (2014). Does contact with advisors predict judgments and attitudes consistent with student success? A multi-institutional study. *NACADA Journal, 34*(1), 50–63.

Thurmond, K., & Nutt, C. (2009). *Academic advising syllabus: Advising as teaching in action* (2nd ed.) [Pocket Guide]. Manhattan, KS: National Academic Advising Association.

Trabant, T.D. (2006). *Advising syllabus 101*. Retrieved from http://www.nacada.ksu.edu/Resources/Clearinghouse/View-Articles/Creating-an-Advising-Syllabus.aspx

Varney, J. (2007). Intrusive advising. *Academic Advising Today 30*(3), 11, 23.

Authors' Notes

This research was supported in part by a grant from NACADA: The Global Community for Academic Advising.

Jeanette K. Muehleck, MS, is a graduate of the Postsecondary, Adult, and Continuing Education Program at Portland State University and is now a student resource specialist at Portland Community College. She may be contacted at jeanette.muehleck15@pcc.edu.

Cathleen L. Smith, PhD, is professor emerita of psychology at Portland State University. She has extensive experience as an academic advisor in her department and in a university advising center, and she has a longstanding interest in improving academic advising for undergraduates. She may be contacted at smithc@pdx.edu.

Janine M. Allen, PhD, is professor emerita of education at Portland State University. She is the former Senior Student Affairs Officer at Portland State University and Western Oregon University and taught in a professional preparation program for student affairs professionals. She may be contacted at allenj@pdx.edu.

Smith and Allen co-chaired a presidential initiative to improve advising at Portland State University. As a result of this undertaking, they developed a research agenda centered on understanding student and advisor attitudes about and experiences with academic advising, and the implications of advising for student success. Muehleck has collaborated with Smith and Allen on this research.