Promoting Meaningfulness by Coupling Bloom's Taxonomy with Adult Education Theory: Introducing an Applied and Interdisciplinary Student Writing Exercise

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Abstract:

The primary purpose of this article is two-fold: the first aim is theoretical and the second is applied. With respect to theory, the article highlights the value of bringing adult education principles to bear in college and university classrooms – a focus that is particularly relevant as institutions of higher education attract increasing numbers of non-traditional students and adult learners. With respect to application and practice, the paper introduces a unique classroom exercise that is specifically designed for adult learning communities and contexts where instructors teach multiple different courses but have limited preparation time. The exercise draws from both the central tenets of adult education as well as Bloom's Taxonomy and is flexible enough to apply to many different content forms, topics, and courses.

Key Words:

Instructional Activity; Adult Education; Bloom's Taxonomy; Student Engagement; Meaningfulness.

Introduction

Learning is transformational. As educators, our roles are complex and varied but one of the most important is to encourage students to become lifelong learners who critically examine information, evaluate content, and develop creative ideas. The question then arises, how can we effectively and efficiently utilize our time, as well as our students' time, to accomplish the greatest learning outcomes?

This article asserts that through the implementation of selected learning theories and educational tenets, improvement can be seen in students' learning outcomes and the over-arching educational experiences of both the students and the instructor. More

specifically, it suggests that principles of adult education when coupled with Bloom's Taxonomy can foster and strengthen student learning.

The primary purpose of this paper is to introduce a unique activity that a) captures this multi-faceted theoretical approach and that b) can be applied in any college classroom as a means of enhancing students' mastery of course content at a basic level while also deepening students' appreciation and understanding of the learning process. This theory-based teaching exercise is designed to be 1) quickly understood by both the instructor and students, 2) applied to many different courses, topics, and forms of content, and 3) implemented with only minimal preparation time. Completing the assignment requires students to employ multiple levels of cognition, while providing a vehicle to practice and improve writing and communication skills. When used at multiple time points, the activity is habituated so that students have a means to routinely practice and hone their thinking through the development of personalized learning journals designed to enhance the meaningfulness of the course content (for related discussion of how to create meaningful and significant learning environments, see Fink, 2013). In developing the activity, particular attention was given to students' often crowded and complex schedules and commitments. The questions and assignments remain static and predictable so that students can work ahead and complete the activity in advance of the due date, which affords them with greater flexibility.

A Brief Overview of Bloom's Taxonomy

In the 1950s, Benjamin Bloom began conceptually defining, describing, and detailing the primary components of learning (Bloom, 1956). Bloom's efforts resulted in the creation of a conceptual hierarchy that would become known as Bloom's Taxonomy (Bloom, 1956, 1971, 1974, 1985). The intended use of the taxonomy was to aid in the study and evaluation of learning while also providing a consistent and rational method for designing and assessing courses. The taxonomy states that both the content of a subject as well as the structure of human learning can be broken into six hierarchal divisions. While the model depicts learning as hierarchal, many have argued that learning is more fluid and that the divisions of learning into these strict categories might be limiting (for related discussion, see Novak & Gowin, 1984). This article views Bloom's Taxonomy as a simple foundation upon which the writing activity can be based. The recursive nature of both teaching and, particularly, learning is assumed throughout the exercise.

The first level, *Knowledge*, seeks to address factual content in order to answer who, what, when, and where questions. Students at this level need to recall and remember information presented by the instructor, text, and discussion. *Comprehension*, the second rung, moves to understanding and organizing facts and ideas. Students' simple recall of information is insufficient; rather, they must be able to explain and translate the information in order to summarize and interpret the content. The next level, *Application,* requires students to demonstrate the ability to illustrate and construct examples of how the content can be applied to themselves and others. During the subsequent stage, *Analysis,* the student investigates information by comparing, dissecting, or debating what is being presented. In the fifth stage, *Synthesis*, an individual then formulates and creates ideas to be tested and predicts potential outcomes. And, finally in the sixth

stage, *Evaluation*, the expectation is that critical assessments have evolved to a state where opinions, priorities, and judgments occur.

Chart 1. Bloom's Taxonomy
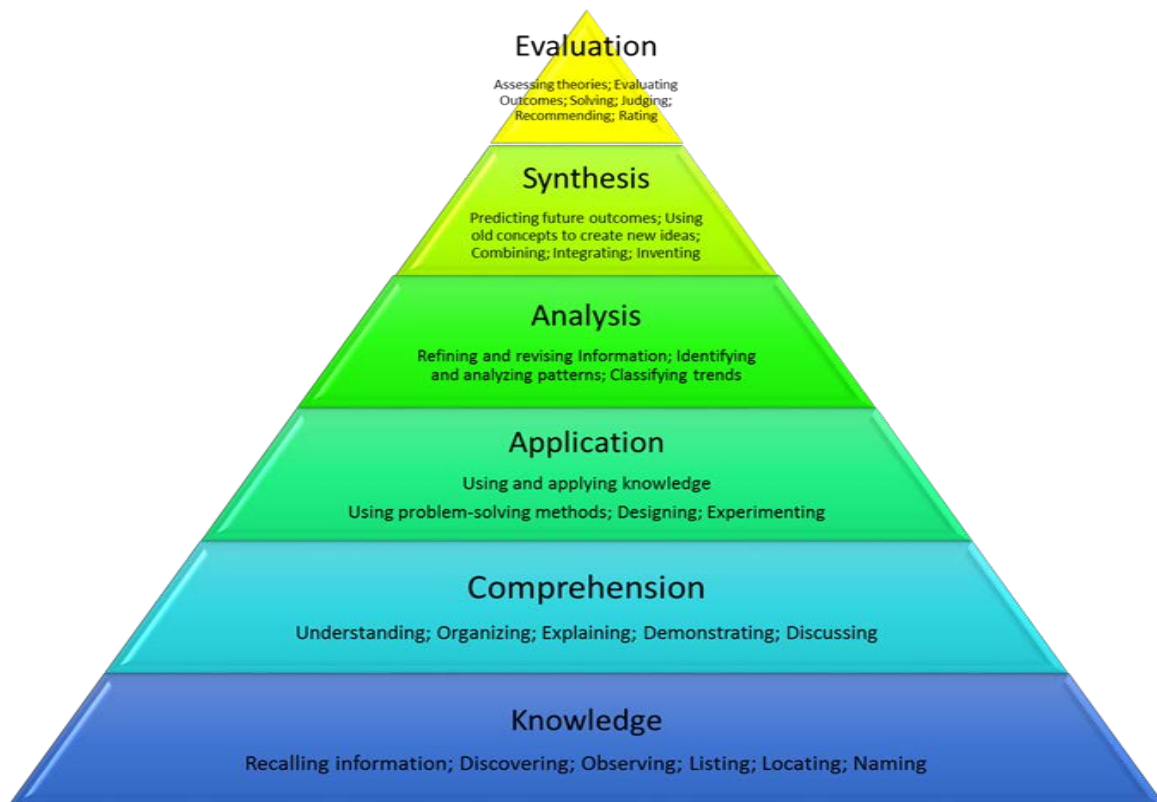
A Brief Overview of Knowles' Adult Education Principles

In the foundational books, *Informal Adult Education* (1950), and later, *The Modern Practice of Adult Education* (1970), Malcolm Knowles described adult learning processes. These works established the importance of recognizing the unique attributes of adult learners when designing instructional environments and educational materials. The term "andragogy" was coined in reference to instruction tailored to fit with adults' predispositions and life experiences (Dogini, 2015; Knowles, 1973; Reischmann, 2005; Smith, 1996, 1999, 2010).

Attention to adult students stood in contrast to the dominant paradigms in educational research of that time, which focused predominantly on K-through-12 programs (for related discussions see Lieb & Goodland, 2005; Merriam, Caffarella, Baumgartner, 2007; Merriam & Brockett, 2011; Selman, Cooke, Selman, & Dampier, 1998; Spencer, 2006). Prior to the introduction of adult education as a discipline, research findings concerning K-through-12 students were commonly extrapolated to all arenas of teaching, including instruction in higher education, professional training, and continuing education (for related discussions see Merriam & Brockett, 2011; Wilson & Hayes, 2009). However, in time, as the principles forwarded by adult educational theorists were popularized, recognition of the unique characteristics of adult learners grew.

According to Knowles, the basic characteristics of adult learners encapsulate the following tenets:

1. Learning is a lifelong process that need not diminish with age.

2. Adult students having lived longer than children have a more expansive base of experiences and knowledge that can inform their learning.

3. Adult students often have greater responsibilities than younger students, which can pose both challenges and opportunities.

4. Because adult students have more real-life responsibilities, experiences, and knowledge to process when learning new skills, they may not learn as quickly as younger students; and, therefore, may not be well served by time constrained assessments, i.e., "timed" tests.

5. The real-life responsibilities, experiences, and knowledge of adult students can help to support the learning process.

6. Adult students are often more deliberate and thoughtful in making decisions because of their broader experiences with the consequences of past decisions (both their struggles and their successes).

7. Adult students, in contrast with minor-aged students, often have the power to implement what they learn in ways that are unique, immediate, applied, and socially significant.

Adult education theorists have since entertained the question of how adulthood is defined (Mezirow, 1991; Niemi, 1972; Smith, 2002). In legal contexts, the age of adulthood varies based on both sanctioned tasks as well as governing agencies (Merriam & Brockett, 2011). Similarly, in educational contexts, the definition of "adulthood" can vary depending on institutional structures, norms, and practices (Merriam & Brockett, 2011). Holistically, the defining elements of the "adult leaner" may be based less on age than on a constellation of personal attributes, including life experiences, responsibilities, beliefs, attitudes, motivation, and maturity, as well as characteristics that associate with psychological, temporal, and monetary investment in one's education (for additional conceptualizations see Merriam, Caffarella, Baumgartner, 2007).

In a related domain of inquiry, some adult education scholars have maintained that higher education and adult education are not equivalent (for historical perspective see Kasworm, 1990). This viewpoint contends that higher education, while embracing adult participants, often encompasses a professor-driven and directed process in which faculty experts select and impart knowledge from the "top-down" (for related critiques see Hannay, Kitahara, & Fretwell, 2010; Schmidt, Wagener, Smeets, Keemink, & Van der Molen, 2015). Adult education, on the other hand, encourages shared responsibility for learning between the student and the instructor (for related discussions see Bohonos, 2013, 2014; Cross, 1992; Fenwick, Nesbit, & Spencer, 2006; Knowles, 1950, 1970, 1973; Knowles, Holton, Swanson, 2014; Kunga & Machtmes, 2009; Lieb & Goodland, 2005; Merriam & Brockett, 2011; Merriam, Caffarella, Baumgartner, 2007; Nesbit, 2011; Phipps, Prieto, & Ndinguri, 2013; Reischmann, 2005; Selman, Cooke, Selman, & Dampier, 1998; Smith, 1996, 1999, 2010; Spencer, 2006; Thorpe, Edwards,

& Hanson, 1993). The role of the teacher, in an adult education environment, serves to facilitate a student-centered learning process that is motivated by the specific goals and needs of the individual learner (Freire, 2000; Mezirow, 1991; Niemi, 1972; Smith, 1996, 2002, 2010; Wilson & Hayes, 2009).

The position forwarded herein contends that while higher education and adult education have distinct aspects, the two domains are complementary; and, when united, will be of utmost value to college educators. By infusing adult education practices into college instruction, neither the standards of higher education nor the guiding principles of adult educational theory are diminished. Rather, implementation of adult education tenets improves the quality of education for all college students regardless of age.

Theory into Practice: Application to a College Course

As educators we must recognize that our adult students deserve an education that fosters a critical examination of ideas. To facilitate this, the methods we use should encourage students to attach their unique attributes and rich life experiences to course content in order to make it personally significant and meaningful. With this goal in mind, a simple assignment was created to encapsulate Knowles' tenets of adult learners while also emphasizing Bloom's levels of cognition. The two fit well together. Bloom's Taxonomy provides a framework upon which students can attach their own experiences and ideas thereby making the content more personally relevant and meaningful.

The following activity is not topic specific, but rather student-centered – with a focus on cognition and learning that can be tailored to most content domains. This flexibility ultimately lends itself to a wide range of topics and courses.

An Applied and Interdisciplinary Exercise

Goals of the exercise

The primary goal of the exercise is to present subject matter content in such a way that:
1. Students will acclimate themselves with the vocabulary necessary to understand the subject matter.
2. Students will be able to apply the information to other course(s) and their lives outside of the classroom.
3. Students will develop a heightened awareness and personal attachment to the content.
4. Students, through their heightened awareness and personal attachment to content, will be more likely to recall, retain, and implement information.
5. Students will be able to generate unique and innovative applications of the content that will lead to new ideas for theory and research.

Directions

Each week you will be required to fully answer a series of questions related to the assigned readings. The questions are designed to encourage higher level thinking skills

including knowledge, comprehension, application, analysis, synthesis, and evaluation. You must respond to each question, giving details as necessary. Since the assignment will be consistently utilized throughout the semester, you will have the flexibility to work ahead to accommodate your schedule and responsibilities outside of the class. While the assignment should take no more than an hour to complete, do not feel pressure to complete the assignment in that time frame. Bring your varied wealth of experiences to bear when writing your responses. If you implement any of the content into your actual life or work situation, please include this and explain the result(s). Your responses to the questions will result in a "learning journal" that will reflect the course objectives. *Note:* The directions and assignment are reflective of Bloom's Taxonomy and Adult Education Theory.

Readings

Readings are assigned from various sources such as textbook chapters, scholarly articles, literary reviews, etc. that are relevant to the course goals, objectives, and content.

Process

1. Read the questions that you will be required to answer.

2. Read the assigned reading(s) while considering the questions you will answer.

3. Fully respond to the questions by writing at least a paragraph for each question. You may need to elaborate your responses with examples or details from the textbook(s), your personal experiences, and/or hypothetical situations.

KNOWLEDGE:

- What are three things you learned from the readings?

- What new vocabulary is introduced in the readings?

COMPREHENSION:

- How can you explain and restate the main idea(s) of the readings using your own words?

- How can you organize the information so that you will remember it in the future? (i.e., create an outline, diagram, chart, or summary)

APPLICATION:

- How can you use the information presented in the readings in your daily life and/or future career?

- How can the information presented be used in your area of study (i.e., your major and/or other classes)?

ANALYSIS:

- How would you refine or revise the information to use it in a different manner for personal use, classes, and/or research projects?

SYNTHESIS:

- How can you use the information to predict future outcomes?

- If you were to combine this information with your base of personal experiences, what results might you expect?

EVALUATION:

- How would you evaluate the ideas presented in the reading?

  a. Do you agree or disagree with the author(s)?

  b. Why is the information presented of value?

  c. Why would, or wouldn't, this information change your current life practices?

Assessment

Assignment Scoring:

The assignment can be graded in a variety of ways.

1. Based on an instructor's goals and objectives, points can be assigned in a weighted fashion that reflects the course's emphasis. For example, if mastery of vocabulary is deemed of great value the instructor may choose to assign more points for question 2. If the course is designed to produce a research project, question 7 might receive more points. If the tool is used multiple times and over different readings or lectures in the course, the weighting of questions can be changed to fit the goals of each implementation.

2. Alternatively, the instructor may grade the entire assignment as pass or fail based on completion of the assignment. This simple dichotomy allows for speed in grading without diminishing the writing experience.

3. The instructor may decide to employee the C.A.S.T system, by which point(s) are awarded on parallel scales across each of three primary dimensions: a) **C**ompletion (i.e., the level of completion, inclusion of supporting details, and/or thoroughness demonstrated in the response), b) **A**ccuracy (i.e., the extent to which the response provides correct information and evidence), and c) **S**ynthesis of **T**hought (i.e., the strength of critical thinking, integration, and/or innovation demonstrated in the response). The scales can be dichotomized or assessed as 5-point ratings. Note: Synthesis of Thought as used in the CAST system should not be confused with the synthesis dimension of the exercise.

A Means of Testing Overall Effectiveness:

After evaluating and scoring the activity for grading purposes, the instructor can implement a basic experimental design to test and validate the overall impact of the tool within one's own classes. The testing can be conducted within a single class at the beginning and the end of the semester, or the assessment can be administered at multiple time points throughout the semester to capture longitudinal growth across time as long as the scoring format remains consistent. In contexts where instructors teach multiple sections of the same course, the tool can also be implemented as a means of comparison between sections.

To elaborate, utilizing a basic experimental design, where Group1 (G1) or Time1 (T1) serves as the control/comparison and Group 2 (G2) or Time 2 (T2) serves as the stimulus/treatment, we can respond to the following research questions:

Research question 1: After engaging with the activity, do students achieve *higher test scores*? If the exercise is scored with continuous measures, one can ask, do *higher scores* on the exercise associate with *higher test scores*? (Note: This research question assumes that test content and activity content are consistent and/or parallel with one another).

Research Question 2: After engaging with the activity, do students achieve *higher course grades*? If the exercise is scored with continuous measures, one can ask, do *higher scores* on the exercise associate with *higher course grades*?

Research Question 3: After engaging with the activity, are students *more likely to successfully complete the course*? If the exercise is scored with continuous measures, one can ask, do *higher scores* on the exercise associate with *higher levels of course completion*?

For instructors who prefer qualitative or mixed-mode assessment, and for smaller classes that yield a small sample size, the following questions, when asked to students, could bring forth further evidence of instructional utility:

1. Did you find this activity to be helpful? Why or why not?

2. How do you think that this activity might affect a) your test scores?, b) your grade in the course?, and c) your likelihood of completing the course?;

3. How do you think this activity might affect a) your recall of content? and b) your retention of content?

Reflections and Conclusions

Applying Bloom's Taxonomy to instruction in college courses overlays a consistent approach for instructional planning, while enhancing students' acquisition of subject specific knowledge. The activity, which couples Bloom's Taxonomy with adult education practice, further heightens students' learning and engagement within the classroom.

This tool has been employed in a variety of college courses. In each, positive results have occurred. Students' qualitative feedback indicates that the assignment guides their reading, organization, and understanding of course materials. From an instructional vantage, the activity fosters a collaborative environment within the classroom that encourages discussion and reflection. As students share their views on how content can be applied and implemented to enhance or change their lives, their voices form a fabric that helps illuminate both shared and differing perspectives. The layers of diversity and dialogue are woven together into a vibrant learning community.

Information collected from students affords the instructor an opportunity to tailor content, lectures, and examples to students' individual backgrounds and goals. If responses to the questions signal that the content has not been fully understood, the instructor can utilize this information to revisit and more fully explain a topic. If students

offer insightful or innovative application of content, the instructor can share the students' ideas to encourage further classroom discussion and engagement.

In observations of the exercise, students frequently share insights and anecdotes that anchor course readings in concrete, real-world events, which seems to reinforce their relevance and significance. Students' understanding of course subject matter is illustrated with creative applications that encourage diverse approaches to examining information and methods of problem solving. And, application of personal information to the learning journal appears to yield improvement in students' writing skills and test scores while heightening recall and retention of course materials (for related discussion on the value of learning journals as a means of increasing student learning, see Black, Sileo, & Prater, 2000; Langer, 2002; McCrindle & Christensen, 1995).

When engaging with the activity, it becomes apparent that students' various life experiences, challenges, and future goals enrich the educational process. The students' wealth of backgrounds not only augments and enriches the course but also ushers in a reciprocal appreciation between instructor and student.

The essential take-away centers on the locus of learning. While instructors provide subject-area expertise and establish parameters to encourage student learning – learning always begins within the individual. Our role as educators may be as simple, and as complex, as helping our students to access that place of learning.

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