

Creating Upward Spirals of Learning

Applying Bloom's Taxonomy to Early Childhood Teacher Training

by Kori Bardige

As a longtime provider of professional development for early childhood educators, I continually search for techniques to make workshops more effective for participants. My purpose for this article is to share how I used Bloom's Taxonomy to create a new framework that reconceptualizes workshops in a way that not only promotes adult learning and higher order thinking skills, but also models the pedagogical practices educators can use in their work with children. I hope that by providing both the background methodology and a model for this new workshop framework, I will help other trainers, directors, administrators, and especially educators, to think about ways we can introduce, explore and

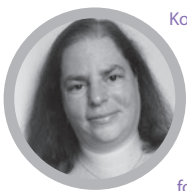
extend content knowledge in meaningful ways that mirror best practice.

For the past 15 years, I followed the standard linear PD model for creating and delivering workshops. I identified objectives participants should learn by the end of the workshop and created a PowerPoint presentation with specific content and related activities. The presentations began with stating the workshop objectives, followed by an ice breaker for group introductions, lecture, interactive activities and discussions that related to each of the objectives in sequential order followed by a summary. Although on the surface, this model appeared to be successful because participants frequently commented how much fun they had, I began to wonder how much they were really learning, and if they could actually apply these concepts in their programs.

I began experimenting with different models and looked for a format in which participants moved from statements such as "This is fun" to "Wow, I learned something new" or even better,

"I'm so excited to try this with my students to see what they discover." I began to reconceptualize how I used workshop objectives. I realized that while the purpose of the workshop might be focused on a specific content or topic area, my real goals are not limited to that specific domain, but rather are broader in terms of improving pedagogy and practice. For example, when I present workshops on science, technology, engineering and math, while I share with participants that we are going to cover key concepts, my main objective is for participants to explore STEM as a lens for being more intentional in their teaching and engagement of children in inquiry learning practices.

I now design workshops to intentionally spiral; I come back to key concepts repeatedly, but each time with additional ways to extend or expand those ideas. This spiral design allows participants to deepen their understanding and use higher order thinking skills to further their knowledge, apply ideas, evaluate and create new knowledge. The original taxonomy (Bloom, 1956)



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was developed as a rubric demonstrating why it is critical to assess students' knowledge in ways that move beyond demonstration of rote memorization to utilizing their knowledge in a new way. It provided sample questions for every domain of learning to help educators deepen student thinking. When what is commonly referred to as Bloom's Taxonomy was revised and expanded (Anderson, et al., 2001), educators and psychologists found useful applications for a wide variety of purposes.

When I began exploring Bloom's Taxonomies in greater depth, I recognized that although I did not intend to, in my linear workshops I often presented information in a rote way. This created a false sense of knowledge acquisition. Although it appeared that participants learned the content, because of my presentation style and questions, they were—more often than not—just parroting back information I shared rather than creating their own connections. Consequently, these educators modeled this same behavior with students because on the surface, it seemed to be effective. The genius of Bloom's Taxonomy (Bloom, 1956; Anderson, et al., 2001) is that it provides a blueprint for building higher order thinking skills by asking more sophisticated questions that require meaningful and deeper integration of knowledge.

My new professional development model uses Bloom's Revised Taxonomy to restructure workshops in a more cohesive manner, creating an upward spiral rather than a linear progression. Bloom's Revised Taxonomy includes: Remember, Understand, Apply, Analyze, Evaluate, and Create (Anderson, et al., 2001) as the keys to acquiring knowledge. I began constructing my workshops by carefully selecting my overarching goals for what knowledge and experience I hope

participants will learn and what I might learn with or from them. These become the benchmarks I explore and assess multiple times throughout the workshop to ensure everyone is learning. When I struggle with selecting content or creating activities, I find it helpful to return to these goals to ensure that I am providing learning opportunities that align with my objectives. Once I have a basic framework for what I hope participants will learn, I can start to craft a workshop that deepens knowledge and critical thinking skills. Here is how to replicate this process:

Begin with identifying a way to assess participants prior knowledge. (What do participants already know and understand about this topic?). I use the icebreaker/introduction as an opportunity to collect assessment data for myself so I can make changes to content in the workshop as well as providing an opportunity for participants to connect with each other as well as the subject of the workshop. This way, participants are immediately immersed in thinking about the topic(s) that will be presented and making connections to their current practice. I find that knowing where participants are starting gives me an opportunity to make adjustments along the way, in order to better individualize the content of the training to meet the needs and knowledge base of the participants.

As I prepare the content or heart of the workshop, I conceptualize it as an upward spiral where it builds from remember, understand, to apply, analyze, evaluate, and create. When I first introduce an idea or concept, we explore it through discussion (understand), hands-on activities (apply), and do an initial reflection (analyze). Then I add or share more complex information that intentionally provides a new perspective or idea to help build upon and enhance the initial exploration and discussion and prompt comparisons

and reflections (apply, analyze, and evaluate). Finally, we revisit the initial activity or discussion to integrate the new information with previous experiences and observe and reflect upon the changes (evaluate, create). This provides me with opportunities to meet participants where they are in their application of knowledge along Bloom's Taxonomy and to them move towards deeper levels of thinking as they revisit ideas with additional information.

I find the process of revisiting—coming back to the same activity but in a new way—is critical for participants' success in incorporating the new content. It allows participants to stretch up the ladder of higher-order thinking and move from understanding to creating. I intentionally repeat this process multiple times throughout the workshop, highlighting the key concepts to meet my initial goals. As I introduce different but related content, I begin a new spiral or build upon a previous one.

When participants revisit activities or re-connect with content in a new format, I literally hear the "ahas!" It is almost like watching the lightbulb go on in someone's brain. Suddenly participants are making connections, not just in the way I hoped they would, but for their own pleasure and enjoyment of learning. And, this aha moment seems contagious. Suddenly, the room is filled with questions and energy and excitement. "Have you thought about this?" "What if we ... ?" "Wow, I never knew that ... " "I can't wait to try this with my students!" This leads into the next spiral, where we continue to build upon a new key idea.

Prior to closing the workshop, I always ask participants to reflect upon their own learning to consider what next steps they want to take. This is one of the most important aspects of promoting higher-order thinking as

it provides opportunities for deeper reflection and allows participants to build upon their newly acquired knowledge to create new ideas that support the integration of theory and practice. While there are many models for self-reflection and creating action plans, I find a simple 3-2-1 is very effective. I ask participants to write down three things they want to remember, two things they learned or still have questions about and one thing they want to do when they get back to their program. Participants eagerly write down their ideas and take the time to carefully think about what they want to remember, learned, and hope to apply in their programs. Their questions are often self-reflective and become ideas they want to share with colleagues to continue to deepen their knowledge.

While I intentionally craft the order of the context, exploration, discussion and revisiting experiences so that they build upon each other, I also save space for following participants' interests and discussions. Helping participants find their own questions, share and explore ideas, and reflect on their

current and desired practice is critical for promoting their future intentional teaching. As I reflect on using this model in workshops, I have noticed that it is when I provide repeated opportunities for participants to apply and reflect upon new knowledge at higher levels of the taxonomy, that is when the shift from, "This is fun" to, "Wow, I learned something I'm excited to use in my classroom" occurs. When I am successful in helping participants to apply, analyze, evaluate and create ideas in a new way, I notice the audience shift from listening to being active and engaged participants. I also see a change in my own facilitation as I move from lecturer or guide to collaborator; then, while participants have the opportunity to take the lead and share ideas with others, I learn along with them! Using this new model, I have noticed a significant change in both the types of questions participants ask and the types of conversations they engage in as they move through the workshops. I am continually amazed to see the spark of curiosity that blossoms as participants move from recognition to an interest in exploring, and finally to a sense of

accomplishment and a burning desire to try out what they have learned in their classrooms. I hope this model will be one that others find helpful and begin to explore, so together we can transform professional development from one-off workshops that fulfill a requirement into opportunities which drive participants' passion, creativity and desire to continue to learn!

References

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Julie Rose

