Do dancers have to think?

If you've ever wanted to explain how challenging dance class can be, you may want to know how Bloom's Taxonomy can help. Physical learning involves cognitive complexity—it's not just "dancing around"

by Anne-Marie Leiby

Dance is rarely mentioned as an intellectual pursuit. The common response I hear is how fun and physically demanding dance must be. Although, yes, I experience both of these things, dance requires more than just muscular strength and endurance. And it's more than "just" fun. Dance requires cognition, the mental process of reasoning, memory, perception, and judgement.

One way to emphasize how this works is to relate dance learning to *Bloom's Taxonomy*, a set of six categories of mental processes that develop brain power. This specific framework is utilized by educators, primarily in the social and physical sciences, in order to equip students with learning goals that cultivate different levels of cognition. The field of dance has not been explicitly compared to *Bloom's Taxonomy*, but it seems crucial to me to relate this framework to dance, in order to understand the intellectual abilities one develops through dance.

The first order of mental processing is to **Remember**, the action of recalling something that was experienced or acquired. How does one utilize this in dance? In dance education each movement builds on the other. In order to progress to the next movement pattern, a dancer must recall a prior step instructed. For example, in ballet, a movement called the "*plié*" is fundamental. Memory of this specific movement pattern is then called on when further steps are taught, such as the *relevé*, waltz, and *temps levé*.

Now imagine a dance teacher saying, "Pretend you are peeling your foot off a floor of gum," as the instructor demonstrates a *tendu*. A student observing the dance instructor would then perhaps understand what a correct *tendu* would look like from the visual example or the vocal suggestion. The student would be using **Comprehension**, the second cognitive function described in *Bloom's Taxonomy*. Comprehension is defined as the action or capability of understanding something. This mental capability is used daily in the dance classroom, where instructors use imagery or direct movement verbally or physically to improve comprehension.

Each dancer is expected to translate the movement and guidance of the instructor or choreographer within their own body, which relates to the third cognitive function, **Application**, used frequently in rehearsal and technique class. Application is the action of utilizing knowledge in order to place something into a new situation. For instance, a choreographer can ask a dancer to have more fluid movement of the right arm in a *port de bras* from first to fifth position. It is then the dancer's responsibility to interpret the choreographer's suggestion and apply this to their own dancing.

The fourth mental process described in the model of *Bloom's Taxonomy* is **Analysis**, the ability to break up a concept into simpler components. As a dance instructor, this is a common tool when teaching a new step. For example, when focusing on a *pas de bourrée*, I decide to teach each part of the *pas de bourrée* separately. First I have the students learn a *relevé* step across the floor in order to learn the mechanics of transferring the weight of the body from right to left. Then I instruct each side step, slowly without the *relevé*. At last, when these two parts are mastered by all the students, then I combine both elements into one phrase.

Dancers use another tool, **Evaluation**, when observing a situation and then forming a

judgement or opinion of this event. Response from the surroundings is crucial for a dancer when either performing movement in class or onstage. For example, a dancer performing repertoire in unison with others needs to have heightened mindfulness of their environment. Without attention to one's surroundings, the many possibilities of injury arise. Ouch! Therefore, it is critical for a dancer to evaluate a situation and make a decision from observation that would lead to the safest outcome.

The sixth mental process is **Creation**, which is the ability to produce a new concept or idea, another valued cognitive component of dance. The practices of improvisation and choreography have the ability to stimulate a dancer to create new movement. A dancer's movement can be influenced by their experiences or other choreographers' ideas. When improvising I am influenced by what I observe from the surroundings. For instance, one day in the computer lab, someone was listening to music through their headset while typing the keyboard in a rhythmic-like fashion. Once I noticed this, it inspired me to create a movement phrase that would utilize rhythm, while having the sound of keyboard typing as the music.

Dancers cultivate the building blocks of knowledge, such as evaluation, application, and understanding. throughout one's training. Similarly, Steven Brown, the professor and director of the Neuro Art lab at McMaster University claims that "dance is the new wave in cognitive neuroscience" (Brown, 2011). He says that dance is intellectually complex and meaningful (Brown, 2011). So the next time someone says, "Wow, you dance? That must be so fun," you can reply with, "Yes, but dance is also quite an intellectual endeavor. Let me tell you why…"

References

[1] Online blog post titled *Why is dancing so good for your brain?* on Psychology Today written by Christopher Bergland. https://www.psychologytoday.com/us/blog/the-athletes-way/201310/why-is-dancing-so-good-your-brain

[2] An online blog post titled *Is Dance "The Next Wave" in Cognitive Neuroscience ?* written by Dr. Steven Brown, a professor in the Department of Psychology, Neuroscience & Behaviour at McMaster University. https://www.psychologytoday.com/us/blog/the-guest-room/201111/is-dance-the-next-wave-in-cognitive-neuroscience

[3] Online dictionary titled *Collins English Dictionary*

https://www.collinsdictionary.com/us/dictionary/english/cognition

[4] Online article titled *Bloom's Taxonomy* written by Patricia Armstrong, past Assistant Director of the Center of Teaching at Vanderbilt University https://cft.vanderbilt.edu/guides-sub-pages/blooms-taxonomy/