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Hello Education Majors —

Have you ever really thought to yourself, “*Learning is truly a beautiful thing to behold?*” I hope so, because student learning is what great teachers live for. As a professional, it’s literally their reason for being.

Most of the time we know that our students have learned because of something they say or do. In those cases we can directly see or hear evidence of learning. *Other times we simply sense or feel that learning has happened or is occurring.* It is this latter phenomenon that I’d like to explore with you for a few moments now.

In describing these moments of sudden student clarity, teachers make statements such as:

- I love watching when the light goes on, when a student finally understands something I am teaching to them.
- I love to "see" the light bulbs when students make connections with the material.
- I find one of the joys of teaching, one of the major reasons I teach, is to savor that moment of recognition my students experience when the light in their mind turns on.
- There is a visual expression of joy, satisfaction, or relief on the face of my students when some difficult concept is finally understood. This shared moment of enlightened discovery is what teaching is all about for me.



These quotes highlight the idea that *learning is often equated with light.* Teachers are said to “shed light or throw light on,” to “illuminate,” to “bring to light,” or to “enlighten” their students about the concepts to be learned. In turn, students are said to “see the light” when a concept is understood or when new information causes them to view something in a new,

different, or richer way. And, the opposite holds true, too. Ignorance is often symbolically associated with darkness, the virtual absence of light. So, put another way, *the notion of a "light going on" in someone's head is a common metaphor for learning in popular culture.*

This is why the image of a glowing light bulb often signifies that learning is taking place or that fresh ideas are being formed. Learners are said to have "*light bulb moments*" when they experience an abrupt and lucid grasp of reality. These cognitive breakthroughs are also sometimes referred to as "Aha or Ah-ha" moments. To the learner, these revelations are both powerful and welcome.

You might find it interesting that these "Aha" moments are actual physical events in the mind. For instance, researchers have introduced fluorescent proteins into the brain cells of mice, and they could tell from the pattern of "lighting up" not only when neurons are communicating with each other, but which ones. Other studies using brain imaging in humans show that *creative problem solving* produces a visibly different pattern of neural activity on scanners than regular problem solving. It turns out that about one-third of a second before the "Aha!" moment, there is an instantaneous burst of brain waves that denote higher level thinking. In other words, scientific studies indicate that the "light going on" phenomenon is very real, and open the possibility that astute teachers could very well discern it.

Most teachers don't need to be convinced by science that "light bulb moments" are genuine. They trust their experience, judgment, and instincts to recognize learning when it occurs. And, they know it's their responsibility to make it happen, perhaps by piquing students' curiosity, the so-called "wick in the candle of learning." As for me, I like to think that a gifted educator can be the match, the wall switch, or the remote that turns the light on. It has been said, after all, that "*A good teacher is like a candle - consuming itself to light the way for others.*"



My hope is that over the course of your teaching career, you'll see that light going on endlessly. It will mean that your students are learning, and believe me, the gratification you'll feel will be absolutely priceless.

Sincerely,

*Bill Henk*

Dr. Bill Henk, Dean  
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