From STEM to STEAM


Four critical elements are considered the stars of today’s education (STEM). I couldn’t agree more. However, I also highly value the Arts and how valuable they are to nursing. Let me explain.

As our love of and demand for technology, medicine, discovery, and complexities have increased, we have recognized the need for people to be well-prepared in four basic areas—those cited above. As schools from K-12 and colleges and universities have emphasized the importance of these four areas, somehow many other fields have been devalued. Daniel Oerther made a great case for nursing being a STEM discipline (Oerther, 2018). Although he is a member of Sigma Theta Tau International, he doesn’t have the same self-vested interest as most of us would—he is not a nurse. Rather, he sees how nursing is a STEM candidate from the perspective of an engineer. He pointed out that nursing is included in STEM by the U.S. Department of Labor and suggests that Florence Nightingale was, in fact, a leader in the STEM concept. Most importantly, in my view, he pointed out that most STEM professions are reductionist in their approach, which is often not the case for nursing. He, too, sees nursing as I see it: a member of STEAM (add Arts to the fields mentioned above).

Whenever we place value on one element in society (e.g., educational preparation in specific areas), we begin to see the other areas as questionable or not valuable. Yet, many fields, including those in health care, rely heavily on the interaction of people. For example, consider how effective a physician with a limited “bedside manner” is in telling a patient critical, life-threatening news. Or, picture the nurse who is working with a school-aged child trying to figure out why he is seeing abnormal behavior when he cannot relate to the child. Or, think of the leader in an organization who clearly values the latest discoveries that can be credited to her organization and doesn’t know the people with whom she works. Each of these examples reflects what can happen when the arts (think humanness) are ignored.

If we really valued only the STEM parts of an education, we wouldn’t ask applicants to schools that are highly competitive (i.e., medicine and nursing) to respond to questions about their involvement in their communities or what they did beyond the school’s graduation requirements. The thing that is missing in a STEM approach is the A.

STEAM, where the Arts are a part of the critical elements, has a much better chance of producing a physician who can relate to a patient in a life-threatening situation, a nurse who can reach that school-aged child, or the leader who knows the people with whom she works and values them as much as a new scientific advancement. This same view of the importance of the Arts has grown to the point that http://stemtosteam.org provides details about efforts to reintroduce (or salvage, as the case may be) the Arts. The world-famous Rhode Island Institute of Design seems to be on the forefront of advocating for the importance of arts and design as an addition to STEM. Thomas Friedman (2017) coined the term STEMpathy to include humanness with STEM. No matter what you call it, nursing encompasses both the STEM elements and the humanness of the world.

The humanities, in essence, help us to appreciate the context of the world we live in and what is happening at any given time. They allow us to be articulate in translating thoughts and emotions effectively. They create the opportunities to bring together diverse views from diverse fields. The Arts help us create and then translate our culture. Most of the fields classified as arts are built on a theory and are often well-researched. They allow us to create pictures (in our heads or on a board), they help us find a more precise word to convey our feelings and viewpoints, and they allow
us to hear someone’s story in a way that we might not if we were limited to what many of us call “the hard sciences.”

Some readers may be thinking this relates to formal, academic education. Yes, it does—and it relates to our ongoing professional (and personal) development. We need to know as much about people and how they relate to each other as we need to know about a chemical imbalance that causes bizarre behavior.

In referencing leadership, I frequently say it is the hard part because it is soft. Similarly, I would say that many of the arts are the soft part of the world and therefore are often harder to understand and value. Yet, our ability to relate to others, in fact to convince someone how important STEM is, depends on our fluency with at least some of the fields known as the Arts.

After all those words, you may agree or disagree and may still wonder: why is she writing about this? Quite simply, I would say that whenever the pendulum swings to one extreme or another, whether in politics, in education, or in world views, we get stuck in valuing people who aren’t quite like us. We tend to make others wrong and we tend to think ourselves superior to those who weren’t as smart as we were to swing with the pendulum. As a result, we become less effective and sensitive to the human condition, whether that is of our clients or our co-workers. Solving problems often goes beyond a mathematical calculation. It involves knowing and valuing people; understanding that they see things differently, even when we may not be able to see those things in the same way; and knowing that if we do not remain connected to people—the core of our work—we lose. Let’s go full STEAM ahead!

REFERENCES

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