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Column:

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Lumsden High School teacher Carla Cooper's classroom is full of all sorts of things, not the least including pets such as this hamster, Marie Curie. Learning about science is for herself as well as students.

LUMSDEN—By its very nature, teaching is a highly personalized profession. Yes, there are required curriculum outcomes and expectations.

Beyond that though, there will always be the infusion of the teacher's approach and beliefs that will be highly influential in the process.

When you are talking about Carla Cooper there is a strong case to be made for the likelihood that they threw away the mould. She embodies the sort of passion, and even zaniness, that will inevitably resonate with her students.

As a recipient of one of the Prime Minister's Awards for Teaching Excellence in STEM (Science, Technology, Engineering and Mathematics), she is by her own description "always on" when it comes to teaching science. More specifically, Science 10, Environmental Science 20, Biology 30 and wildlife management at Lumsden High School.

"I will walk on a table sometimes when we're really engaged in a project," while conceding that some of her colleagues "think I'm crazy, but administration tends to look the other way," Cooper joked.

A crusader against overly testing students, one of Cooper's techniques involves students marking their own exams.

"Learning doesn't end after the exam. I've found that if kids are marking each other's exams there tends to be a lot of discussion after, and that's where you see the light bulbs."

Although she sees herself as a taskmaster, Cooper is all about the give-and-take with the students.

"When the students are truly involved, they are bridging what they have learned. My hope is always for a lot of lateral leadership even though it might look different for each student. I like a loud room as opposed to a quiet room," Cooper said, adding that she has had colleagues ask to keep the noise level down.

Very much a proponent of the inquiry process, Cooper goes so far as to suggest she would prefer not to even be the "sage on the stage."

"A good day for me is when I see the students connecting the dots on their own and understanding cause and effect—that there are good conversations happening and that the students teach me something as well. That is just as important as me contributing to their learning. That's a perfect world," she offered, confiding that she is pretty tired at the end of the day.

"Kids like the hands-on learning approach and the more I can be at the back watching, the better. If I've been up front [of the classroom] lecturing, that's not a good day for me," she added. "I prefer the students to figure things out for themselves rather than being spoon-fed. That's a life skill and I often say science is the mother subject because it crosses all subjects in the curriculum. I want students to be comfortable and not afraid to try things."

Another feature of Cooper's classroom is the assortment of pets, including a fish, a hamster (Marie Curie) and guinea pig (Stephen Hawking)—it is a science room after all, right? Previously she had a turtle and some rabbits before they died. Yet, that too is a teaching moment as Cooper said, "kids need to learn about the circle of life."

She also happily brings the collection of pets home when there's a school break. That is in addition to the dog who she does agility training with and one day hopes to train as a therapy dog in the school.

When it comes to the whole notion of STEM, actually it's STEAM (Science, Technology, Engineering, Arts and Math) in the Prairie Valley School Division since they have incorporated the arts component, Cooper is a staunch believer in its value, even if some skeptics might think it has become almost pervasive in the conversation lately.

"It's the way it has to be in my view, and it's that important for the future. I believe kids learn better when it has that practical, real-world application. I call it taking them back to the sandbox, letting them be young again and to use their imagination. It's about being tactile thinkers and that's what it's all about."

Like many similar-minded colleagues elsewhere, Cooper shares a desire to have girls become more immersed in the whole STEM movement. However, she observed that girls often prefer notes and diagrams, whereas boys are more likely to gravitate to the sandbox style.

Gender differences aside though, Cooper said students are a source of considerable inspiration, including recently having attended her fourth Canada-wide science fair in Ottawa.

"You're seeing the future young scientists (Grades 7 to 12) and I would have to say the future is in pretty good hands. It's exciting to be part of that as a teacher."

Another component of STEM that Cooper is an unabashed supporter of is the use of cellphones in the classroom—providing they are being used in the correct manner.

"When you're putting in data, it's important for us to understand and analyze what that data is telling us and how we apply it to solve problems or perhaps change the way we look at a problem."

If, however, a student uses the device to check messages for example, the cellphone is then placed in the "cell hotel."

"I tell my students at the start of the year that this is a business meeting, and you need to focus and be productive. I have found it helps keep the courses current. We rarely use textbooks," she said, adding the proviso that she pre-watches any video material that is to be used.

Whatever materials are utilized, Cooper's primary focus is to take learning further and deeper. "I don't want to hold the kids who might be ahead of their peers back in any way or else they aren't fulfilling what they are capable of. As a teacher, you have to be adaptable and flexible. Basically it's about meeting halfway, or else I'm not in your corner and I want to be.

"I would rather get through four really well-done units and make the great learning connections than completing five [units] and have just skimmed through them."

According to Cooper, one of the reasons she is particularly impassioned and confident about Biology 30, for example, is that she has been integrally involved in writing the curriculum.

While that might involve an extra layer of work, it is hardly new for Cooper, who is also President of the Saskatchewan Science Teachers Society. She is also looking at starting up an after-school STEAM club next year.

Cooper is quick to laud her various mentors along the way, ranging back to Mr. Hill, who was her biology teacher at Central Collegiate in Moose Jaw.

“He was the one who opened the door and made it clear how science functions and how it relates to the real world.”

Later, while working as an education assistant, principal Sandy Kitz prompted her to pursue teaching. She did this as a 30-year-old single mom while also enrolled at the University of Regina (where she is now pursuing her master’s degree).

Then there’s also Dean Elliott, who was the Science Consultant for the Ministry of Education while she was writing curriculum. “He encouraged us to make our own decisions and step outside your comfort zone and I learned so much and it made me a much better teacher.”

Perhaps you might think, with her rich track record, that Cooper would be the ideal candidate for administration. Well, turns out she tried it for a short while filling in as vice-principal in Milestone.

“I really missed teaching and the kids. That’s where my love is. Whether I would ever go back, would depend on the situation. But I’m having too much fun doing this and it has reaffirmed why I have been doing this for the last 10 years. I feel like I’m not done growing as a science teacher—not even close. There’s still so much I’m working towards and goals I want to accomplish.”

When not in the classroom, she can engage in conversation with her husband Ryan, who is an environmental biologist. Both her grown sons are also not far removed from the game in that Dwayne is in electrical engineering at the University of Saskatchewan and Rhys has graduated from resource and environmental law.

“We can get into a conversation at home and my mom will say we’re not even speaking English,” she laughed. “Ryan has been a really good sounding board and I’ll phone the kids when I have an idea and they are honest with me. So I try to mesh all that into my thoughts.”

Interestingly, while she acknowledges that at school she is an extrovert, Cooper said at home she is more of an introvert. “I’m a rebel in the quiet,” was her analysis.

While it might defy logic given her expansive thinking on all things science, Cooper said when she looks back to her high school days, she did not consider herself blessed with much of an imagination.

“But I’ve come to the conclusion that art comes in many different mediums. As a person can be horrible at drawing, but you can paint a picture in a different way and share it.”

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