

How High Stakes Responsibilities Build Character, Community, and Human-Nature Connections in a K-6 Agriculture Immersion School

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Slide 1: Title [Bonnie]

Bonnie acknowledged this ongoing study is a partnership with New Humble Community School and funded by the Alberta Education Partnership Program.

Slide 2: “How does experiential learning through agriculture foster curricular connections and life skills in K-6 students?” [Leah]

Our presentation is based on an intrinsic qualitative case study exploring how experiential learning through agriculture enhances K-6 students’ learning and life skills development. The focus on elementary students is important because most existing scholarship endorses the academic merits of experiential agriculture at the secondary level, and it is primarily discipline-specific to STEM subjects. Further, inclusion of agriculture tends to be confined to episodic projects, field trips, and/or extracurricular activities whereas the school where this research is being conducted is best described as an agriculture immersion school, with the aim of facilitating curriculum THROUGH agriculture, rather than simply teaching ABOUT agriculture.

Slide 3: Research Site: New Humble Community School [Leah]

The case study is of New Humble Community School, a rural public charter school that opened with K-6 in 2021. Their charter focuses on delivery of Alberta curriculum through agricultural literacy, experiential learning, and land stewardship. The school now has grades 7-9 as well.

The school is a farm with pigs, chickens, turkeys, ducks, cattle, goats, sheep, a garden, and a greenhouse. They have a garden and a greenhouse to plant, harvest and sell vegetables, make vegetable dye and baked goods. The students are responsible for chores and maintaining the garden. They apply for and interview for their jobs, are trained, and after that, their General Manager is a student who oversees the operation. Everything on the farm has a purpose. Peaches, for example, is there to catch mice. We would argue that the bunny serves an important platform for students to learn nurturing behaviour, even though this rabbit is not a food source.

Slide 4: Agricultural Literacy: economics, society, sciences, technology, history, culture, politics [Leah]

Agriculture is part of all of our lives because we eat, and need clothing and shelter. While New Humble has a farming operation, their aim is not necessarily to raise farmers. The majority of students, in fact, do not live on farms. It is important to understand that **agricultural literacy**

involves more than raising crops or livestock. Agricultural literacy is about understanding our food and fiber system. The most current definition of agricultural literacy was offered by Cosby et al. in 2022 as the deep “understanding of the economic, social, science and technology aspects of [agriculture] coupled with the ability to synthesize and communicate such knowledge” (p. 12). In 2023 the Royal Bank released a report documenting 40% of Canadian farmers will retire, and 66% do not have a succession plan. But the agriculture industry also needs people trained in “data analytics and climate-smart practices”; we need individuals who understand the complexity of agriculture to make informed, not emotionally or ideologically-driven, policies. Because agriculture touches everyone, agricultural literacy can help students understand the world around them, connect them to their food sources, introduce them to a multi-disciplinary way of understanding problems, and develop a relationship with nature.

Slide 5: Data Collection Methods and Analysis [Leah]

Our ongoing study includes data from multiple data collection methods. But for this presentation we have primarily focused on data from individual interviews with K-6 students, and observations of their learning. We’ve had opportunities to tag along with students doing chores, pond dipping in a local creek, planting trees at a nearby lake, maintaining their classroom compost bin, recycling, collecting materials to design historical Indigenous longhouses, and learning from the local veterinarian conducting an ultrasonography of a cow’s reproductive tract.

Our approach to the data was inductive. We did not impose a conceptual or theoretical framework on the data from the start, but rather, let the data be our guide. After looking at the data and noting thematic elements that suggested claims we could make, we turned to the Ministerial Order on Student Learning. Although there is overlap among the outcomes for learning, today we want to highlight what we learned about the specific outcomes of Character Development, Community and Civic Engagement, and what we are calling the Human-Nature connection as this is inherently important to students’ developing a shared responsibility for environmental stewardship, an outcome related to their understanding of being a citizen of Alberta, Canada, and the World. At a time when we are experiencing global ideological polarization, social unrest, and increasing alienation from both our food sources and nature within the context of heightened awareness of the need for environmental stewardship and sustainability, we felt focusing on these dimensions of the learning outcomes would not only advance the academic conversation about the value of teaching agriculture in schools, but be uplifting for our current times.

Slide 6: Character Development [Bonnie]

Students on the chores crew take their roles seriously and understand commitment, follow-through, and responsibility. They know they can lose their job if they don't fulfill their duties. Accountability is non-negotiable; for example, failing to water animals is immediately evident when they're dehydrated. They can't hide from their mistakes. A parent recently shared that

their child was hired as a Duck Manager. On their first day, the family had a scheduling conflict, but the child insisted on getting to school early to participate in chores because they "signed a contract."

Through messy, challenging, and sometimes unpleasant jobs, students develop a strong work ethic. They learn the effort required to raise food and handle real adult-like responsibilities, like calling local businesses to order supplies. This hands-on experience builds maturity and confidence. From the start, I noticed how easily students engaged in meaningful, adult-like conversations, showing pride in their purposeful work. The farm is not a simulation, and students understand that animals they care for are also food. They learn resilience, reconciling the tension between animals as companions and as food sources. This is oppositional thinking—holding and reconciling contradictory ideas.

Slide 7: Community and Civic Engagement [Bonnie]

A key finding is that the high-stakes nature of agriculture fosters interdependence, cooperation, compromise, and interpersonal skills. Students describe their school as a family or community where they feel purposeful and valued. For example, each grade studies an animal in depth. Last year, grade 3 focused on cattle and noticed the steers bedding in muddy areas away from their shelter. Concerned about animal welfare, they proposed moving the shelter to a sunnier spot. After collaborating on solutions, they presented their proposal to the school board. While exciting to see grade 3 students engaging in public speaking and problem-solving, they also learned valuable lessons when a board member rejected their idea. This experience taught them about conflict, compromise, and navigating differing opinions. While schools can't always replicate the real world, agricultural activities put them in front of an enterprise that requires students to work together, giving students a sense of community, responsibility, and real-world challenges that encourages a help-seeking disposition.

Slide 8: Human-Nature Connection [Leah]

On my first day at New Humble, Bonnie and I heard one of the most profound statements a student has shared. We were watching the Grade 3 class feed the earthworms in their compost bin, and with worms in hand, one student told us, "I like holding worms because it makes me respect nature." Before we could respond, the kids had placed worms in our hands to join in on this direct human-nature connection. A common theme in our observations has been the deep care cultivated between students and all living things. From the steers in the barnyard to the creatures in the creek, students work to engage with organisms around them in a respectful way. Many students have emphasized the importance of self-regulation via the barnyard "no running" rule and limits to how many people can be in a pen to keep the animals calm and safe. Bonnie has also noted gender-neutrality in this care for animals. According to Melson, by 8 years old caring actions for babies are more likely to be seen from girls, however with pets all genders are equally involved. We frequently see boys cuddling with lambs and Domino the bunny in the barnyard. The students have also indicated how learning to understand the social

cues of animals, such as relaxed body language versus an arched back, can be applied to interactions with other people. One student described that each animal or person has different feelings, and gave the example of how you don't go and pick up your friend without checking for permission. Through their interactions with non-pet animals, students learn how to understand the feelings of others and sense and respect non-verbalized boundaries.

Slide 9: What is so special about agriculture? [Bonnie]

There are many innovative approaches to teaching, and there are rich bodies of research regarding nature-based learning, place-based education, outdoor education, project and inquiry-based, and experiential learning. But we are seeing that agriculture is special because for example, while learning through nature might enhance students' understanding, it does not necessarily confront them with the realities of life and death, and impose a responsibility with high-stakes consequences. Experiential learning, for example, is common in many classrooms, but what agriculture adds to experiential learning is a specific connection to the more-than-human world. We are still contemplating this question of what makes agriculture so special, but what we have learned from New Humble is how agriculture, by its nature, includes many innovative pedagogical approaches.

Slide 10: Want more information about the study? [Leah]

Over the summer, I helped Bonnie develop a website to track the development of the School is Such a Chore project, so if you are interested in learning more about the ongoing project and follow along with updated information, please visit <https://www.schoolbasedag.com/>. Thank you.