

- Curriculum
- Context (authentic experience)
- Content standards (meaningful understanding)

Developing Agricultural Literacy Outcomes: A Synthesis of Research-based Expectations

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↑ Introduction/Need for Research

In a meta-analysis conducted by Kovar and Ball (2013) the researchers determined:

- “assessing agricultural literacy of a population and determining the effectiveness of a program are important goals” and “that most agricultural literacy efforts are intermittent and varied, and they suggested that programs be more national in scope (p. 175)
- there has been little consistency among researchers related to the measurement of agricultural literacy

There is a need for research related to Public and Policy Maker Understandings of Agriculture and Natural Resources (Roberts, Harder, & Brashears, Eds., 2016, p. 10). “At the forefront of the discussion regarding public and policymaker understanding of agriculture and natural resources is the operationalization of what constitutes true agricultural literacy” (p. 14).

← Conceptual Framework

A constant comparison analysis allowing themes to emerge was used along with content analysis to compare instances of and discover commonalities among the previously developed frameworks.

↑ Methodology

Using a content analysis rubric, concepts were unpacked from identified frameworks. Frequency counts were made on the items to determine the importance of the concepts. Concepts with a high frequency became part of a concept map and, from this map, five themes emerged: Agriculture and the Environment; Plants and Animals for Food, Fiber and Energy; Food, Health, and Lifestyle; Science, Technology, Engineering and Math; Culture, Society, Economy and Geography.

Each concept was written into a measurable outcome. To ensure outcomes were grade level appropriate and would be considered by teachers, they were correlated with the national education standards in science, social studies, and health. The outcomes were vetted through an online process by educators and researchers who were notified on three national list serves. The finalized outcomes became the National Agricultural Literacy Outcomes (NALOs).

→ Results/Findings

- The NALOs have been used as a framework to modify and develop over 250 curricular resources for the National Agriculture in the Classroom.
- Over a six-month period, the NALO-integrated resources (as tracked by the researcher) have had over 35,000 page views.
- Two graduate studies have been completed using the NALOs as a framework. Edwards (2016) found that 90% of the teachers wanted to learn more about the NALOs for integrating and contextualizing their teaching. Brandt (2016) developed instruments to measure two NALO themes for students in grades 3-5.

↶ Conclusions

Researchers, curriculum developers, and educators have acknowledged the need for research-based, measurable agricultural literacy outcomes. The NALOs provide a foundation for creating instruments, developing instructional resources, and measuring baseline data that will provide consistency for measuring agricultural literacy models. Continued research on the NALOs is necessary to validate their content, appropriateness, and use as a baseline for measurement.

→ Implications

These foundational outcomes are an essential first step to measure with some consistency the delivery models used to operationalize and increase agricultural literacy. This synthesis work of outcomes correlated with national standards provides a research-based framework and an opportunity for those who wish to collaborate and conduct research in this area to address Priority 1 of the National Research Agenda for Agricultural Education.

This research updates agricultural literacy benchmarks and frameworks with explicit correlations to national science, social studies, and health education standards to provide consistency and foundational common agricultural literacy measurement among K-12 students.

References

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