

Exploring the Role of Affinity in Agricultural Literacy

Sarah Appel

Colorado State University

Sarah.appel@colostate.edu

509.288.1716

Dr. Kellie Enns

Colorado State University

Jenny Bennett

Colorado State University

Agricultural Education, Colorado State University

112 CoBank Center for Ag Ed, ARDEC

Fort Collins, Colorado 80524

(970) 491.0678

## Exploring the Role of Affinity in Agricultural Literacy

### Introduction

Through a partnership between the Colorado State University (CSU) Program of Agricultural Education and CSU Extension AmeriCorps, an eight-month agricultural curriculum was developed called DIGS, which stands for *Developing Individuals, Growing Stewards*. The main goal of this curriculum is to expose third thru fifth graders to agriculture, encourage agriculture knowledge acquisition, and desire to continue learning about agriculture. The current definitions of agricultural literacy emphasize the importance of agricultural knowledge and the ability to think and communicate critically (Frick et al., 1991; Kovar & Ball, 2013; Powell et al., 2008). However, there is minimal evidence of definitions that consider the importance and possibility of developing positive emotions toward the industry, which may impact an individual's agricultural literacy. This research project introduces the role of affinity for agriculture pertaining to students' emotions towards and interest in the industry.

### Conceptual Framework

Affinity can be defined as a positive emotional connection to a topic. An individual with affinity feels an "emotional attraction" to the topic and "internalizes" it to the point that the topic is a part of who the individual is (Eastep et al., 2011, p. 127; St. George et al., 2014, p. 272). It causes an emotional response leading to action (Kals et al., 1999). Affinity leads to a personal, significant, and meaningful link between a person and the topic. Most often, affinity develops based on positive experiences with the topic. St. George et al. (2014) suggest that there are levels of affinity for music, including "early explorers, early engagers, music lovers, and musicians" (p. 269). Those with the lowest levels of affinity, early explorers, have just started to engage with music and instruments. In contrast, those with the highest level of affinity, musicians, identify with the music, and music is part of who they are (St. George et al.).

Higher levels of affinity can influence an individual's behaviors, aspirations, choices, and more (Cheng & Monroe, 2012; St. George et al., 2014; Hinds & Sparks, 2008). It may lead to decisions that support the topic (Cheng & Monroe). In the context of agriculture, an increase in affinity may encourage students to pursue agricultural careers or make decisions that support the agricultural industry. When support for agriculture may be lacking, the need for individuals with an affinity for agriculture may increase.

### Methodology

Two elementary schools implemented the DIGS curriculum over eight months, starting in September and ending in August. These lessons were hands-on and interactive, designed to encourage students to have a positive experience with agriculture. Students in this project were also given DIGS activity booklets with a supplemental activity and notes page for each lesson.

Seventy-two students completed a DIGS lesson monthly for an entire school year. Fifty-eight of those students completed the supplemental DIGS activity page for each month. The other students opted out of the booklets. Instead, these students completed post-curriculum

posters which asked them to share their thoughts and feelings about agriculture after participating in all the lessons.

At the end of the curriculum, all the students completed a researcher-designed affinity survey inspired by other surveys assessing youth's affinity for nature (Müller et al., 2009; Eastep et al., 2011). This 7-question survey included 6-point Likert scale questions where one indicated completely disagree and six indicated agree. These questions asked how students felt during the curriculum, their interest in learning more about agriculture, and how they saw themselves as part of the agricultural industry. To analyze data and assess for the presence of affinity, researchers performed a content analysis using the DIGS activity booklets with two coding frames: agricultural interest and emotional connection. They also found the affinity survey's average response rates for each question.

### **Results**

Fifty-eight booklets and twelve posters were analyzed in this study. Of those, 47% (n=33) had quotes indicating an affinity for agriculture. These included phrases such as "I love agriculture" and "I think agriculture is important." These quotes highlight the possibility that these students had an affinity for agriculture during and after the curriculum.

Fifty-five students completed the post-curriculum affinity survey. The average response on the affinity survey was 4.85, which indicates an agreeable response that these students experience positive emotions towards agriculture and may have an affinity for agriculture. These questions were further broken into groups showing positive emotions during the curriculum (5.16), interest in learning more about agriculture (4.30), and placing identity in agriculture (4.72).

### **Conclusions**

Based on the data above from the content analysis and affinity survey, students expressed an affinity for agriculture. The quotes demonstrate that students shared positive emotions during the lessons regarding agriculture. The poster quotes indicated students' view of agriculture as essential and may have impacted their interest in and desire to participate in agriculture. The average scores for the affinity survey also indicate that students felt positive emotions towards the curriculum and agriculture during the lessons. While there is a lack of pre-curriculum data, the average response rates demonstrate that students may have felt an affinity for agriculture during and after the DIGS curriculum. While it is unable to determine if the curriculum caused this change, because of the curriculum, this research was able to occur.

### **Recommendations**

This project and the results above indicate another area of agricultural literacy that should be explored. Affinity has yet to be used in agriculture and the study of agricultural literacy, but this positive emotional connection may influence an individual's behaviors, aspirations, and choices regarding agriculture. The recommendation that is spurred by this project is to encourage researchers to dive further into an affinity for agriculture and how it impacts an individual's agricultural literacy.

**References**

- Cheng, J. C. H., & Monroe, M. C. (2012). Connection to nature: Children's affective attitude toward nature. *Environment and behavior*, 44(1), 31-49.
- Eastepp, B., Cachelin, A., & Sibthorp, J. (2011). Affinity for nature in outdoor programming: Theoretical foundations, scale development, and importance. *Journal of Outdoor Recreation, Education, and Leadership*, 3(3), 126-136.
- Frick, M. J., Kahler, A. A., & Miller, W. W. (1991). A definition and the concepts of agricultural literacy. *Journal of Agricultural Education*, 32(2), 49-57.
- Hinds, J., & Sparks, P. (2008). Engaging with the natural environment: The role of affective connection and identity. *Journal of environmental psychology*, 28(2), 109-120.
- Kals, E., Schumacher, D., & Montada, L. (1999). Emotional affinity toward nature as a motivational basis to protect nature. *Environment and behavior*, 31(2), 178-202.
- Kovar, K. A., & Ball, A. L. (2013). Two decades of agricultural literacy research: A synthesis of the literature. *Journal of Agricultural Education*, 54(1), 167-178.
- Müller, M. M., Kals, E., & Pansa, R. (2009). Adolescents' emotional affinity toward nature: A cross-societal study. *Journal of Developmental Processes*, 4(1), 59-69.
- St. George, J., Holbrook, A., & Cantwell, R. (2014). Affinity for music: A study of the role of emotion in musical instrument learning. *International Journal of Music Education*, 32(3), 264-277.
- Powell, D., Agnew, D., & Trexler, C. (2008). Agricultural Literacy: Clarifying a vision for practical application. *Journal of Agricultural Education*, 49(1), 85-98.