

**Assessing University Students' Perceptions of an Interactive Learning Space  
About Ranching**

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### Introduction/Need for Research

Agriculture is an essential cornerstone of human civilization and has undergone profound transformations throughout history (Fitzgerald et al., 2018). One way to preserve, record, and inform others about those changes is through museums (Anderson, 1982). In the dynamic landscape of living history museums, the integration of interactive learning spaces has become pivotal in enhancing visitor understanding and overall experience (Hurt, 1978). An example of an agricultural history museum is Texas Tech University's National Ranching Heritage Center. Located in Lubbock, Texas, the NRHC serves as a 27-acre historical museum dedicated to preserving and interpreting the history of ranching in North America. The newest addition to the NRHC is the Cash Family Ranch Life Learning Center. The CFRLLC is an indoor and outdoor comprehensive experience that provides accurate, adult-level ranching concepts through the children's book character, Hank the Cowdog, created by author John R. Erickson (Ranch Life Learning, n.d.).

Most Americans are now two to three generations removed from farm life, and as a result, the importance of agriculture is often misunderstood and unrecognized (Monk et al., 2016). Agricultural literacy is a current and global issue, and industry knowledge is necessary for building a sustainable future (Kovar & Ball, 2013). With the recognition of agricultural literacy's importance and the need to evaluate these efforts beyond the traditional classroom setting (Kovar & Ball, 2013), the current study sought to address the gap in the literature regarding the impact of agricultural history museum exhibits on agricultural literacy.

### Conceptual Framework

Falk and Dierking's (1992) Interactive Experience Model served as the conceptual framework for this study. This model, rooted in museum research, is comprised of three key elements: the personal context, the social context, and the physical context. The personal context refers to the motivations and expectations of visitors and their background of experience, knowledge, interests, and needs. The social context refers to interactions within the museum experience. The physical context is the physical environment of the museum, including exhibited objects, design elements, and interactive activities (Falk & Dierking, 1992). According to Falk and Dierking (1992), a museum visit should be regarded as a comprehensive experience or a multidimensional learning experience. Learning is considered to have occurred when, following a voluntary visit, an individual can express or demonstrate self-perceived heightened knowledge or awareness, exhibit a shift in attitudes or opinions, or show motivation to participate in a specific activity. This model enables visitors to express their perceptions of their experiences and actively indicate whether they have gained any knowledge on museum topics (Rennie & Johnston, 2004).

### Methodology

This study employed a descriptive survey research design to assess visitors', specifically college students', perceptions of the CFRLLC. We utilized a convenience sampling method, targeting students at Texas Tech University. Participants were recruited from four agricultural communications courses, which could encompass a diverse range of majors. Fifty-one usable responses to a Qualtrics questionnaire were collected in October 2023. The researchers modeled

instrument questions after Johnston's (1999) study which investigated visitors' experience at a science center. The questions were adapted to elicit their opinions, attitudes, and feedback regarding their experience at the CFRLLC. At the end of the data collection period, the data were exported from Qualtrics into IBM SPSS for additional analysis.

### Results

#### **RQ1: What were their self-perceptions of learning after visiting the ranch life exhibits?**

Overall, participants had positive impressions of their visit and experience exploring the learning center. Participants provided their responses to these items on a 5-point Likert-type scale where 1 = *strongly disagree* and 5 = *strongly agree*. Participants indicated their visits were an enjoyable experience ( $M = 4.82, SD = 0.39$ ) and would recommend it as a place to visit ( $M = 4.80, SD = 0.40$ ). Participants were above the mid-point on the 5-point Likert-type scale in terms of their self-perceptions of ranching knowledge ( $M = 3.64, SD = 1.16$ ), but they agreed the "hands-on" activities will help them remember ranching concepts ( $M = 4.67, SD = 0.48$ ).

#### **RQ2: What impact did the visit have on their attitudes regarding ranching?**

Participants agreed they were more aware of advances in modern ranching practices ( $M = 4.82, SD = 0.39$ ) and had a better appreciation of ranching in the United States ( $M = 4.78, SD = 0.43$ ) after visiting the CFRLLC. Participants were also asked about their changes in opinion regarding different aspects of the ranching industry before and after their visit. The data did not meet the assumption of normality; therefore, a Wilcoxon signed-rank test was utilized. The test showed that visiting the CFRLLC only led to a statistically significant change in one opinion item, "Ecological Impact (on land, water, wildlife)" ( $Z = -2.801, p = 0.005$ ). The other items all had pre-visit mean scores above 4.6, which only increased slightly in the post-visit.

### Conclusions

The findings indicated the CFRLLC is providing an educational and enjoyable learning experience with the potential to positively impact the agricultural literacy of its visitors. The slight (yet statistically significant) positive change in opinions about the ecological impact of ranching after visiting the learning center is noteworthy because this is a topic area often discussed in conversations about agriculture's impact on the environment. According to Falk and Dierking (1992), this shift in opinion is evidence of learning. This result indicates participants were able to learn from the interactive exhibits about ranching's role in land stewardship, range management, and habitat protection. After their time at the CFRLLC, participants reported being more aware of advances in modern ranching practices and had a better appreciation of ranching in the United States. As Reid (2017) noted, how agricultural practices are presented in a museum context can encourage a better understanding of these relevant topics.

### Implications/Recommendations/Impact

Future studies should consider measuring time spent in the CFRLLC as an additional variable, and how social context elements influence learning and attitudes is also recommended. As a practical recommendation, the center should continue to emphasize ranching's positive impact on land, water, and wildlife in terms of sustainability and environmental stewardship. Based on this initial research, the CFRLLC provides an engaging and interactive opportunity to improve knowledge about and appreciation of ranching in the United States.

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