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# The Importance of Experiential Learning in Agriculture Literacy Opportunities

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# THE IMPORTANCE OF EXPERIENTIAL LEARNING IN AGRICULTURE LITERACY OPPORTUNITIES

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# Introduction

Learning Preferences (LP) are considered stable indicators of how students and adults respond to factors of learning in an environment.

The environment is interactive with

- cognitive thought,
- critical and creative thinking,
- emotional,
- physical,
- social learning processes.



Kolb Learning Style







Research farms remain popular for academic and extension faculty use because of the opportunity to share rich experiential teaching opportunities for all ages.





# Experiential Learning

Hands-on learning can be a form of experiential learning but does not necessarily involve students reflecting on their product.

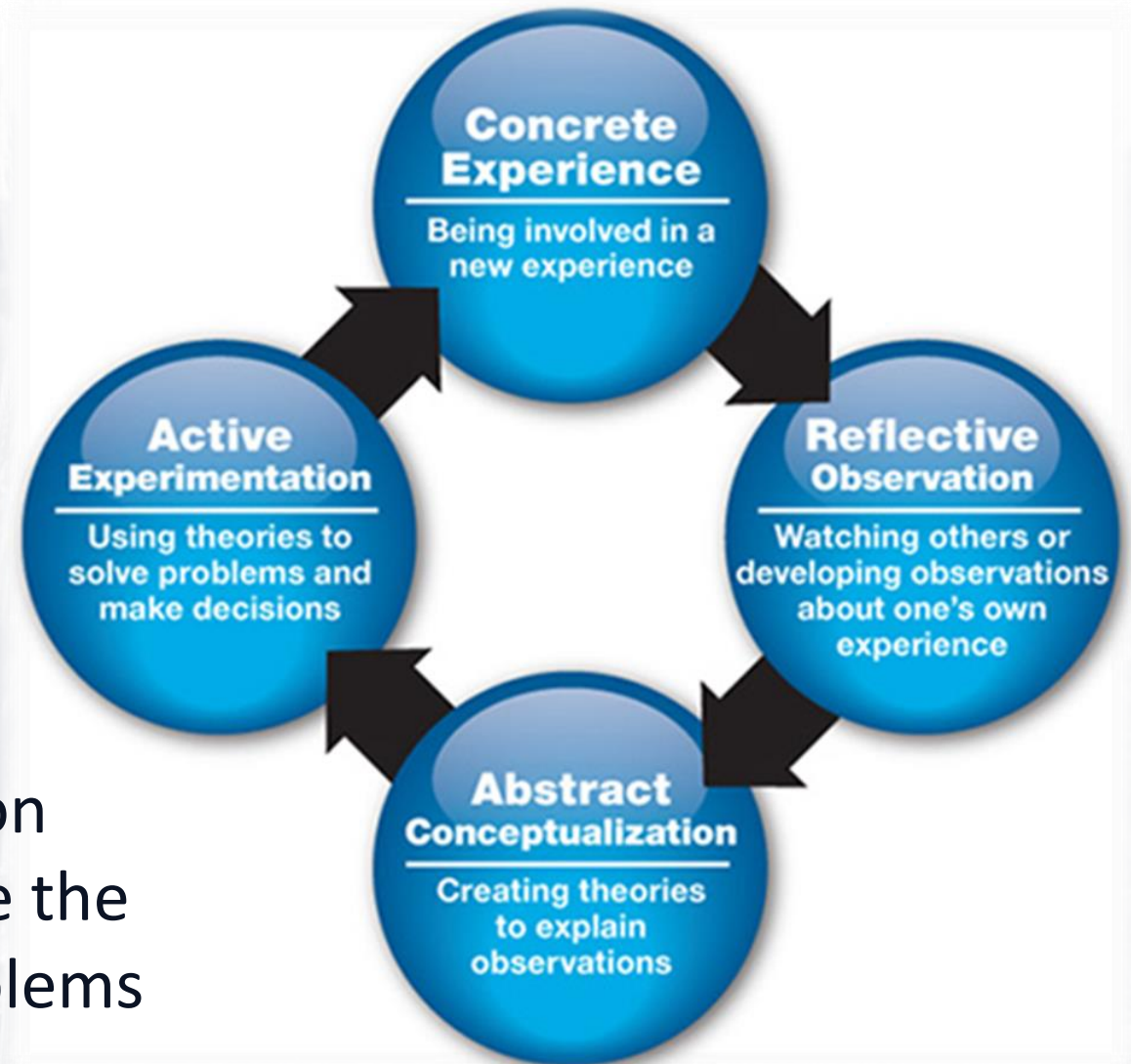
The experience is designed for students to have the opportunity to learn or be exposed to something new.



Reflective observation allows for students to either watch closely and develop observations about the experience.

Students then have the opportunity to conceptualize and develop theories about what they saw.

Active experimentation allows students to use the theories to solve problems and make decisions.





# Objective



Lincoln University at Jefferson City, Missouri introduced thirty-five (35) first-time agriculture major students, with varying levels of prior agriculture knowledge, to Agriculture Literacy by using experiential methodology.





The **idea** was to expose students to field research and activities from each of the emphasis areas, Animal Science, Plant & Soil Science, Natural Resources, and Agribusiness. Not all students have chosen an emphasis at this time.

The **primary focus** of the event was to expose students to as many disciplines in agriculture as possible in a single day, thereby increasing their overall Agriculture Literacy knowledge.





A blind pre- and post-event survey was performed that contained twenty-one (21) prompts using a 5-point Likert scale, regarding introduced topics and disciplines for the day. Students were prompted with the following statement.

**The Agricultural Education in Secondary Schools Committee published its findings in a report, Understanding Agriculture: New Directions for Education, and defined agricultural literacy as:**

*"An agriculturally literate person would understand the food and fiber system, and this would include its history and its current economic, social and environmental significance to all Americans"*





# Learning Something NEW

- Animal Handling & Welfare
- Aquaculture
- Plant & Soil Science
- Poultry Handling & Egg Grading
- Climate
- GIS





# Reflective Observation

- Brief overview of animal flight zones based on eye placement and their peripheral vision ability.
- Sheep have a stronger flocking instinct than some livestock species and that can be used to the shepherd's advantage.
- Short account of safety and humane treatment
- Students observed two farm student workers “push” the sheep by using flight zones and flocking instinct



# Conceptualize and Develop Theories

- Students were broken into groups of three to sort sheep.
- Sheep were numbered, and each group of students were given numbers to find and cut from the flock.





# Active Experimentation

- They had five minutes to sort, cut, and chute three animals, out of a group of ten.
- The final step - problem solve and make decisions on how to approach the sheep using the new knowledge on how to move livestock safely and humanely.

**Seventy-five percent of the group had never been to a farm or been around livestock and were primarily from urban backgrounds.**



## Paired Differences

95% Confidence Level of the  
Difference

		<i>M</i>	<i>SD</i>	<i>SEM</i>	Lower	Upper	<i>p</i> -value
Pair 1	Strongly Disagree	2.905	3.239	0.707	1.430	4.379	<.001**
Pair 2	Disagree	7.286	3.849	0.840	5.534	9.038	<.001**
Pair 3	Neutral	2.238	3.659	0.799	0.572	3.904	0.011*
Pair 4	Agree	-1.619	4.588	1.001	-3.707	0.469	0.121
Pair 5	Strongly Agree	-2.952	2.500	0.545	-4.090	-1.815	<.001**

Overall, students reported a feeling of better understanding of the terminology related with Agriculture Literacy by the end of the Agriculture Literacy Day.





# Discussion

- Students also shared that the hands-on learning experiences of animal handling and welfare by sorting sheep, handling chickens and learning to grade eggs, learning about aquaculture, and completing soil sample analysis, were the most enjoyable portion of the experience.
- Participant answers signifying a low pre-event knowledge and low confidence level were shown to have an increase in post-event knowledge and confidence level in Agriculture Literacy.
- They were more confident in their skills and had a better understanding of the disciplines available in agriculture.



# Implications

Only 28% of participants shared a prior connection with youth agriculture; in groups such as 4-H, FFA, or in high school agriculture classes.

Agriculture's connection to human health and environmental quality, and the societal lack of understanding agriculture literacy, exposes the need for enhanced agricultural education efforts.





# Conclusions

- Based on observation, students with prior agriculture knowledge were less likely to openly participate.
- Students with little or no prior agriculture experience were engaged and more likely to participate and ask questions.
- Results of the first Agriculture Literacy Day were persuasive enough to warrant offering the opportunity to future incoming first year students and transfer students.



# References

Codallo, M., Bruce, J., McKee, K., Jayaratne, K. S. U. (2020) Factors that Influence University Student Retention in Colleges of Agriculture. *NACTA Journal* 64 134-139.

Frick, M. J., Birkenholz, R. J., & Machtmes, K. (1995). Rural and urban adult knowledge and perceptions of agriculture. *Journal of Agricultural Education*, 36(2), 44-53.

Jean-Philippe, S., Richards, J., Gwinn, K., & Beyl, C. (2017). Urban youth perceptions of agriculture. *Journal of Youth Development*, 12(3), 1-17.

