

Integrating the Entrepreneurial Method in Community College Farm & Ranch Management Coursework



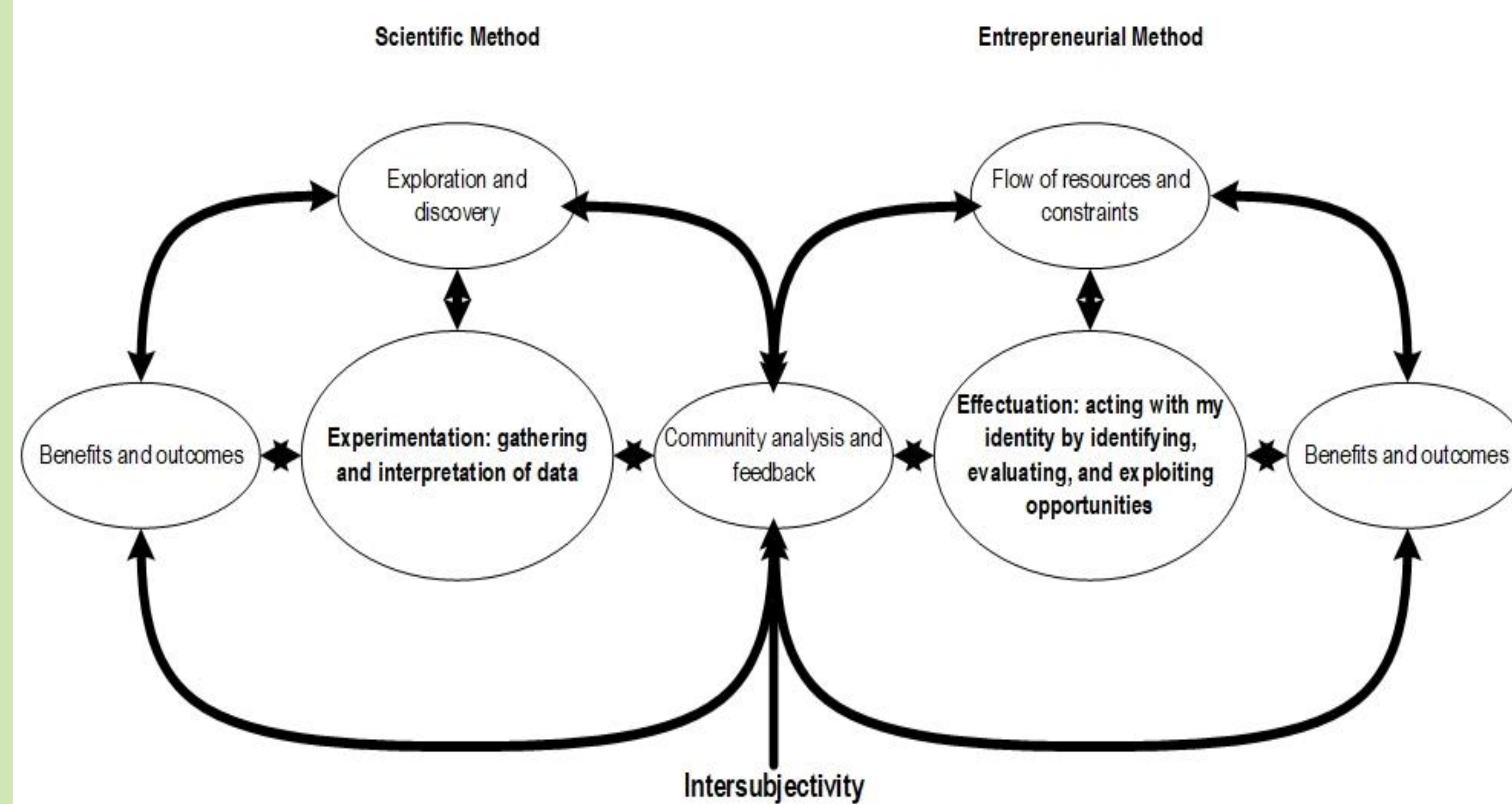
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Introduction

The world needs:

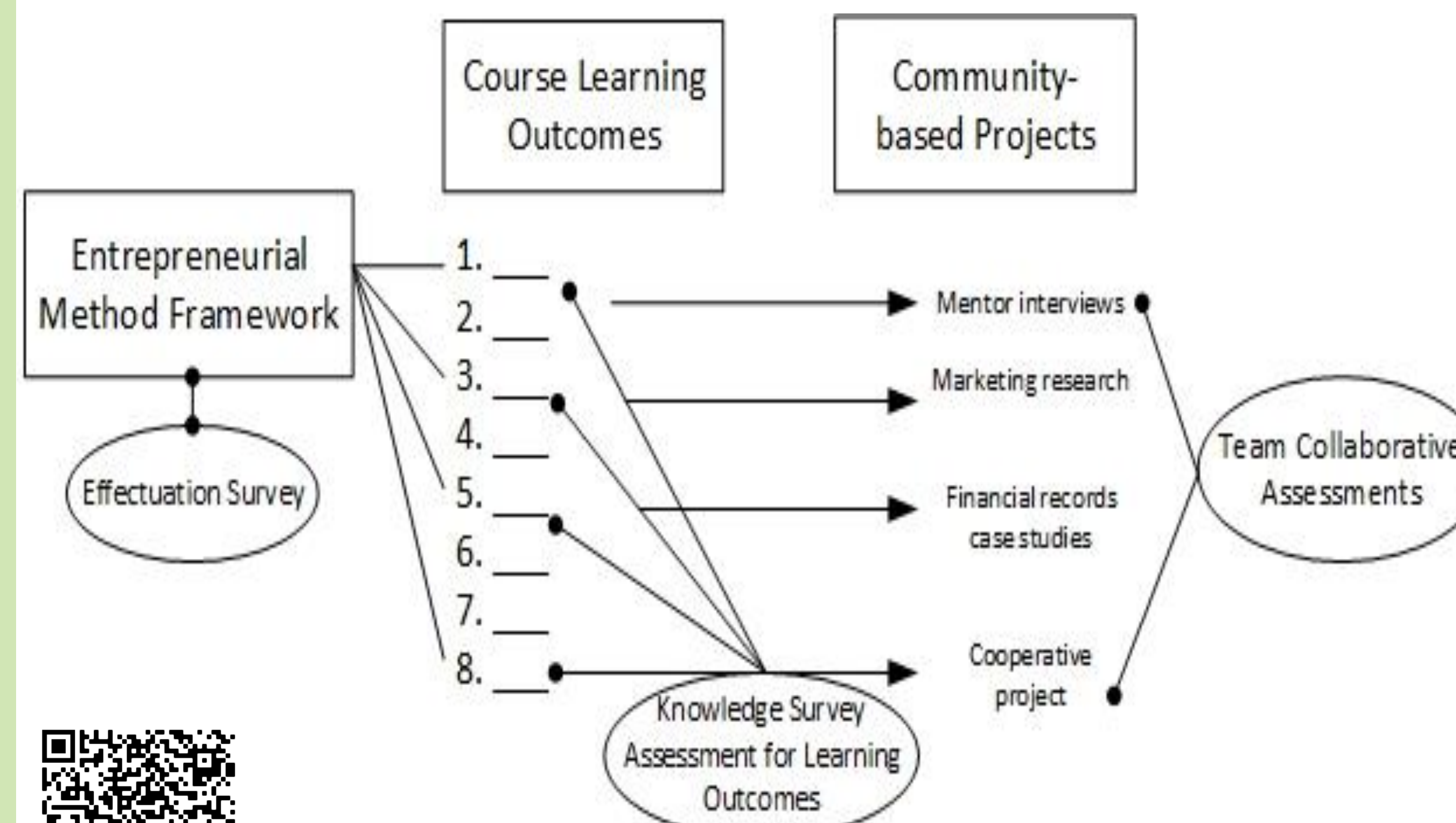
Multidisciplinary thinkers	Creative problem solvers	Collaborative communicators
Informed risk takers	Curriculum integrated across multiple courses	Curriculum integrated into the community

Scientific Method v. Entrepreneurial Method



How it Works

"Causation processes take a particular effect as given and focus on the means to get that effect; whereas, effectuation processes take a set of means as given and focus on selecting between possible effects that can be created with the given set of means" (Sarasvathy, 2001).



[An Integrative Framework for Teaching the Entrepreneurial Method](#)

Table 1
Description of Sample from Population of Interest

	Sample Size		Gender		Age					
	N	n	% Male	% Female	% <21	% >=21	%	%		
Class of 2018	17	9	52	44	5	56	8	94	1	11
Class of 2019	19	14	74	43	8	57	12	86	2	14
Class of 2020	24	15	63	33	10	66	12	83	3	20
Total	60	38	63	39	23	61	32	84	6	16

Results: Knowledge Survey Assessment

A paired-samples t-test was conducted to compare pre-semester and post-semester assessment of knowledge in course outcomes. There was a significant (difference in the scores for pre & post conditions; $p < .05$).

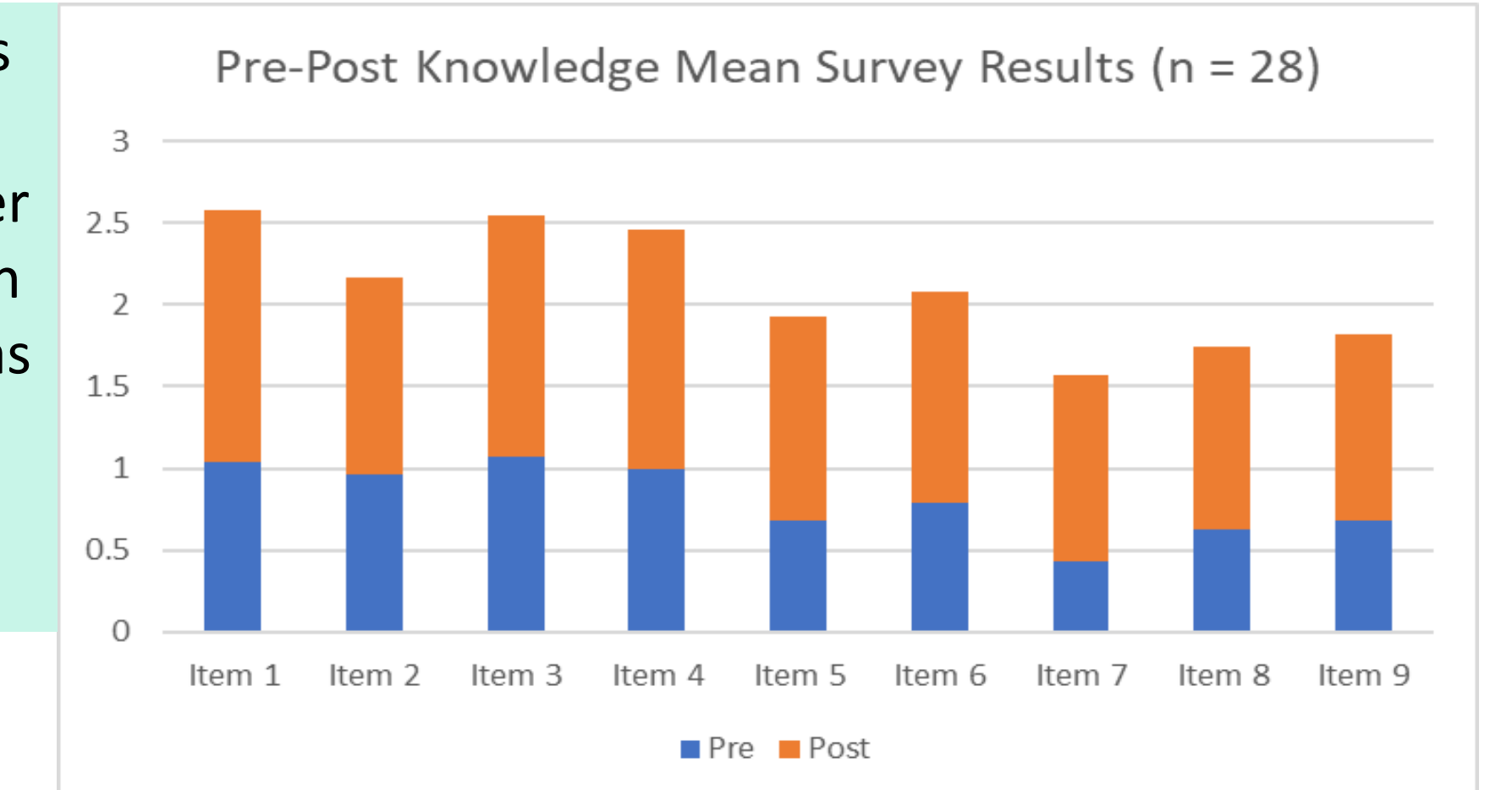


Table 2
Descriptive Statistics and t-test Results for Student Assessment of Confidence on Management Course Content Outcomes

Knowledge survey outcome	Pretest		Posttest		p	t	df	Effect Size (d)
	M	SD	M	SD				
Item 1: I can develop a mission and vision statement for my future farm or ranch. **	1.04	.637	1.54	.508	.001	-3.81	27	-0.87
Item 2: I can identify what definition best describes the function of marketing.	.96	.508	1.21	.418	.050	-2.05	27	-0.54
Item 3: I can analyze, plan, implement, and control a management challenge. *	1.07	.781	1.48	.643	.031	-2.28	26	-0.57
Item 4: Using the corn enterprise budget, I can determine what is their expected profit per acre. *	1.00	.816	1.46	.576	.017	-2.56	27	-0.65
Item 5: I can identify the forecasting time horizon that would typically be easiest to predict. *	.68	.772	1.25	.701	.011	-2.74	27	-0.77
Item 6: I can identify marketing strategies that provide the least protection against a decline in selling prices before they are ready to deliver the commodity. **	.79	.738	1.29	.600	.002	-3.33	27	-0.74
Item 7: I can identify which type of farm business entity must file and pay income taxes separately from the personal tax returns of the owners. **	.43	.573	1.14	.705	.000	-4.03	27	-1.11
Item 8: I can analyze farm records for solvency. *	.63	.742	1.11	.751	.016	-2.57	26	-0.64
Item 9: I can create an organizational chart of a farm business. *	.68	.723	1.14	.591	.013	-2.66	27	-0.70

Note: Item scores corresponded to the student ranking of their confidence. Students marked: 2, if they feel confident that they can do this extremely well immediately; 1, if they feel that they now have sufficient knowledge to provide a response that would be acceptable; 0, if they are not confident that they could deliver the quality of response that they feel, should be minimally acceptable. $p < 0.05$ indicated by *, and $p < 0.01$ indicated by **.

Students in Action: Marshmallow Towers



Results: Student Collaboration

There was a statistically significant difference between groups as determined by one-way ANOVA between year prior to integration and after integration of entrepreneurial method in favor of the students' support of collaboration.

Table 3
Means, Standard Deviations, and One-Way Analyses of Variance in Student Responses to Collaboration Survey in Two Different Course Design Frameworks

Collaboration Survey Questions	Baseline		Integrated Entrepreneurship		p	t	df	Effect Size (d)
	M	SD	M	SD				
Collaborative learning is an important skill and behavior to develop for workforce readiness. **	4.00	.50	4.75	.44	<.001	-4.05	27	-1.59
I feel part of a learning community in my Ag classes. **	3.89	.60	4.80	.41	<.001	-4.78	27	-1.77
I was able to develop new skills and knowledge from other members of my group. *	3.22	.83	4.25	.91	.008	-2.88	27	-1.18
I was able to develop problem-solving skills through peer collaboration. **	3.44	.73	4.55	.69	.001	-3.94	27	-1.56
Collaborative learning in my group was effective.	3.56	.53	3.90	1.12	.390	-.87	27	-0.78
Collaborative learning in my group was time-consuming. *	3.22	.67	4.00	.80	.017	-2.55	27	-1.06

Next Steps

- Extend community-based projects beyond the duration of the course
- Support entrepreneurial ecosystems in rural communities in shorter duration course offerings
- Collaborate as a program with other post-secondary institutions on community-based projects