

Skill and Attribute Demands of Agriculture Employers: A Best-Worst Scaling Approach

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Introduction

Research Question

What are the skills and attributes that employers seek in new hires (often college graduates) within the agricultural industry?

Objective

Examine agricultural industry representatives' perceptions concerning skills, knowledge, and abilities they believe are most important in new hires.

Scope of Study

Study Sample: Industry professionals attending the 2017 Fall Agricultural Career Fair at Illinois State University

50+ participating companies

- Agribusiness
- Agricultural Communication
- Agricultural Economics
- Horticulture and Landscape Management
- Animal Science
- Crop Science

Methodology

From previous research (Kibler and Barrowclough, 2017), six skills were identified and selected:

- 1 Applying knowledge/skills to the work environment
- 2 Being innovative/creative
- 3 Computer applications/Staying current on technology
- 4 Locating, organizing, and evaluating information to solve complex problems
- 5 Oral/written communication
- 6 Working with others in teams

Methodology

A stated choice method, “Best-Worst Scaling”, was used to elicit participant preferences towards the importance of the six identified skills.

Why use “Best-Worst Scaling”?

This choice-based method has significant advantages over other survey formats (e.g., ratings scales). It allows for an individual’s strength of preference for multiple objects to be calculated over a defined measurement range, providing similar information as a logistic regression model.

Methodology

How was “Best-Worst Scaling” implemented in our study?

Participants were shown 10 different scenarios, with each scenario containing a list of three individual skills.

Sample Best-Worst Scaling Scenario

Most Important

Skill

Being innovative/creative
Oral/written communication
Working with others in teams

Least Important

Demographics

A total of 71 surveys were completed, with 50 of the 52 companies attending the career fair participating.

<u>Agriculture Fields</u>	<u>Primary Field</u>	<u>Associated Fields</u>
Agribusiness	47.1%	80.0%
Ag Communications	7.1%	42.9%
Ag Economics	4.3%	41.4%
Agronomy	17.1%	57.1%
Animal Science	2.9%	22.9%
Horticulture	8.6%	21.4%
Other	12.9%	20.0%

Results: Skill Importance using Best-Worst Scaling

<u>Skill</u>	<u>Most (B)</u>	<u>Least (W)</u>	<u>Aggregate (B-W)</u>	<u>Rank</u>
#1	167	71	96	2
#2	55	195	-140	5
#3	25	220	-195	6
#4	123	80	43	4
#5	189	51	138	1
#6	151	93	58	3

Skill #1 = Applying knowledge/skills to the work environment

Skill #2 = Being innovative/creative

Skill #3 = Computer applications/Staying current on technology

Skill #4 = Locating, organizing, and evaluating information to solve complex problems

Skill #5 = Oral/written communication

Skill #6 = Working with others in teams

Results: Skill Importance using Best-Worst Scaling

<u>Skill</u>	<u>$\sqrt{B/W}$</u>	<u>Standard Ratio</u>	<u>Mean (B-W)</u>	<u>StDev (B-W)</u>
#1	1.54	0.75	0.27	0.92
#2	0.53	0.12	-0.39	0.83
#3	0.34	0.00	-0.55	0.61
#4	1.24	0.57	0.12	0.98
#5	1.93	1.00	0.39	0.82
#6	1.27	0.59	0.16	0.97

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Skill #6 = Working with others in teams

Implications and Future Research

Implications

- Instructors may choose to tailor existing course activities (assignments, group projects, presentations, etc.) or create new opportunities to enhance student abilities in these areas.
- By identifying the skills that employers find “most important”, educators may provide a classroom experience which better prepares students for employment in the highly competitive agriculture industry.

Future Research

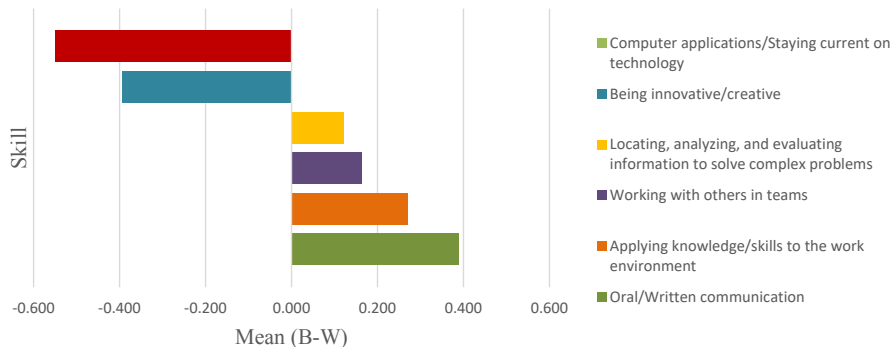
- Do student perceptions concerning workplace skills and abilities align with the demands of agricultural employers?

Thank you!

Questions?

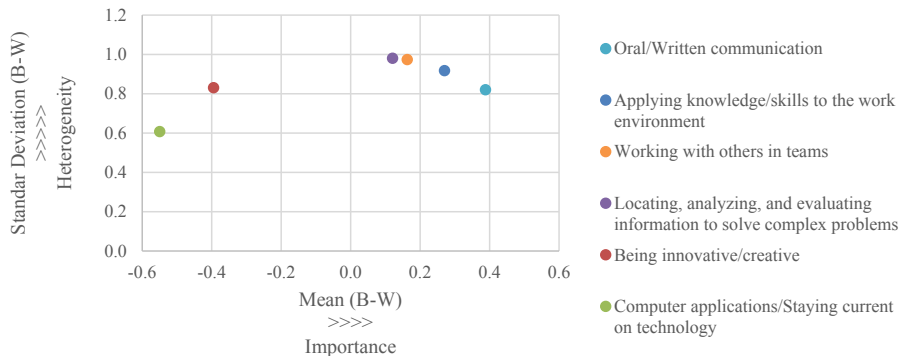
Additional Results

Skill B-W Summary



Additional Results

Skill Importance - Heterogeneity



Additional Results

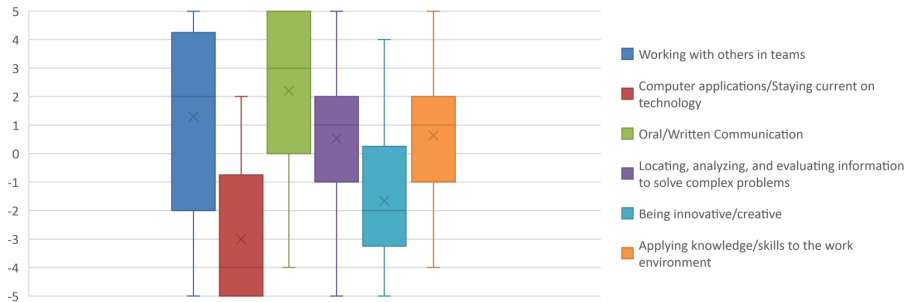


Additional Results



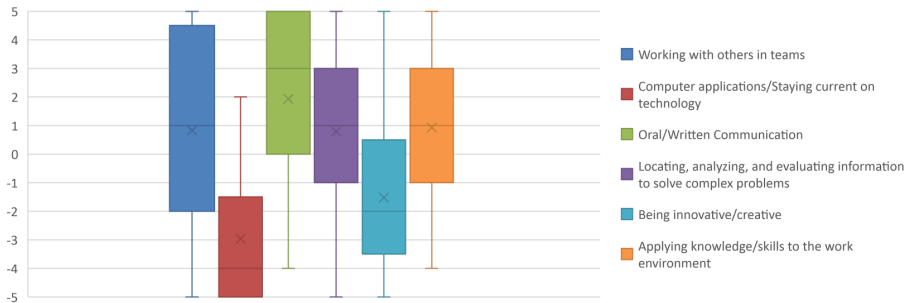
Additional Results

Agricultural Communications BWS Scores



Additional Results

Agricultural Economics BWS Scores

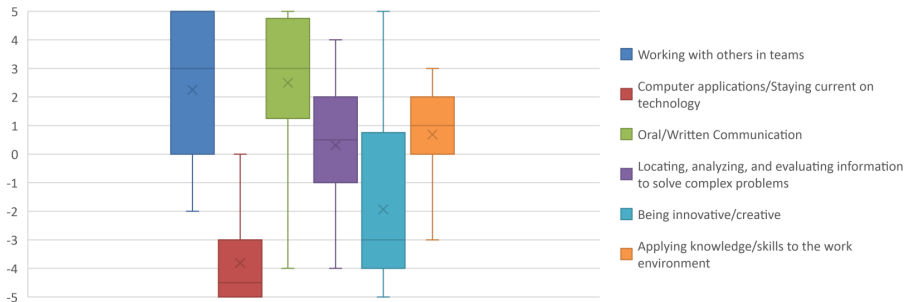


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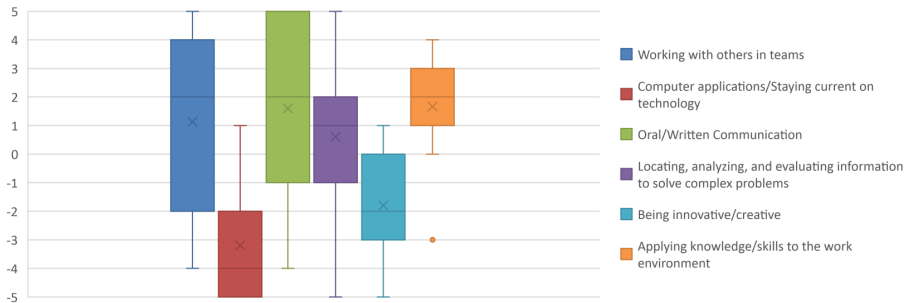
Additional Results

Animal Science BWS Scores

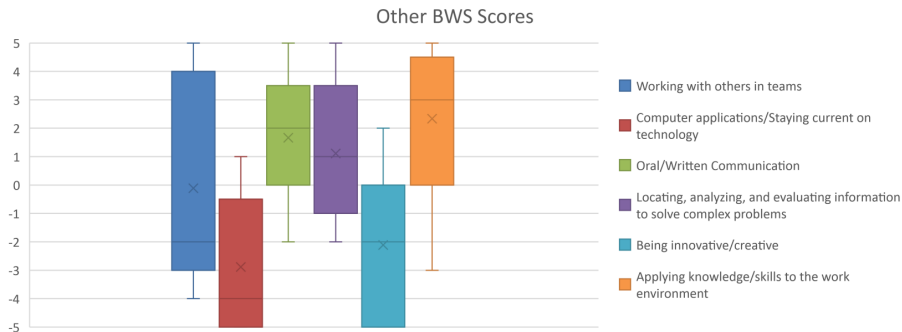


Additional Results

Horticulture BWS Scores

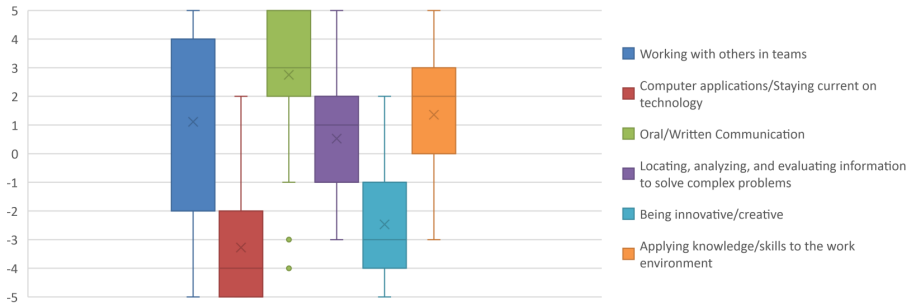


Additional Results



Additional Results

Human Resource BWS Scores



Additional Results

Non-Human Resource BWS Scores

