

# ASSESSING THE PERCEIVED NEEDS OF PRE-SERVICE AGRICULTURAL EDUCATORS AT THE BEGINNING OF AN AGRICULTURAL MECHANICS COURSE

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## INTRO & FRAMEWORK

- Agricultural mechanics is a top area of needed professional development for in-service teachers (Wells & Hainline, 2021; Wells et al., 2021).
- Effective post-secondary instruction which meets the perceived needs of future teachers can equip them to teach agricultural mechanics in the future (Saucier & McKim, 2011).
- Ajzen's (1991) Theory of Planned Behavior suggests teachers with greater confidence and more positive attitudes about a topic are more likely to implement learning.

## PURPOSE & OBJECTIVES

### PURPOSE

The purpose of this study was to identify the top perceived needs of pre-service agricultural educators enrolled in an agricultural mechanics course.

### OBJECTIVES

- To determine pre-service agricultural educators' overall perceived needs within each construct area.
- To identify pre-service agricultural educators' top 10 competency needs.

## METHODS

- Followed a descriptive survey design.
- Utilized a census of pre-service teachers in an Iowa State University agricultural mechanics course (n = 30).
- Evaluated needs following a Borich (1980) approach.
- High values indicate greater needs for training and support.
- Instrument and the 5 constructs were adapted from Clark et al. (2021).
- Cronbach's alphas between 0.907 and 0.976 suggest reliability (Nunnally, 1978).
- Constructs included:
  - Structures and Construction
  - Agricultural Mechanics
  - Electricity
  - Soil and Water
  - Power and Machinery

## FINDINGS: TOP 10

	Construct	MWDS	I	A
Cleaning motors	Electricity	10.32	4.30	1.90
Using electrician tools	Electricity	10.20	4.37	2.03
Electrical controls (switches & wires)	Electricity	9.96	4.27	1.93
Electrical safety	Electricity	9.92	4.80	2.73
Using different motors	Electricity	9.87	4.17	1.80
Wiring skills	Electricity	9.81	4.33	2.07
Tractor operation	Power	9.24	4.33	2.20
4-cycle engine repair	Power	9.22	4.13	1.90
Tractor repair	Power	9.10	4.20	2.03
Construction skills	Structures	9.02	4.23	2.10

## FINDINGS: CONSTRUCTS

	MWDS Mean	MWDS SD
Electricity	10.01	0.20
Power and Machinery	7.87	2.38
Soil and Water	7.19	0.65
Agricultural Mechanics	6.97	1.14
Structures and Construction	6.61	1.40

## CONCLUSIONS

- Perceive greatest needs in electricity and power.
- Teachers who build their perceived behavioral control (Ajzen, 1991) in these areas are more likely to teach these skills (Leiby et al., 2013).

## RECOMMENDATIONS

- Use mid- and post-instruments in the course or when they begin teaching.
- Evaluate differences based on gender or levels of experience.
- Prioritize areas of need in curriculum.

## REFERENCES



Please scan the QR code to access the references and the full abstract.