

Determining the Impact of a Small Gas Engine

Workshop on the Importance to Teach

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Introduction

- Teacher educators have indicated that teaching agricultural mechanics, including small gas engines, is important
- Rasty and Anderson (2025) identified 102 skills in agricultural mechanics that are deemed important to teach in the future.

Framework

- The Experiential Learning Theory (ELT) was used to guide this study.
- Kolb and Kolb (2006) suggest learning plays a major role in the development of humans and the way someone learns can determine their growth personally.

Purpose & Objectives

- **Purpose:** determine the impact of a small gas engine workshop on the importance to teach small gas engines to students from SBAE teacher s' perspectives.
- **Align:** Advancing Public Knowledge of AFNR Systems (AAAE, 2023)
- **Objectives:** 1) Inspection/Testing, 2) Repair, and 3) Theory/Safety.

Methods

- Completed the first three days of ten-day workshop.
- Replicated for four years.
- Industry partners supplied tools, material and instructors.
- Paper-based pre and post test survey used to collect data.
- 5 industry experts and 5 educational experts validated the surveys.
- 81 total participants.

Conclusions

- Concluded that SBAE teachers' experience in a small gas engine workshop positively impacted their perceived importance of teaching small gas engines.
- 45 out of 50 skills statistically significant

Recommendations

- Create positive experiences in post-secondary and in professional developments for participants.
- Have teachers now rank each of the 50 skills from most to least important to teach.
- Offer more training to post-secondary students and first year teachers.

Results

Construct	Pre-Test		Post-Test		MD	t	p	df	Cohen's
	M	SD	M	SD					
Small Gas Engine									
Inspection/Testing	3.97	0.59	4.38	0.4	0.41	7	*<.001	68	0.515
Repair	4.35	0.58	4.67	0.38	0.33	4.55	*<.001	57	0.484
Theory/Safety	4.49	0.73	4.84	0.32	0.36	4.71	*<.001	78	0.692