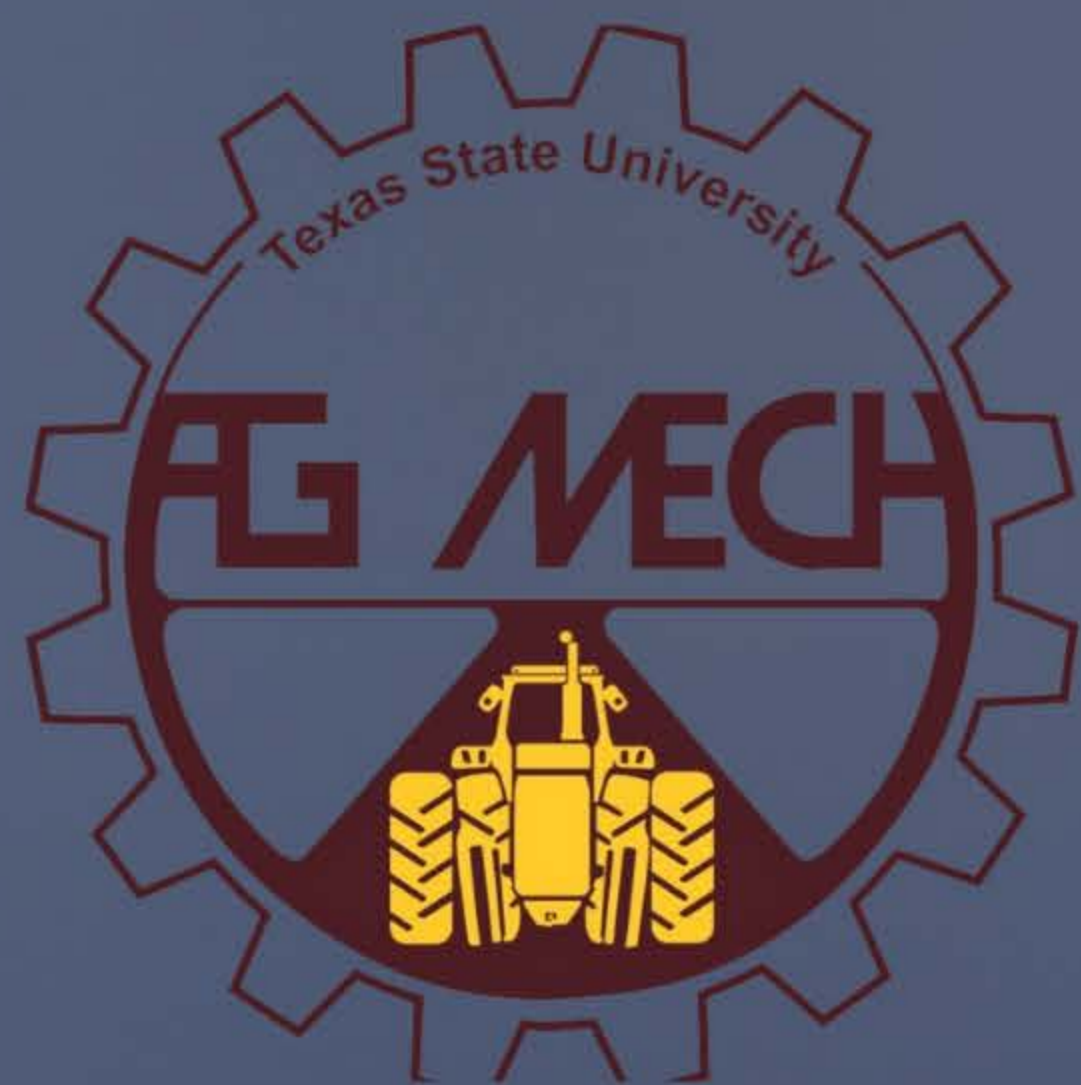


Examining the Impact of a Small Gas Engine Workshop on SBAE Educators' Perceived Knowledge to Teach Small Gas Engines



Conclusions

- Based on grand mean scores, the training was beneficial for teachers
- 46 of 50 skills being statistically significant.



Introduction

- Due to lack of training at secondary level, more PD is needed. (Trickett et al., 2023)
- Wood et al. (2024) reported that 15% of alternatively certified SBAE teachers need more PCK.
 - Traditional certified need more content.



Conceptual Framework

- Shulman's (1986) Pedagogical Content Knowledge (PCK)
- Teacher can use PCK when past understanding level of content (Schulman, 1986,1987)
- This framework shows educators increasing knowledge past the understanding level to better teach.

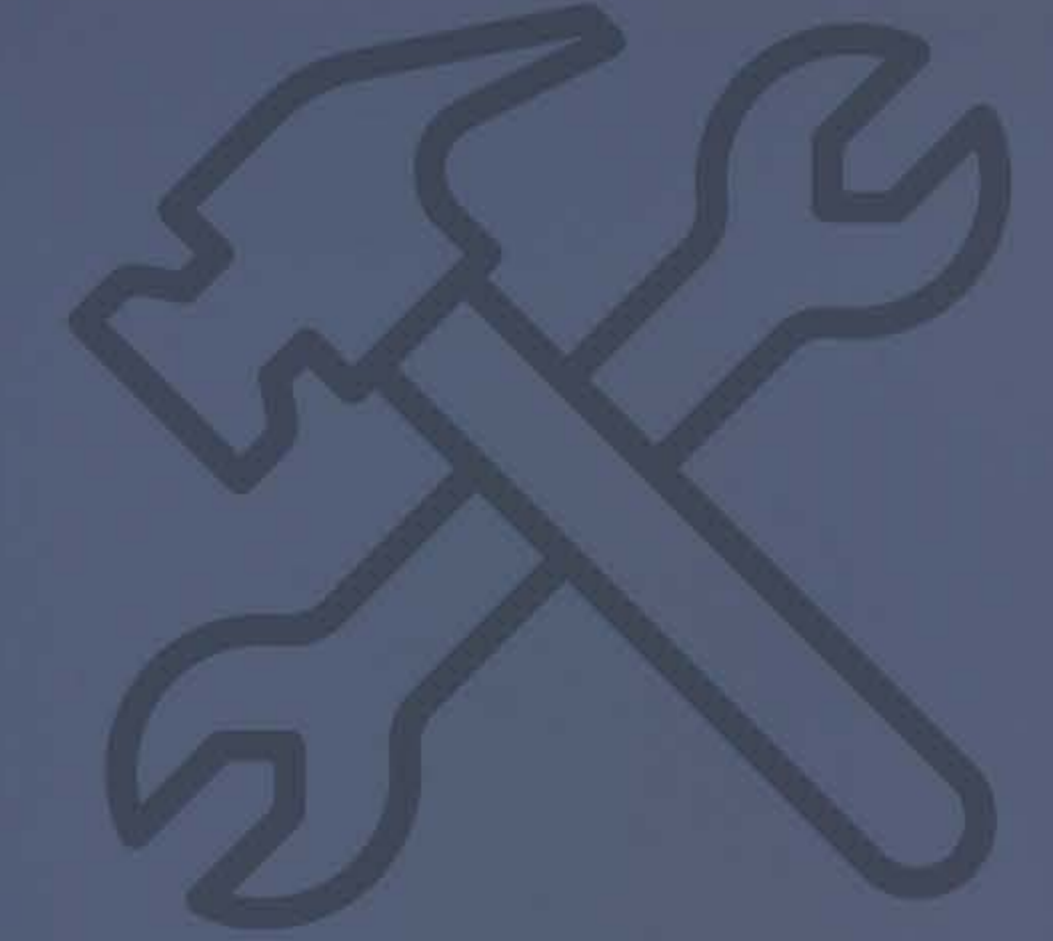
Purpose & Objective

- **Purpose:** Determine the Briggs & Stratton small gas engine workshop had an impact on SBAE teachers' perceived knowledge to teach.
- **Align:** research value Increasing Prosperity Through Innovation in AFNR Systems (AAAE, 2023)
- **Objectives:** 1) Inspection/testing, 2) Repair, and 3) Theory/Safety



Methods

- Was 3 days out of a 10 day workshop .
- Industry partners supplied the training with supplies and instructors.
- Paper-based pre- and Post test to collect data.
- Validated by 5 industry experts and 5 educational experts.
- 81 total participants



Recommendations

- Focus training on inspection/testing construct.
- Provide more opportunities after post-secondary to develop PCK.



Results

Small Gas Engine Construct	Pre-Test		Post-Test		MD	t	p	df	Cohen's d
	M	SD	M	SD					
Inspection/Testing	1.75	0.69	3.67	0.71	1.92	21.23	*<.001	69	0.753
Repair	1.86	0.85	3.9	0.66	2.03	18.08	*<.001	55	0.849
Theory/Safety	2.07	0.91	4.01	0.79	1.95	17.96	*<.001	77	0.939