

# Analyzing Pre and Post Test Scores of ACRS21 Certificate Pathway Completers

## Introduction

In today's day and age, employers are looking for prospective employees to have a certain set of skills. Schulz (2008) explains that "soft skills are playing an important role in shaping a person's personality, they enable social competence, and they complement the hard skills, which are the technical requirements of a job" (p. 152). Currently, in the workforce, employees need to have a balance between soft skills and hard, technical skills (Ali & Mahmud, 2018). The Agricultural Career Readiness Skills Certificate Pathway for the 21<sup>st</sup> Century (ACRS21) was created in 2021 to bridge the soft skills gap between employers and employees by faculty members and students at [University]. High schoolers complete 250 hours of various experiential learning activities that are aligned to Career Technical Education Standards in order to meet the requirements of the ACRS21 Certificate Pathway. Students participating in this study were selected based on a convenience sample of 36 students who had completed pre-and post soft skills assessments. The instrument used was the Life Effectiveness Questionnaire (LEQ-H) Soft Skills Assessment (Neill, 2003), which measured the following eight soft skills: time management, social competence, achievement motivation, intellectual flexibility, task leadership, emotional control, active initiative, and self-confidence.

## Purpose

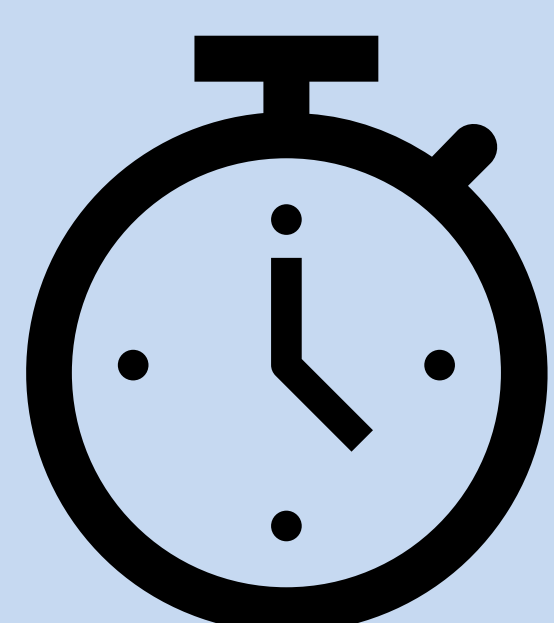
The purpose of this study was to determine if there was a significant change in soft skill development for students completing the ACRS21 Certificate Pathway. The following research objective guided this study:

Determine which soft skills showed improvement between the pre test and post test. Determining which soft skills improved will establish that ACRS21 Certificate Pathway completers experience soft skill development.

## Theoretical Framework

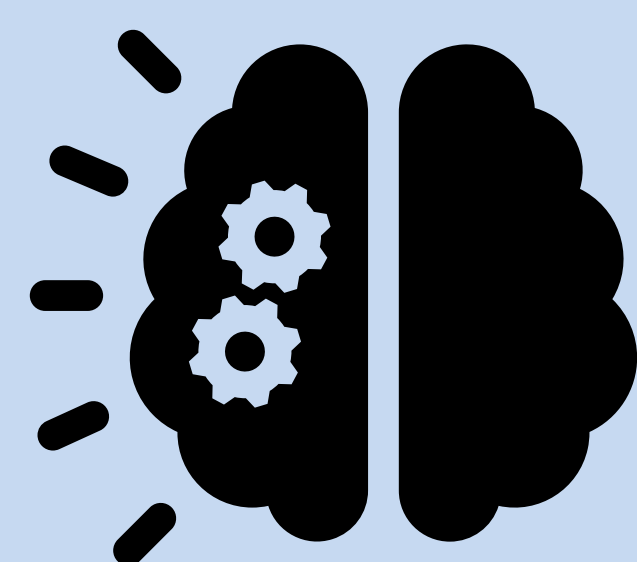
Kolb's Experiential Learning Theory served as the theoretical framework for this study, which includes four stages, 1) concrete experiences, 2) reflection and observations, 3) abstract conceptualizations, and 4) active experimentation (Kolb, 1984). Roberts (2006) summarizes what is known about experiential learning theory as experiential learning beginning with an initial focus of the learner, followed by an experience, then the learner reflects on their observation, formulates a generalization, and then tests the generalization with experimentation. Once completed, the circle starts over in a spiral-like pattern (Roberts, 2006, p.22).

Emotional Control



## Methodology

The purpose of this study was to analyze the pre and post test scores of 36 ACRS21 Certificate Pathway completers and determine if a significant difference in soft skills development occurred between the beginning and end of their participation in the pathway. Students completed the LEQ-H pre-assessment prior to beginning the certificate program. The LEQ-H assessments asks students to rank themselves from one to eight, one being 'not like me' and eight being 'like me'. There are 24 total questions, three questions per soft skill being assessed. After each student completed the necessary requirements for the certificate, the LEQ-H was completed again. The 36 certificate pathway completers were all high school students from all over [State]. The LEQ-H was administered through the Agricultural Experience Tracker (AET). Data was collected on each individual participant and provided to the research team.



Active Initiative

## References

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- Neill, J. T., Marsh, H. W., & Richards, G. E. (2003). The life effectiveness questionnaire: Development and psychometrics. Unpublished Manuscript, University of Western Sydney, Sydney, NSW, Australia.
- Roberts, T. G. (2006). A philosophical examination of experiential learning theory for agricultural educators. *Journal of Agricultural Educators*, 47(1), 17- 29.
- Schulz, B. (2008). The importance of soft skills: Education beyond academic knowledge. *Journal of Language and Communication*, 146-154. <https://ir.nust.na/bitstream/10628/39/1/The%20Importance%20of%20Soft%20Skill%20Education%20beyond%20academic%20knowledge.pdf>

## Results

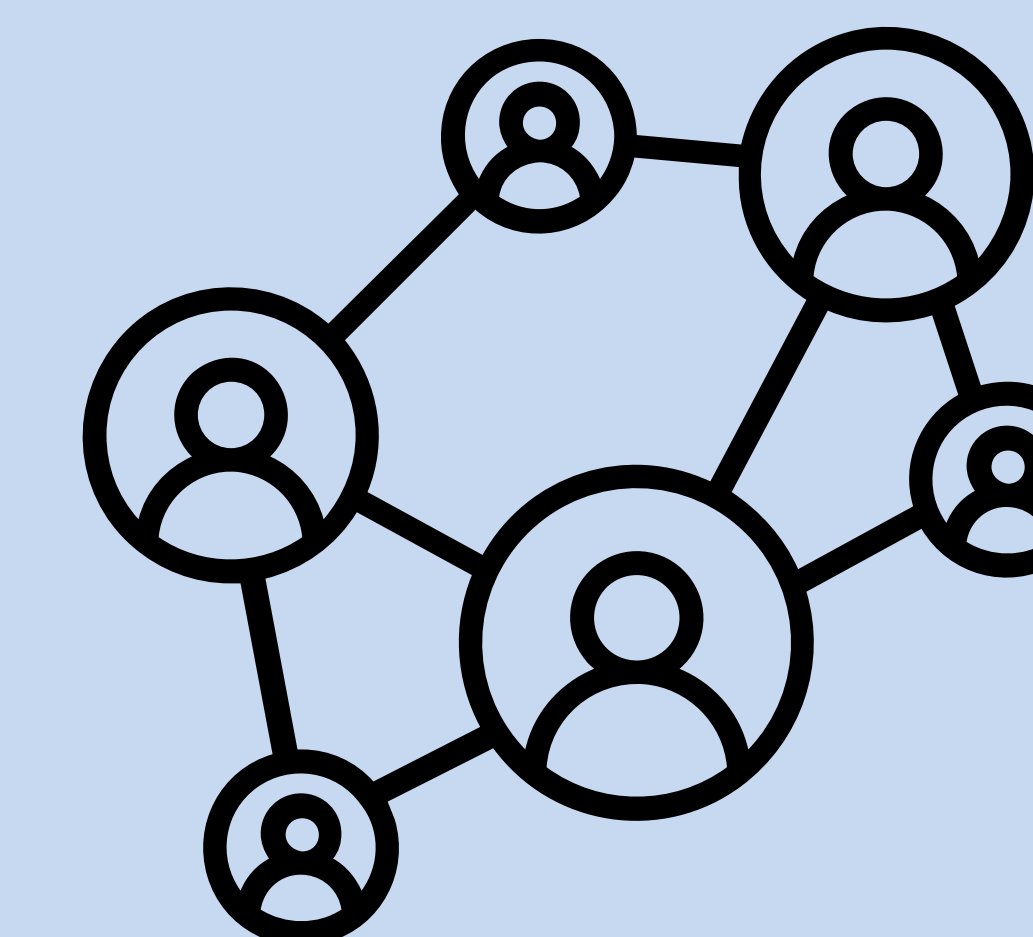
LEQ-H Pre Test and Post Test Mean Scores

	A	B	C	D	E	F	G	H
Pre Test	6.0000	6.4722	7.1944	6.3889	6.3333	5.8611	6.7222	6.7222
Post Test	6.4444	6.6389	7.3889	6.8611	6.9444	6.5833	7.0000	7.1944
P Value*	0.007	0.324	0.109	<0.001	0.001	0.010	0.152	0.008

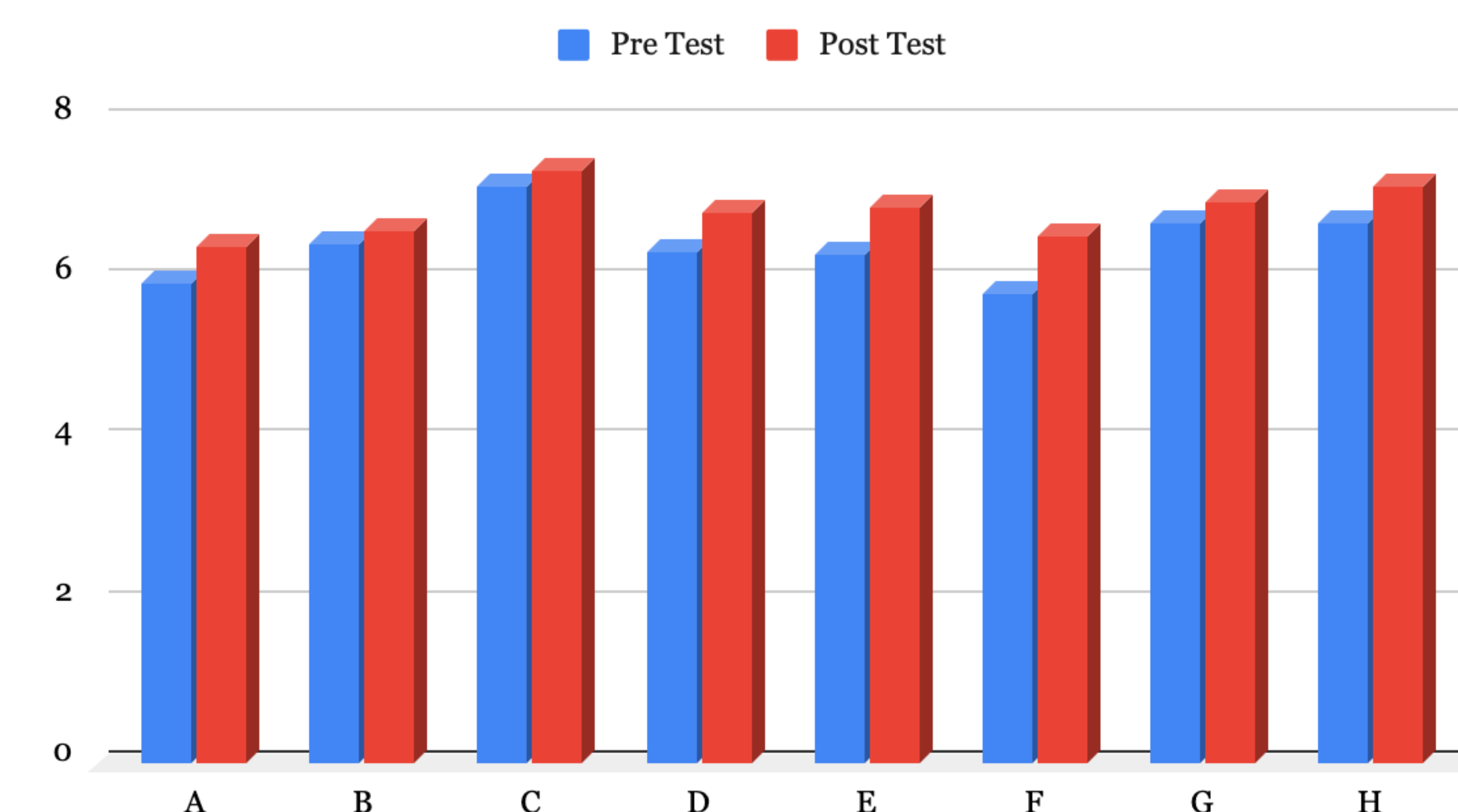
Note. A = Time Management, B = Social Competence, C = Achievement Motivation, D = Intellectual Flexibility, E = Task Leadership, F = Emotional Control, G = Active Initiative, H = Self Confidence.

\*p value

Self Confidence



Pre Test and Post Test Mean Scores



Concrete Experience

(doing / having an experience)

Active Experimentation

(planning / trying out what you have learned)

Reflective Observation

(reviewing / reflecting on the experience)

Abstract Conceptualization

(concluding / learning from the experience)



## Conclusions

The primary purpose of this study was to determine if there was a significant change in soft skill development for students completing the ACRS21 Certificate Pathway. The results showed that each of the eight soft skills had experienced improved post-test mean scores and that significant difference occurred in five of the soft skills. The results of this study are encouraging and show promise that future ACRS21 Certificate Pathway participants could experience growth in their soft skill development. Recommendations include a broader evaluation of soft skill development once the ACRS21 Certificate Pathway acquires a larger set of pathway completers.