Utilizing Andragogy to Develop Extension Employees' Sustainable Agriculture Competencies

Hatch: TEX09890
No. M2300081

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TEXAS A&M UNIVERSITY | DEPARTMENT OF AGRICULTURAL LEADERSHIP, EDUCATION, AND COMMUNICATIONS | 2023 STUDENT RESEARCH WEEK

Why is this important?

UN Sustainable Development Goals (United Nations, 2015)

2) Zero Hunger - food security and promotion of sustainable agriculture

- Two billion food insecure people in 2019
- Conflict and weather-related disasters

13) Climate Action - urgent action to reduce climate change impacts

- Erratic weather patterns and increased frequency of disasters
- Shift in pest problems

Sustainable Agriculture

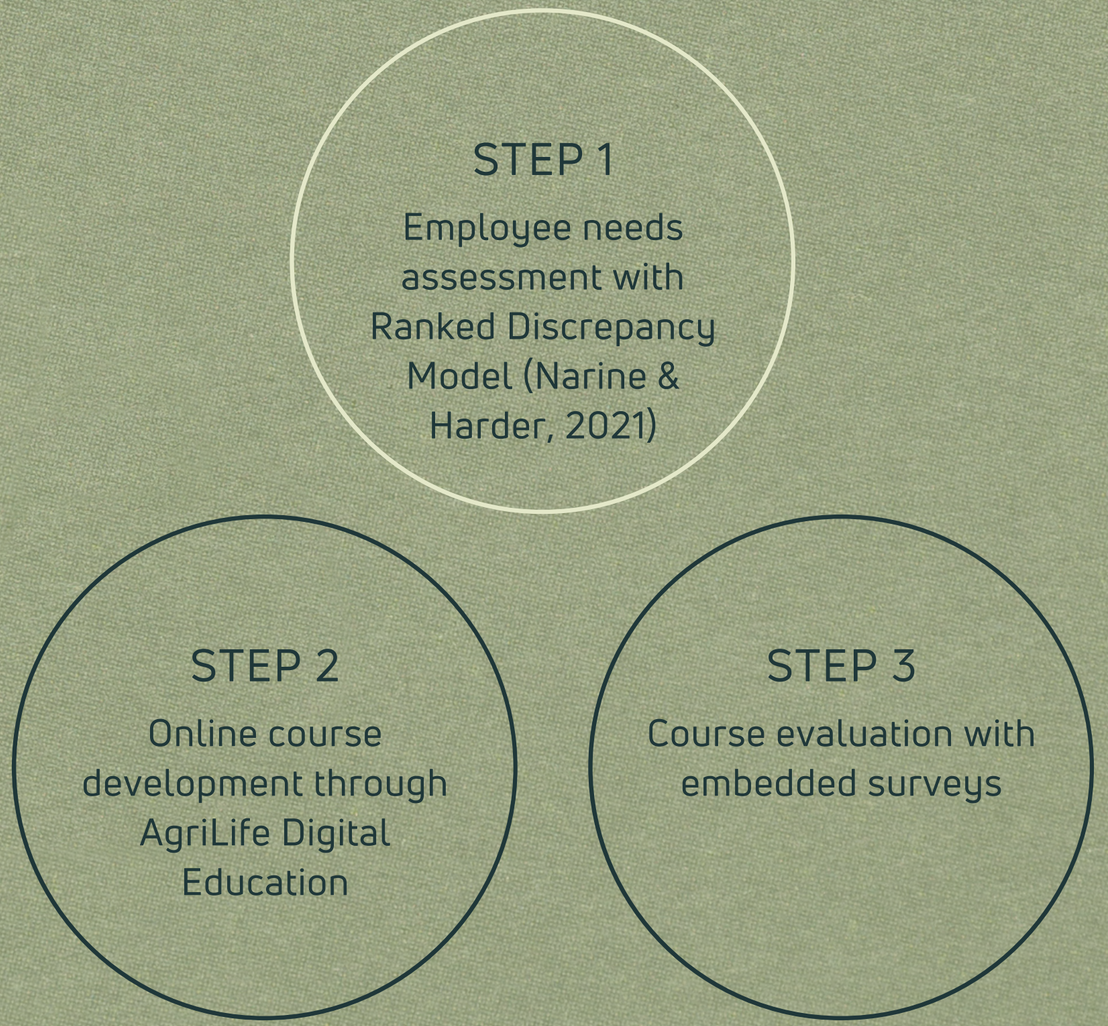
System of practices with a long-term goal of efficient use of resources, enhancement of the environment and farmer quality of life, and satisfaction of production needs (USDA, n. d.)

ENVIRONMENTAL

SOCIAL

ECONOMIC

Employee Training in Sustainable Cotton Production



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Employee Needs Assessment

RANKED DISCREPANCY MODEL (NARINE & HARDER, 2021)

Participants simultaneously self-evaluated for proficiency and importance of 48 items in 7 core competency areas.

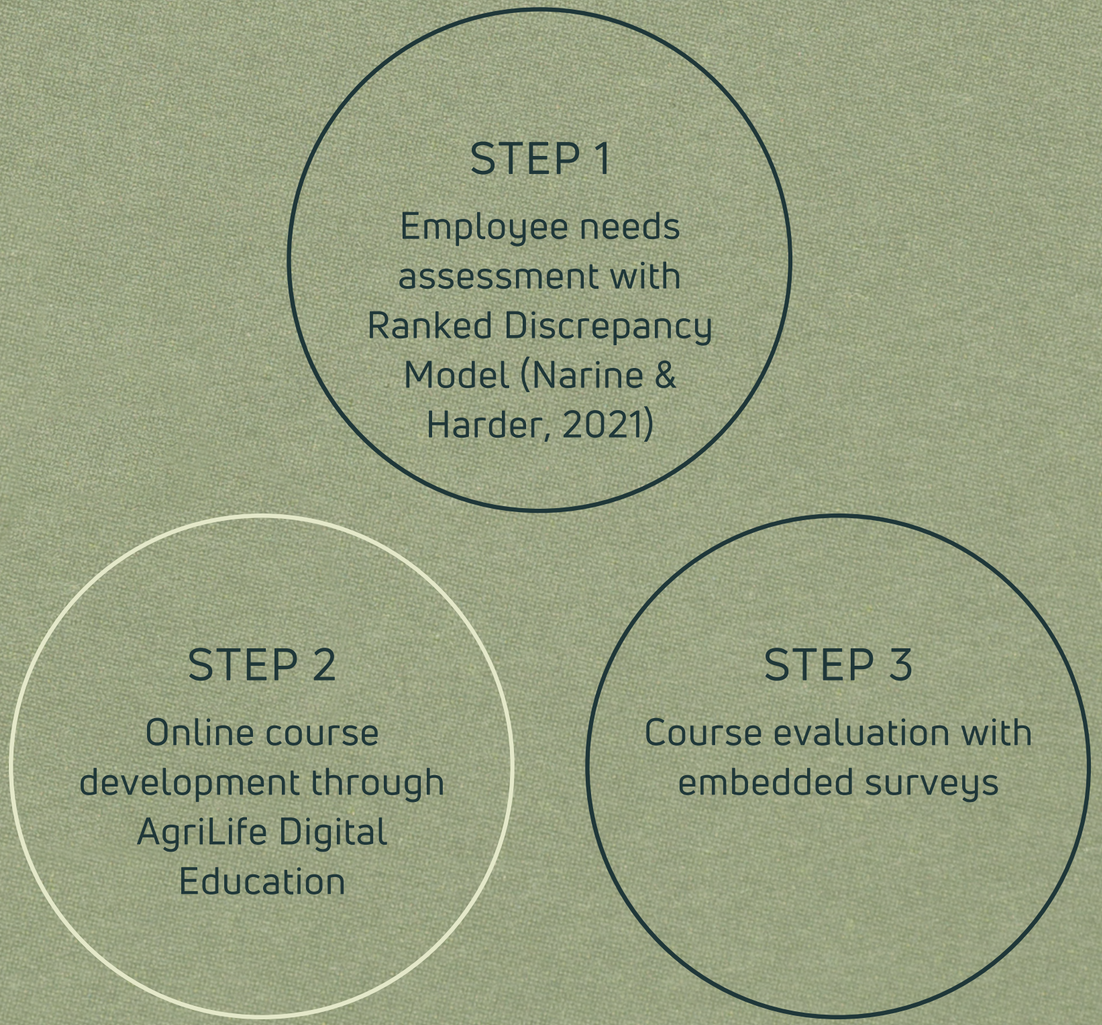
Surveys were distributed via Qualtrics to Extension agents, agronomy and pest management specialists, and district-level leadership.

Table 1. Mean Ranked Discrepancy Scores for competency areas in sustainable cotton production.

Competency Domains	Ranks (%)			RDS
	NR	PR	TR	
Fiber quality and post-harvest	69	8	24	–61
Other chemical applications	63	9	28	–54
Integrated pest management	59	8	33	–50
Organic cotton production	57	13	30	–44
Applied research	46	7	47	–39
Water management	47	15	39	–32
Soil and nutrient management	46	15	39	–30

(Seitz et al., 2022)

Employee Training in Sustainable Cotton Production



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Principles of Andragogy

(Knowles, 1984)

ADULT LEARNING

Andragogy provides a framework for designing learning experiences for the unique needs of adult learners.

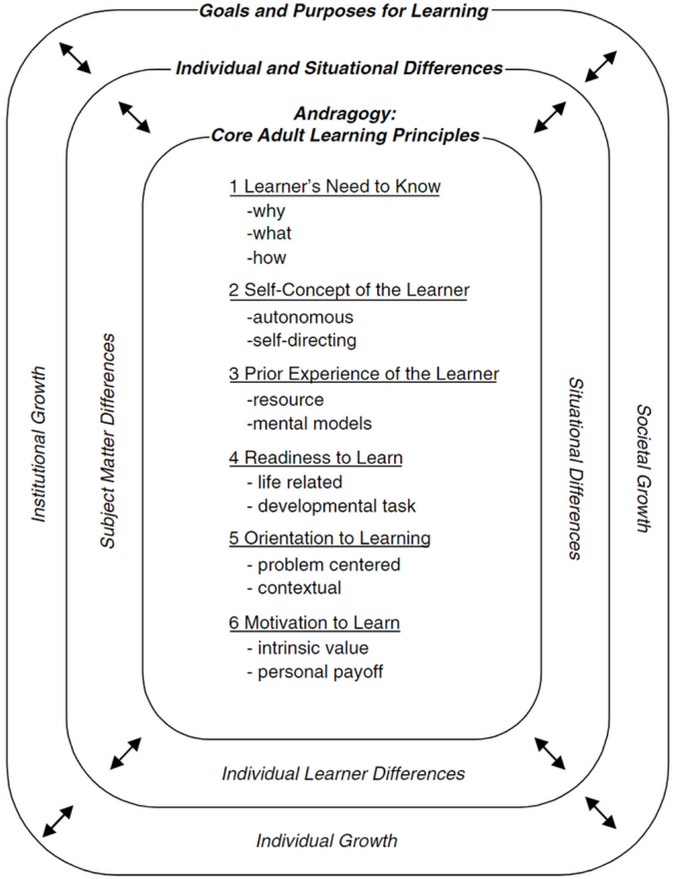
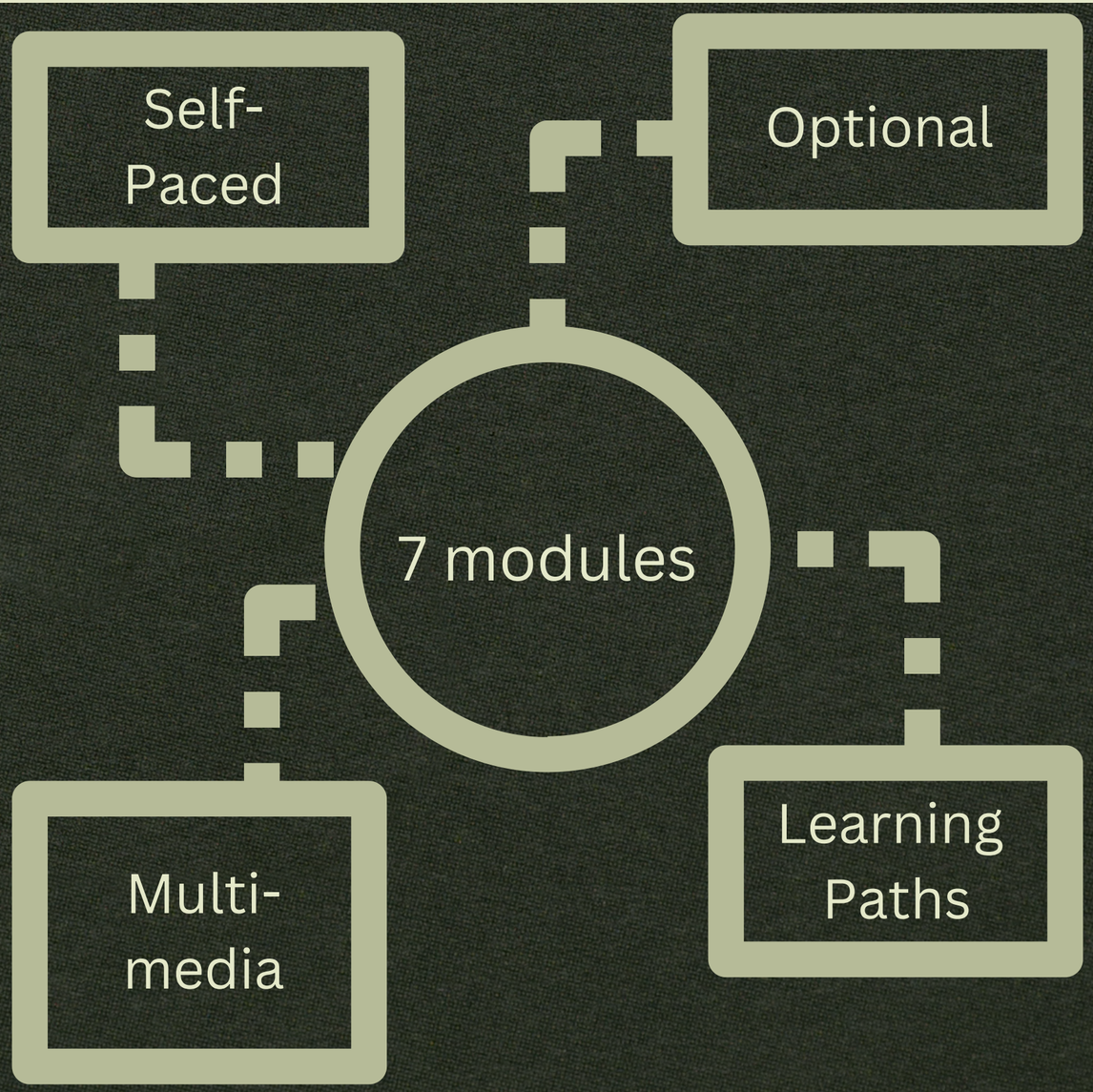


Figure 1-1. *Andragogy in practice (Knowles, Holton, and Swanson, 1998).*

Content Organization



Content Development and Core Principles

(Knowles, 1984; Knowles et al., 1998)

NEED TO KNOW

Learning paths allow learners to select the most relevant content for their situation.

SELF CONCEPT

Self-paced and optional trainings allow the participant to be responsible for their own learning.

EXPERIENCE

Embedded JamBoards to share knowledge and video interviews with agents and farmers bring life experience to the course.

READINESS

An optional training allows learners to participate when they are mentally ready and recognize the need for skill development.

ORIENTATION

Participants recognize a problem that could be solved with the training.

MOTIVATION

Participants want to be prepared to answer questions and provide education on the subject matter.

Expectation

Commodity-specific trainings with learning paths will:

- Improve agent competency in sustainable agriculture practices
- Increase number and quality of educational programming offered to producers
- Lead to long-term adoption of sustainable practices

References

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Questions?

"If education is life, then life is also education."

(Lindeman, 1926, p. 9)

(Seitz et al., 2022)