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Enhancing Production Efficiency and Farm Profitability Through Innovative Extension Programming

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Cooperative Extension strives to provide agricultural producers with non-formal educational opportunities designed to positively impact agriculture (NIFA, 2021). Therefore, a team of Extension professionals at the University of Nebraska – Lincoln developed and facilitate an ongoing professional development program designed to enhance the engagement of agricultural producers in farm management, especially in the areas of input use efficiency and profitability. Andragogy was used as the framework to help ensure the Testing Agricultural Performance Solutions (TAPS) program provided agricultural producers with non-formal education that aligned with andragogical principles. Knowles (1980) refers to andragogy as the “art and science of helping adults learn” (p. 45) and his assumptions of andragogy include: 1) Learner’s need to know, 2) Self-Concept of the learner, 3) Prior experience of the learner, 4) Readiness to learn, 5) Orientation to learning, and 6) Motivation to learn (Knowles, 1998, as cited in Knowles et al., 2015, p. 6). The TAPS program uses the assumptions of andragogy (Knowles, 1998, as cited in Knowles et al., 2015) to provide a common platform for experiential and peer-to-peer learning that includes the involvement of university researchers, extension specialists, and industry personnel.

Keywords: andragogy, Extension, experiential learning

Cooperative Extension strives to provide agricultural producers with non-formal educational opportunities designed to positively impact agriculture (National Institute of Food and Agriculture, 2021). Therefore, a team of Extension professionals at the University of Nebraska-Lincoln developed and facilitated an ongoing professional development program designed to enhance the engagement of agricultural producers in farm management, especially in the areas of input use efficiency and profitability. Andragogy was used as the framework to help ensure the Testing Agricultural Performance Solutions (TAPS) program provided agricultural producers with non-formal education aligned with andragogical principles. Knowles (1980) refers to andragogy as the “art and science of helping adults learn” (p. 45), and his assumptions of andragogy include (a) learner’s need to know, (b) self-concept of the learner, (c) prior experience of the learner, (d) readiness to learn, (e) orientation to learning, and (f) motivation to learn

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TAPS consists of a series of annual farm management competitions coupled with educational and social events, which connect producers to new and developing technologies, tools, methods, peer support and recognition, and other resources, all without exposure to actual production or financial risk(s) (Burr et al., 2020). TAPS focuses on three critical outcomes, which are incentivized by decreasing cash prizes in the following order: (a) most profitable farm, (b) most water and nutrient-efficient farm, and (c) highest-yielding farm. The TAPS competitions provide producers the space and environment to evaluate and benchmark multiple input and management choices, including crop insurance selection, hybrid selection and planting density, marketing strategy, irrigation scheduling and quantity, fertilizing method, timing, and amount.

There are four foundational components and one general philosophy behind the TAPS program. The four foundational components include (a) competition, (b) experiential learning, (c) peer-to-peer opportunities, and (d) social interaction. They align with the six assumptions of andragogy (Knowles, 2015). TAPS is centered around participant interaction, educational opportunities, and relationship-building and provides an atmosphere that drives competition. The physical components, such as the contest farm site, provide experimental and experiential workspace; measurement of input and output differences; facilitation of communication reference points; and ensures reliability, realism, detail, and consistency, which help to enhance the quality of the TAPS program.

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