Bridging the Skills Gap: Digital Badges for Employability in Agriculture

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More than a decade ago, the National Research Council (2009) challenged agricultural education professionals to transform how they prepare students for the evolving global food and agricultural enterprise. A critical component of this preparation is durable skills, as they allow employees to adapt and relearn job-specific skills as industry demands evolve (D2L, 2019). However, research suggests durable skills are "more difficult to train for and are not easily assessed" (D2L, 2019, p. 4). In 2020, the Association of Public and Land-grant Universities (APLU) released a report on workforce development skills and attributes for natural resources and agricultural workers (Crawford & Fink, 2020). Critical employability skills (a.k.a., durable skills) included competencies such as communication, the ability to work in teams, and adaptability. Agricultural employers are increasingly in need of a workforce that effectively engages in collaborative leadership (Colclasure, 2020; Donaldson et al., 2023; Kaki et al., 2022; Parrella et al., 2024; Watson et al., 2019). In response to this challenge, the Agriculture Workforce Training for Collaborative Leadership (AWT4CL) project has created a digital learning badge system for helping students develop and claim the durable skills needed for dynamic careers in agriculture.

How It Works

The AWT4CL digital learning badges are based on APLU employability skill areas: communication, decision-making, professionalism, and leadership (Crawford & Fink, 2020). These areas, broken down into specific badges, develop essential skills that prepare learners for personal and professional success. Each badge in the series requires learners to meet specific learning outcomes through practical application and reflection. Each badge is earned through a two-part module involving both an interactive activity and a written reflection. The module is flexible, allowing instructors to adjust specific activities to meet the needs of their course or program while upholding the core badge objectives. For example, the *Communicate Effectively* module includes the following parts:

1. **Interactive Activity**: In the first part of the module, learners engage in structured dialogues to practice active listening and concise, purposeful communication, preparing them for professional interactions.
2. **Written Reflection**: Following the interactive component, learners reflect on the experience, watch a brief video, and respond to prompts that help deepen their understanding of effective communication, including both strengths and areas for growth.

Upon successful completion of these activities and meeting the badge criteria, learners earn the digital badge, which they can share as a credential to demonstrate their skills to potential employers. To get started, go to https://sites.google.com/vt.edu/awt/learning-badges

Results to Date / Implications

The AWT4CL badge structure includes badges on each of the key employability skills identified in the APLU research. The Communication-focused badges include: (1) Communicate Effectively, Accurately and Concisely; (2) Listen Effectively; and (3) Ask Good Questions. The Decision Making badges include: (4) Identify and Analyze Problems; (5) Realize the Effect of Decisions; and (6) Transfer Knowledge from One Situation to Another. The Professionalism-focused badges include: (7) Build Professional Relationships; (8) Accept and Apply Critique and Direction in the Workplace; and (9) Understand Role in the Workplace and

Have Realistic Career Expectations. The Leadership-focused badges include: (10) Recognize and Deal Constructively with Conflict; and (11) Navigate Change and Ambiguity. We have pilot-tested the badges and the related modules with community college faculty and are continuing to refine the related guidance. Increased adoption of the badging system can help encourage/motivate students to develop durable skills for use in the workforce.

Future Plans / Advice to Others

The AWT4CL project aims to expand the digital badge program to create a comprehensive, stackable credential system that can be used in high schools, technical programs, and college-level courses. Plans include building partnerships with agricultural employers to increase badge recognition as an indicator of job-readiness, as well as ongoing evaluation to assess badge impact on student success in the workforce. For those adopting digital badges, a few strategies can help ensure a smooth implementation:

1. **Start Small**: Focus on one or two skill areas first. Starting with a manageable number of badges allows for refinement and feedback gathering before expanding the program.
2. **Engage Stakeholders Early**: Work with industry partners, students, and career advisors to align expectations, ensuring badges carry meaningful value for learners and recruiters alike.
3. **Integrate Reflection with Hands-On Practice**: Prioritize badge activities that combine interactive exercises with self-reflection, allowing learners to apply and internalize each skill.

By adopting these strategies, agricultural educators can effectively implement the AWT4CL digital badge system in a way that strengthens employability skills and supports students in building a robust portfolio for the agricultural workforce.

Costs / Resources Needed

Thanks to funding from the National Institute of Food and Agriculture (NIFA) Agricultural Workforce Training Grants program, there are no direct costs to agricultural educators wishing to adopt the AWT4CL digital learning badge system. The AWT4CL website includes a publicly accessible welcome module that allows instructors to experience the process of earning and sharing a learning badge. The AWT4CL badges are administered through Canvas Credentials (a.k.a., Badgr) and are awarded with claim codes, allowing broad access regardless of what learning management system an institution has adopted. Instructors adopting the AWT4CL digital learning badge system receive an implementation guide, which includes a badge matrix that outlines the skill and badge descriptions, as well as the earning criteria for each employability skill badge. In addition, the implementation guide includes the following information for each badge:

- **Assignment Guidelines**: Instructions for implementing the badge module in class or online.
- **Background on the Badge**: An overview of the badge's purpose and learning outcomes.
- **Instructor and Learner Handouts**: Downloadable materials for learners, including activity instructions and reflection prompts.

All of the resources are freely available at the following website: go to https://sites.google.com/vt.edu/awt/learning-badges

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