**Badgrs Up! Digital Credentialing at Virginia Governor's School for Agriculture**

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## Introduction & Need for Innovation

Digital credentials, or badges, are graphic representations of skills or competencies gained through a learning experience that are awarded to learners and shared to a broader audience through web-based technologies (Lesser, 2016; Miller et al., 2020). These are most often used in institutions of higher education and within professional industries to track professional development. In addition to the visual badge, digital credentials carry metadata (Lesser, 2016) that potentially identifies the specific evidence of skills, knowledge, attributes or competencies that a receiver has demonstrated or attained (Miller et al., 2020). This data can be viewed by others, such as potential employers, to understand the detailed and diverse evidence behind the recognition bestowed by an institution (Miller et al., 2020), thereby creating greater transparency (West & Cheng, 2022). Digital credentials help overcome the challenges presented by traditional analog credentialing or certification systems such as grades, diplomas, and certificates – each lacking the depth and detail to provide background to the skills and knowledge that is represented by the paper award (Hinkel & Chartrand, 2018; Miller et al., 2020).

The Virginia Governor's School for Agriculture (VGSA) is a month-long summer residential program for gifted and talented rising high school juniors and seniors. Students selected to attend VGSA are among the most able rising juniors and seniors from the Commonwealth's public, private, and home schools (Virginia Tech, 2024). The on-campus program is focused on the transdisciplinary nature of agriculture and to develop future leaders and scientists for careers in agriculture (Virginia Tech, 2024). As part of VGSA, participants are placed in teams of five to six and are given a complex agriculturally-related global issue to research during their time in the program. Each team is required to write a 20-page literature review, create a research poster, present their research findings, and design an infographic to communicate research to non-academic audiences. Additionally, teams present their research at a public research symposium at the conclusion of the program.

## How It Works

Digital credentialing was first implemented at VGSA during the 2023 session. The program director worked with the Office for Technology-Enhanced Teaching and Online Strategies (TLOS) and the Virginia Tech Newman Library to evaluate the Global Seminar research components (i.e., literature review, research poster, infographic, presentation) to establish the earing criteria, learning objectives, and deliverables. VGSA participants were able to earn six prerequisite credentials associated with the requirements of the Global Seminar research component (The Responsible Researcher, The Public Presenter, The Visual Communicator, The Scientific Ambassador, The Scholarly Writer, and The Collaborative Researcher). Participants who successfully completed each of the prerequisite credentials were awarded the Global Seminar Pathway Completer credential.

These credentials focused on developing competencies and skills associated with responsible and ethical research methods, communicating research through written, visual, and spoken mediums, and team collaboration. Five of the six credentials had an individual reflection requirement and collaborative research team deliverables. Program coursework was developed to assist participants in meeting the earning criteria and rubrics were created to evaluate both individual and collaborative deliverables.

The digital credentials were created, managed, and issued through Badgr, a web-based digital credentialing application, and were fully integrated into the associated required components in the VGSA Canvas site. Individual components were evaluated and scored by program staff and the collaborative elements were scored by individuals external to VGSA, with a score of 80% or higher reflecting mastery.

## Results to Date & Implications

There were 94 VGSA participants in 2023. Ninety-nine percent of participants earned the *Responsible Researcher* badge. One hundred percent of participants earned the *Public Presenter* badge (there was no individual requirement for this credential). Ninety-eight percent of participants received the *Visual Communicator* badge. Seventy-seven percent of participants earned the *Scientific Ambassador* badge (participants created infographics as a requirement for this badge and it appears that there were some reviewers that did not differentiate between the purposes of a research poster and an infographic). Ninety-six percent of participants were awarded the *Scholarly Writer* badge with 97% of participants earning the *Collaborative Researcher* badge. In total, 76% of participants fulfilled all the requirements to earn the Global Seminar Pathway Completer badge. One purpose of digital credentialing is the ease of sharing the credentials with a broader audience (Miller et al., 2020). VGSA participants shared their credentials across a variety of social media platforms including Facebook (10), Twitter (2), LinkedIn (5), Pinterest Feed (3), Canvas ePortfolios (6), and LinkedIn Profile (153) for a total of 179 shares. Anecdotally, participants found value in working towards and earning digital credentials, and the added level of competitiveness incentivized participants to challenge themselves and their teams.

## Future Plans

Digital credentialing will be implemented again for the 2024 VGSA session. The director and others will revisit, review, and revise the digital credentials being used for VGSA and make modifications to the performance objectives and the deliverables based on any programmatic changes. Since the current digital credentials relies on reviewers predominantly external to VGSA to score the group components, greater training may need to be provided to reviewers and each component may need more than a single reviewer to provide a holistic score. Additionally, the program director and stakeholders will explore further ways to incorporate digital credentials into other aspects of VGSA for student participants, perhaps based on curriculum. In addition to student digital credentials, the director will develop ways for VGSA staff to earn digital credentials based on the skills necessary for them to fulfill the expectations of their position (i.e., first aid/CPR training, leading research groups, conflict management and resolution).

## Costs & Advice to Others

TLOS, charges $1.17 per external learner to participate in digital credentialing. VGSA was not charged in 2023 due to our relatively small number and trial status. Moving forward we plan to budget $1.17 per student. These charges may vary at different institutions. We advise others to start slow and simple. Find ways to integrate digital credentialing into your current programmatic structure. Also, work with a mentor or other persons with experience with developing digital credentials. Although it is fairly simple for badge recipients to share their credentials with others, be sure to have a clear plan in place to help recipients understand how to use the badges, especially if they are new to digital credentialing.

## References


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