Standards-based grading: Resources for implementation in school-based agricultural education

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Standards Based Grading: Resources for Implementation in School-Based Agricultural Education

By

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A creative component submitted to the graduate faculty in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE

Major: Agricultural Education
Program of Study Committee:
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Iowa State University
2018

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Chapter 1 - What

Introduction

American public schools have historically revolved around rote facts and memorization as opposed to understanding concepts or practical application of certain content. A reported letter grade and/or percentage has always been sufficient enough to communicate a student’s proficiency within the classroom. While this system of grading has existed for over one hundred years within the United States, to date there have been no meaningful research reports to support them (Marzano, 2000).

In the past century, everything from modern medicine to personal computing has evolved and improved; yet the educational system’s grading practices have remained the same, despite a lack of evidence supporting this stagnation. Schools are centers of learning, and that learning must be assessed in order to determine the effectiveness of the teaching and learning process. This process is commonly referred to as grading. Recently, there has been a focus on revolutionizing the grading system with the intentions of improved student learning.

The views of grading and assessment have shifted over time, which has resulted in the development of standards. The AFNR Career Cluster Content Standards, for example, provide state agricultural education leaders and educators with a high-quality, rigorous set of standards to guide what students should know and be able to do after completing a program of study in each of the AFNR career pathways (AFNR Standards, 2015). They may be taught and assessed once, or they may be reassessed multiple times over the course of a school year if the standard is one that requires practice by nature.
In recent decades, education has also struggled to focus on its primary objective of learning. Many initiatives, paperwork, and trends in education distract educators and their academic institutions from what is most important: student learning. Additionally, while some educational initiatives remain helpful, it may still be time to re-evaluate a vital component of education: student assessment. A standards-based system of assessment seems to be a significant and defensible improvement over traditional grading practices (Townsley & Buckmiller, 2016). Grading students by standard (as opposed to percent of completed work) changes the conversation regarding each individual student’s proficiency level. It also helps alleviate the distractions that deter education professionals from focusing on their students’ capacity for learning.

This movement toward a grading and assessment system that is more reflective of student learning is vital to the progression of our society (Cutshall, 2001). Traditional grading systems as described before are not effective, and can become very subjective based on teacher and student personalities, behavior, prejudices, and other environmental influences. However, this new method of standards-based, or referenced grading has been gaining traction across the United States. Sometimes it is adopted voluntarily by teachers who are seeking to improve the method in which they assess their students, and other times it is a transition required by a school.

There are different aspects of grading to consider when deciding which system is best for students that can result in both advantages and disadvantages. Historically, for example, a student’s low or failing grade resulted in justification through a single low test score, incorrect memorization, or missing work. These negative attributes are not ones that educators want students to attain. However, while they may not influence a
student’s overall proficiency of course content, they can still have an indirect influence on a student’s grade in a standards-based system. The only true difference is the ways and means of assessing and reporting these student attributes.

Within the standards-based grading approach, it would be common practice to identify the lowest scores and actively work to reteach or reassess on those standards in an effort to improve the grade. This opens a two-way line of communication between teacher and student in regard to a student’s grades, not simply complaining or asking for an extra credit assignment as is popular today. Communicating grades in this manner easily shifts both questions and answers on both sides of the communication exchange. Questions shift from a previously popular “Why did you get a low grade?” to “Which standards can you prove you know in order to raise that grade?” and “How can you prove you know this content?”.

A disadvantage to implementing this new grading system lies almost entirely in the implementation and adoption phases. During these times, students and parents can misunderstand the importance or motivation influencing this change. Also, teachers must often work towards implementation and adoption of a new grading system on their own time. This includes educating students and their families on what changes are being made. Additionally, teachers and students must both be flexible and creative in how they provide and perform on assessments to justify their learning. This can be time-consuming for the teachers and daunting for the students with less specific direction on how to accomplish these tasks.

There are many advantages to changing the student assessment system that should be considered alongside any disadvantages. Without a standards-based grading
approach, there will be a gap in the connection between student achievement and where they belong in the workforce. Traditional teaching methods are not satisfying the needs of individuals entering careers in agriculture, attending major universities, or pursuing other post-secondary education endeavors (NRC, 1996, 2009). To meet the needs of the future, it is important to invest in positive changes in education that train our youth to meet those needs. Remaining stagnant in these areas is simply not an option.

While many decisions being made on a local level are driven by state initiatives, state initiatives may not always align with local workforce needs or trends. Iowa has created a few initiatives under the Iowa Workforce Development group to alleviate any gaps between academia and workforce trends, including Future Ready Iowa (Carnevale, et. al., 2015). These groups aggregate data and trends about employment statistics across the state. A report by Future Ready Iowa identifies the employment outlook, which will impact decisions made regarding education that can lead students toward careers in the areas mentioned in the excerpt below;

“By 2025, blue-collar jobs – representing a broad category consisting of production; transportation and material moving; installation, maintenance and repair; and farming, fishing and forestry occupations – will overtake sales and office support jobs as the largest source of employment for Iowans, accounting for 24 percent of new jobs added between 2010 and 2025” (Carnevale, et. al., 2015).
Standards that directly relate to skills required by employees within these specific sectors can help students identify exact areas that their skills can be used or applied beyond the scope of secondary education.

**Purpose/Objectives**

The purpose of the creative component is to develop a facilitator’s guide for high school agriculture teachers wanting to convert to Standards-Based Grading. This guide will be a short and easy-to-follow process that teachers can work through to develop a system that involves options for custom implementation. To accomplish this purpose, the following objectives will be met:

1) Develop a step by step process for transition to SBG
2) Provide the non-negotiables when converting to SBG
3) Establish a set of notes for both teacher and students assist with transition.
4) Provide example documents (as provided in the appendices) for teachers who are converting to SBG

By implementing a one-size-fits-all standards-based grading approach to agricultural education, instructors provide better individual feedback when communicating grades with their students. This opens a two-way line of formal communication between teacher and student. This transition requires professionals to reflect on current grading practices and philosophies some are so quick to boast. Reflection often results in polishing these practices for the purpose of progressing into the future, as opposed to remaining stagnant because of tradition (Marsick, 1988). Kate Owens, mathematics professor at the College of Charleston, says
“The goal of SBG is to shift the focus of grades from a weighted average of scores earned on various assignments to a measure of mastery of individual learning targets related to the content of the course. Instead of informing a student of their grade on a particular assignment, a standards-based grade aims to reflect that student’s level of understanding of key concepts or standards. Additionally, students are invited to improve their course standing by demonstrating growth in their skills or understanding as they see fit” (2015).

Need

There is a high need for resources for agriculture teachers who desire (or are required by their schools) to implement standards-based grading in their classrooms. Due to the inter-curricular nature of the affiliation with the National FFA Organization, teachers are able to utilize much of the work that has already been done on a national level when adapting SBG to their local programs. However, it is not easy for an agriculture teacher to locate and gather all of these resources and determine the exact ones they need before compiling them into an easy-to-use format to implement into their classroom gradebooks.

The shift to a new grading approach based on student proficiency becomes easier within agriculture education and other career and technical education (CTE) programs (as opposed to some other content areas) due to the nature of CTE programs to apply their content to real-world problems that make learning more relevant to students.
There remains a need for a versatile method for substantive grading and reporting practices within agricultural education. Agriculture educators will be the first to boast about grading students on their knowledge or performance of a skill, but often times their actual gradebook heavily reports participatory grades more than standard-based grades. Many agriculture teachers then struggle when wanting or needing to implement such a change within their own classroom practices. The primary problem is not convincing teachers to adopt the principles that lie behind a standards-based grading approach. Instead, the problem is that agriculture teachers need a simple and straightforward process for implementing SBG in their programs, regardless of motive for doing so.

The lack of access to such resources suggests that there remains a need to ease this transition for teachers. Additionally, there becomes a need for professional development for those teachers to do so. Professional development workshops create an environment to share practices, successes, failures, and discussion with peers to alleviate concerns, network with others, and put teachers at ease who may be overwhelmed by the daunting task of changing their grading practices. The task of adopting new intricate practices can haunt a teacher on a daily or weekly basis if not done correctly. Therefore, the purpose of this creative component is to develop a resource folder for agricultural educators to utilize and customize when implementing SBG in their programs in an efficient and effective manner.
Definition of Terms

The following definitions of common terms used throughout the report will ensure effective translation of the ideas they represent.

**Agriculture, Food, and Natural Resources (AFNR)** is a common acronym used to describe the content areas covered within agricultural education.

**Assessments** are the tools educators use to evaluate a student’s level of ability or understanding of a standard in question. An assessment may appear in the form of tests, but can be performance-based, oral, written exams, or any combination thereof. Typically, standards are written in such a way that will define assessment parameters within them.

For example, in the Next Generation Science Standards (NGSS), one standard reads: “Use a model to illustrate how photosynthesis transforms light energy into stored chemical energy.” (NGSS Lead States, 2013).

The standard is identified by the code HS-LS1-5; this refers to the High School level (HS) in the Life Sciences subject area (LS). It states that students will use a model to show their understanding. Models range from pre-designed 2D diagrams that students utilize, digital or tangible 3D visual aids, or a student could illustrate their own understanding through personal creations that make the most sense to them. The boundary on this particular standard limits the student from being assessed on the specific biochemical steps of the process. There are two main types of assessments that can be used in a classroom:
Formative assessments are any activities undertaken by teachers where the evidence is used to adapt the teaching to meet student needs (Black et al., 1998). Summative assessments are assessments of learning where the results are used to make some sort of judgment such as a final grade, and documents how much learning has occurred at a point in time (Chappuis et al., 2008).

Career and Technical Education (CTE) is the category an agricultural education department exists within, along with industrial technology, business, and family & consumer sciences to name a few other common content areas. CTE courses can assess their own unique learning standards while also being known for applying math, literacy, and science standards from the core curriculum within their distinct content areas.

Curriculum is the content by which the standards are taught to students. There are typically many learning objectives (or indicators) that are used as benchmarks to determine if a student is making adequate progress towards becoming proficient in a standard.

Curriculum for Agricultural Science Education (CASE) refers to a curriculum (aligned with AFNR, science, math, and English content standards) utilized by many agri-science educators within their courses.

Grading periods are the designated periods of times schools use to report grades officially. These periods range from school to school, and are commonly in 9-week quarters, 18-week semesters, or 12-week trimesters.

Grading rubrics are the tools utilized by instructors to communicate both expectations and results for students as they seek proficiency on a standard.
**Instructional coaches** are the teacher leaders take on extra responsibilities, including helping colleagues analyze data and fine tune instructional strategies as well as coaching other teachers and co-teaching (Rasey, n.d.). These are especially prevalent in the state of Iowa since the adoption of the Teacher Leadership and Compensation program established in 2014 allocated state funding for schools to pay these teacher leaders more for their defined leadership roles, many schools choosing to hire teachers as mentors (who remain as classroom teachers) and instructional coaches (who are typically removed from the classroom to fulfill the full time duties of working with classroom teachers on their individual professional strategies). However, these roles are defined locally and can vary across school districts.

**National FFA Organization (FFA)** Formerly known as the Future Farmers of America, the National FFA Organization is today’s largest student-led organization and focuses on activities and programs that enhance individual student potential for premier leadership, personal growth, and career success through agricultural education.

**Professional Learning Community (PLC)** is an ongoing process in which educators work collaboratively in recurring cycles of collective inquiry and action research to achieve better results for the students they serve. Professional learning communities operate under the assumption that the key to improved learning for students is continuous job-embedded learning for educators (DuFour et al., 2006).
Reassessments are assessments given to students on a standard after they have already been assessed on that standard. A teacher can decide to reassess the entire class or individual if they feel it is necessary after re-teaching a topic, or any individual students can decide that they would like to reassess on a standard if they would like to improve their overall score in a class. Reassessments can be the exact same as the original assessment, similar, or completely different as long as it validly measures the standard in question. Either the teacher or student can initiate the need for a reassessment, but it can also be a mutual decision. Reassessments should happen as often as necessary for a student to be deemed proficient on a standard.

Standards are the objectives that are set for students to achieve in their courses. The Development Process (n.d.) involves standards that are typically written by teachers, content experts, and leading thinkers, and adopted by governing bodies of the state or educational institutions that are tasked with measuring these benchmarks of student achievement.

Standards-Based Grading (SBG) In education, the term standards-based refers to systems of instruction, assessment, grading, and academic reporting that are based on students demonstrating understanding or mastery of the knowledge and skills they are expected to learn as they progress through their education (Standards-Based, 2017).

Standards-Referenced While similar to SBG, standards-referenced refers to the actual material that is being taught to students within a course. The source of the content and skills taught to students may originate from the standards, but are
not necessarily utilized when reporting student achievement on individual standards.

**Supervised Agricultural Experience (SAE)** is a program within agricultural education in which students will identify a work experience to record person growth and success within. Many record-keeping skills are assessed as students document work hours and skills earned in addition to keeping financial records on said experience.

**Traditional Grading** Students are given numerical scores on a 1–100 scale and class grades represent an average of all scores earned over the course of a semester or year (Standards-Based, 2017).

“The reports students receive (in SBG) might use a 1–4 scale, for example, with 3s and 4s indicating that students have met the standard. In standards-based schools, grades for behaviors and work habits—e.g., getting to class on time, following rules, treating other students respectfully, turning in work on time, participating in class, putting effort into assignments—are also reported separately from academic grades, so that teachers and parents can make distinctions between learning achievement and behavioral issues.” (Standards-Based, 2017).
Chapter 2 - Why

Literature Review

There is very little research available for grading in agricultural education, or in the overarching career and technical education (CTE) area (Lichty, 2014). As many as 80% of schools require letter grades (Munk & Bursuck, 2004) with a majority utilizing a 100-point scale with 10-point intervals (Reeves, 2011). Learning should be relevant to students and the real world while assessments should provide students with the opportunity to demonstrate what they know (O’Connor, 2009). Teachers are now being asked to develop assessment strategies that are authentic, and these strategies are considered just as important as developing a grading plan (Brookhart, 2011).

Traditional teaching methods are not satisfying the needs of individuals entering careers in agriculture, attending major universities, or pursuing other post-secondary education endeavors (NRC, 1996, 2009). In discussions on reforming education, many educators and policy makers have called for models of teaching and learning that change the role of the teacher from being a deliverer of knowledge to one of being a facilitator of more active student learning (Padron & Waxman, 1999). The teacher directs the teaching and learning process partially through assessing student performance (Wehlage et al., 1996).

Assessment

Assessments can be broken down into two categories: formative assessment and summative assessment. Differentiating between the two is done by determining how the assessment results will be used (Chappuis et al., 2008; O’Connor, 2009).
Formative assessments are any activities undertaken by teachers where the evidence is used to adapt the teaching to meet student needs (Black et al., 1998). Summative assessments are assessments of learning where the results are used to make some sort of judgment such as a final grade, and documents how much learning has occurred at a point in time (Chappuis et al., 2008).

Agricultural educators and other CTE teachers have been familiar with holding students accountable (Lichty, 2014). The Handbook on Agricultural Education in Public Schools (2008) outlines a variety of authentic and traditional forms of assessment, including recordbooks, portfolios, self-reflections, debates, and presentations. Each assessment, graded with a rubric, becomes a reliable tool to measure student learning (Phipps, Osborne, Dyer, & Ball, 2008). Students should be challenged, as if they were in adult roles, in constructing or producing knowledge in written or oral communications, by making or repairing things, and in performance for audiences (Knobloch, 2003).

Assessment is commonly discussed related to authentic learning (Knobloch, 2003). Authentic learning occurs through tasks, activities, and assessments that result in achievement that is significant and meaningful rather than that which is trivial or useless (Newmann & Wehlage, 1993). Authentic assessment measures student performance using procedures that simulate the application of real-life tasks (Ormrod, 2000; Woolfolk, 2001).

**Authentic Assessment in CTE**

CTE has been using authentic assessments for years, while other teachers have more recently begun using them (Cutshall, 2001). In agricultural education and CTE,
authentic assessment on practical application of academic knowledge comes naturally (Willhoft, 2013).

Technical skill attainment assesses each CTE student’s knowledge, skills, and abilities to succeed in an occupation (Stone, 2009). These technical skills can further be defined as objectives and competencies required by a specific occupation (Stone, 2009).

By looking at where students are performing, determining a proficient level and coming up with a plan on how to get there, CTE programs can begin to use what is reported to reflect on their program for improvement (Hoachlander, 2000).

**Reassessment**

In Rick Wormeli’s *Fair Isn’t Always Equal* (2006), he addresses differentiated instruction as “doing what’s fair for students” (p.3). Assessments should be ongoing to help students learn and develop (Wormeli, 2006; Guskey, 2003). Through reassessment, students are given the time to try another approach, complete a few more examples, and take another day to process the information (Wormeli, 2006), which ultimately makes the learning process more fair for students. Students reflect on their mistakes and understand their efforts will count and can be used to improve their status through reassessment (Wormeli, 2006).

Redoing assessments until students reach high expectations results in far more learning (Wormeli, 2011). Redoing assessments can not only evaluate what students learn, but can also help determine the teacher’s effectiveness of corrective instruction (Guskey, 2003). Reassessing students should be allowed for full credit at the teacher’s
discretion (Wormeli, 2006). The assessment can be changed and completed in a given time period determined by the educator (Lichty, 2014). This can be limiting the redo to an oral discussion with the teacher or changing the questions in order on a forced choice test (Lichty, 2014). Redos and retakes allow students to become prepared for college and careers because they have learned the skills and content (Wormeli, 2011).

Implementation of SBG

Although agricultural education teachers’ attitudes toward the Common Core State Standards (CCSS) have not previously been explored, research outside of agricultural education has investigated the topic (McKim et al., 2015).

A 2013 study conducted by the Editorial Projects in Education Research Center (EPE) sought to describe practicing teachers’ familiarity with attitudes toward implementation of and preparedness to teach the CCSS. Although teachers were familiar with the standards, they had not participated in an abundance of professional development experiences related to the CCSS. Nearly one-third of respondents in this study reported spending one day or less in professional development related to the implementation of the CCSS. Furthermore, the majority of responding teachers, 56%, identified the curriculum they were using was not aligned with the CCSS (McKim et al., 2015).

Given that the research supports agricultural education as an effective context of math and ELA skills (Nolin & Parr, 2013; Park, 2012; Pearson et al., 2010); professional development opportunities related to the integration of these subject areas is warranted (McKim et al., 2015).
Professional learning communities (PLCs) can help an instructor immensely within a school system. Supports provided to instructors can aid in both their instruction and assessments, but if a school does not place priority on allowing PLCs to meet, a teacher can easily feel stranded and left to figure out these systems on their own. When time and support are regarded as constants, learning will be the variable no matter how hard an individual teacher may work (DuFour, 2004).

Other researchers in education have studied the impact grading systems have on student achievement, in addition to the instructor’s role. Researchers found that in effective schools “each of the teachers in the school has a clear understanding of what the essential learner objectives are, grade by grade and course by course” (Lezotte, 2004). Robert Marzano (2003) referred to this clarity of focus as a “guaranteed and viable curriculum.” Each course has an important role to introduce or reinforce standards that students should know and be able to do. Robert DuFour’s (2004) three essential questions serve as guidelines for each instructor to bring to a PLC, but can also guide them in their own instruction within their own classrooms:

○ Exactly what is it we want all students to learn?

○ How will we know when each student has acquired the essential knowledge and skills?

○ What happens in our school when a student does not learn?

By taking an intimate look at the answers to these questions, an instructor can make informed decisions about what resources and supports they receive from their school, and which areas they need to seek support for from other professional networks.
Grades should provide meaningful feedback to students, document their progress, and help teachers make decisions about what instruction a student needs next (Wormeli, 2006). Wormeli continues, saying “the grade, number, or symbol is supposed to be a placeholder for a much longer description of evidence. By itself, it is nonsense, communicating nothing without the evidence associated with it. Yes, you can use letter grades in standards-based grading. You can also rubric numbers as long as they directly reference evidence descriptors” (Wormeli, 2015).

Locally, Iowa is fortunate enough to possess a renowned SBG expert (Matt Townsley of Solon, Iowa) who has provided countless videos and resources that teachers or schools may seek. Jenny Lichty, the agriculture instructor in Ballard, IA has one of the few, if only, research articles on the use of standards-based grading within the niche content area of agricultural education or any other CTE area. She concluded that the biggest obstacle to fully implement SBG is time and understanding as indicated by those who are implementing or have implemented SBG (Lichty, 2014). Her survey of Iowa agricultural educators determined that they need more time and resources to feel confident in implementing SBG, and similar instructors in other states may not even feel this confident if conversations surrounding SBG are not as commonplace or progressed in their state’s educational environment.

**Background & Setting**

Grading within agricultural education varies from program to program, and truly depends on the program offerings and school policies and community in which they exist. Many schools have dictated when their teachers need to make the switch from
traditional grading practices to a more standard (or competency) based grading system. If teachers do not understand the implications of adopting this new grading system, they are likely to do the bare minimum to appease their administrators and never truly grasp the need or purpose for making the change. This, in turn, is likely to not serve students in the best way possible toward helping them grow as individuals. Instead, these new practices end up becoming just another bureaucratic hurdle for most teachers.

Agriculture courses are designed with a seemingly perfect support system to make this transition, arguably more so than other CTE courses. Agricultural educators maintain a vast network across their state and nation and have an abundance of tools and resources provided to them through their professional organizations, such as the National Association for Agricultural Educators (NAAE). The National Council on Agriculture, Food, and Natural Resources (AFNR) created and revised national AFNR standards for instructors to use across the country (AFNR Standards, 2015). Although agriculture varies from state to state to match the climate in each environment, the foundational knowledge of agriculture remains the same: there is a science to how plants grow, how animals are raised, and how natural resources and ecosystems operate and remain intact. Capitalizing on this foundational knowledge will allow students to pursue careers or further education in an area of the agriculture industry that best suits their interests.

With the additional supports that the National FFA Organization (FFA) and Supervised Agricultural Experience (SAE) work-based learning programs provide to an agricultural education program, students and teachers alike are provided with multiple means to prove students' proficiency on a topic or skill set. FFA is an inter-curricular
organization, giving teachers the flexibility of providing instruction during the school day, but allowing students the flexibility to spend more time honing their craft outside of the school day, when there are less social pressures that exist within the confines of a typical American high school. While some SAE programs exist on school grounds using school resources, the time a student invests in their SAE program takes place almost entirely outside of the school day. This marriage of programs is perfect for 21st Century Skill standards to evolve with students over time (Framework for 21st Century Learning, 2016). Other standards can be observed and measured for proficiency as well, such as Iowa’s Universal Constructs (developed as part of the Iowa CORE Standards) (Universal Constructs, n.d.). Many of these standards exist in an agricultural education setting, making it very easy for an instructor to transition to a SBG model if they have the appropriate tools and knowledge base to make it easier and more comfortable for them to do so.

Figure 1. Stages of the backwards design process aligned with examples of instructor objectives. (Adapted from Wiggins & McTighe, 2005, p18.)
A teacher can follow the school of thought outlined in Figure 1 while utilizing this guide as part of the implementation process. Wiggins & McTighe’s (2005) concept of Understanding by Design (UbD), also referred to as Backwards Design, can help instructors frame their curriculum units based on the standards essential for students to know. The first step revolves around the instructor deciding which standards will be taught in a course. The second step encourages the instructor to design or adapt their assessments to match the standard being assessed. For example, if a standard dictates that a student must analyze or create something, an assessment that asks for a vocabulary definition regarding that content would not suffice. The final step is based on the instructional methods utilized to provide students the experiences necessary to achieve the standard in question. By looking at the provided SBG guide through the lens of UbD, an agricultural educator should feel confident in utilizing these resources to implement SBG in their own classrooms.
Agricultural education is defined by the National Council for Agricultural Education as a systematic program of instruction available to students desiring to learn about the science, business, technology of plant and animal production and/or about the environmental and natural resources systems (Agricultural Education, 2012). While the philosophy behind standards-based grading goes hand-in-hand with the philosophy of agricultural education programs, classroom implementation has proven itself to be a major barrier for many agriculture instructors. By following these steps, any agriculture instructor who has the need or desire to implement standards-based grading into their courses should be able to do so effectively and confidently. Use of this method can produce positive results for the instructor and program through an enhanced understanding of learning for the students.

Even as a teacher follows the outlined procedure below for implementation, there is some work that must be done prior to these steps in order for this method to work as intended. These preliminary steps (provided) will serve as a foundation for this transition and may be skipped based on self-identified instructor proficiency. An instructor should be thoroughly familiar with the content standards they plan to cover, the assessments they will need to utilize to measure them, and how they plan to provide instruction to students (Standards-Based Definition, 2017).
Chapter 4 – The Guide

To accomplish the purposes and objective of this creative component, a resource guide was developed. It is provided as an individual document to that it can be easily formatted and shared with the intended audience.
Chapter 5 - So What

Reflect on the question

A teacher who desires positive change surrounding their coursework grading approach needs to begin at the simplest level. This involves reflecting on and modifying their own grading practices to match their teaching philosophy as opposed to continuing previous grading practices simply because they were already in existence and reflected their own experiences within education. Once a teacher has completed this reflection on their desire to implement a new grading approach, they will need to gather resources that can help them to be effective in this endeavor.

Reflect on coursework

The Master of Science in Agricultural Education program at Iowa State University was a rewarding and enjoyable experience. I have enhanced skills once established in my undergraduate program, and gained new skills while practicing them within my current profession as a high school agriculture instructor. These new perspectives have stayed with me throughout my career and help guide the decisions I make each day. The distance-learning environment of the program allowed me to put my life-long learning skills in action, and I plan to continue to use those skills beyond my participation in the Master of Science program.

The AgEdS 520 course titled Adult Education in Agricultural Education was specifically helpful to me in the creation and design of the workshop and SBG materials created for this creative component of my Master’s Degree program at Iowa State University. This course paired educational philosophies with practical techniques that
work well for adults, such as distance learning, discussion, simulation, case studies and more. This course taught me to leverage the adult learner’s experiences and allow them to contribute to the course in an effort to create ownership. If they do not feel that their experiences or contributions are being valued, they are less likely to implement knowledge gained from the course in their everyday practices.

**What is recommended**

I anticipate that as a teacher begins to implement their chosen SBG system, many changes will be required before it exists as a useful tool for both the instructor and student. There needs to be a plan going into this endeavor, but the teacher must remain flexible in implementation in order to accommodate the student, the school policies and environment, and their own personal habits or comfort level. The instructor should be able to overcome technicalities and adapt to a situation while staying true to their educational philosophies as well as a SBG format.

One recommendation is for the implementing teacher to find people who can provide guidance or advice throughout the process, from pre-implementation through the end of the course. Local decisions will come easy with a more experienced teacher listening and guiding them through a concern or oversight within their own gradebook.

Also, the implementing teacher should be willing to be open with their students about the process, purpose, and reasoning for transitioning the gradebook from the traditional ones they are used to. This dialogue will perpetuate into open and positive conversations about the purposes of grading as well as the specific content that teachers are typically most passionate about.
Becoming familiar with the National AFNR Career Cluster Standards, 21st Century Skills, and other relevant standards being assessed within agricultural education courses is a necessary evil. The hidden benefit of an agricultural education department is that it is typically an elective course. Unlike core content classrooms, electives have more freedom of choice when it comes to which standards they will need to cover. By becoming familiar with the standards available to their department, a teacher will save time searching for standards to apply to their courses and can spend more time instructing students of the content.

Extensions

If there was a standard way to implement SBG in agricultural education, it could easily find a way to become part of existing curriculum that many in Iowa utilize within their courses, such as Curriculum for Agricultural Science Education (CASE). CASE and other programs implemented beyond Iowa such as MyCAERT, One Less Thing, and the National FFA Organization do an appropriate job of aligning content with standards so that teachers do not have to do this tedious work themselves.

The online Agricultural Experience Tracker (AET), a subscription-based record keeping service for FFA chapters, can serve as a platform to help students track their SAE programs as well as other non-coursework standards being assessed in our programs, such as the 21st Century Learning Skills and Iowa Core’s Universal Constructs.
Summary

In summary, SBG can be an effective form of feedback from teacher to student and create a line of communication that may not have existed prior to implementation.

Within agricultural education and other career and technical education departments, SBG quickly becomes the perfect platform for many standards that are already covered but have never been appropriately assessed up until this point in time. This mostly includes assessing 21st Century Skills such as the Universal Constructs named by the Iowa Core as well as other high-performance skills that have never been formally assessed. Students will gain these skills through their involvement within FFA leadership or career programs.

Implementation can be daunting with the number of considerations and recommendations that exist for teachers who seek to do so, but it can be done and is a step in the right direction for grade reform within education. A SBG system may not be perfect yet, but it is a step in the right direction for many agricultural education classrooms.

Because there is no perfect way to do things, changes will exist and adaptations must be made to fit a teacher’s needs. This is the perfect reason to begin implementing as soon as decisions have been made, which likely needs to occur before a teacher can discover what exact adaptations will be needed.
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