

Evaluating Experiential Learning & Reflection within an Agricultural Education Setting

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Abstract

This study is focused on the utilization of experiential learning in the agricultural education setting and the importance of incorporating reflective practices within this educational theory. The Cognitive Constructivism Learning Theory provided the framework for this qualitative study. Six participants, including agriculture educators, a core subject educator, and a school administrator participated in this two-part study that included a questionnaire on reflective practices utilized in the classroom and feedback on an annotated student and educator reflective resource. After a thorough analysis of the provided data on experiential learning and reflection, it is noted that these instructional practices provide an array of opportunities and concrete learning experiences for students to actively engage in individualized reflection while gaining access to skill sets such as collaboration, communication, and management skills that can be utilized in future endeavors. In recognizing the various outcomes associated with experiential learning, educational resources were also provided to project participants to review and provide recommendations to enhance the reflective resource pool for educators in Virginia. Upon completion of this project, we were able to define the importance of experiential learning, the positive correlation of reflection as it plays a key role in the experiential process, and the vast array of opportunities and skills derived from the utilization of these methodologies from an educational perspective.

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Chapter 1: Introduction

As you investigate current agricultural education classrooms, you will notice that the learning environment is nothing short of complex and interactive, as students are involved in an engaging learning process called experiential learning. Experiential learning, or hands-on learning, is an educational concept that is a continuous cycle of opportunity for students as they are provided with concrete learning experiences that expand on various components such as reflective observation, abstract conceptualization, and active experimentation. (Boston University Center for Teaching and Learning, 2023) Utilizing this learning mechanism has many noted benefits, such as students gaining insight into collaboration, reflective practices, and opportunities to build and expand upon relationships and learning decisions. In providing students with experiential learning opportunities, one study demonstrated that students who are actively engaged have an increase in knowledge retention from the utilization of experiential learning in the classroom setting and non-formative learning environments. (Austin, 2015) As these critical skills are developed through individualized learning experiences, the importance of these skills builds a foundation and a pertinent role in developing future agriculturalists.

To ensure that students are thoroughly developing and appreciating the variety of skills presented in their experiential learning opportunities, reflection must be emphasized, as reflection is an individualized tool that allows learners to think abstractly and conceptually about their learning experience from an emotional, social, and cognitive perspective. (Illeris, 2007) As educators, it is important that as we incorporate experiential learning into classroom curriculum and educational philosophies, we find ways to continue the path of individualized learning by creating reflective tools to provide students with optimal resources to explore and understand how their experiences have impacted their learning.

Purpose Statement

This study has a dual purpose as it focuses on understanding how educators emphasize the value of reflection in experiential learning and how educators are utilizing reflection in an instructional setting. The complex relationship between experiential learning and reflection works collaboratively to prepare students for future endeavors through concrete experiences. In addition to determining how reflection is incorporated into the classroom, reflective resources were analyzed for feedback for future implementation. Reviewing the provided resources could prompt educators to utilize these tools to maximize reflective practices in the agricultural classroom. The information in this study was derived from findings that focus on the following research questions.

1. How do educators teach student-reflection practices in their classroom instruction?
2. What curricular approaches do teachers utilize in the classroom to engage students in reflection on their learning experiences?
3. What are educators implementing as tools for student reflection within the classroom curriculum?
4. How is a Choice Board learning tool used for student participation in classroom reflection activities?
5. How do teachers facilitate semester-long reflection activities?

Reflexivity

As I begin to bridge the connections between my personal relationship regarding the utilization of experiential learning in the agriculture industry and the proposed study of research, it is important to note my background and experiences as this axiological component plays a critical role in understanding the individualized research process moving forward.

I was born into a hard-working family on a multi-generational farm in the heart of Montgomery County, where hundreds of beef cattle made their way in and out as my parents had a cow-calf and stocker operation. Little did I know that the environment I grew up in would certainly shape my life. From the time I can remember, I've been out on the farm running around with my dad going to the local stockyards to buy cattle, learning, and experiencing the tasks associated with herd management and watching the tractor go round and round, while I played on all the haybales that were recently produced. I soon made my way up to serve as the operator as years continued.

As I was consistently reminded or recognized by the daughter of "Nolen," it seemed that my identity was connected to the agriculture industry, an industry that I continued to enjoy and experience through my years of secondary education. As I branched off and began to engage independently in the beef cattle industry, I found my "niche" as I became active in FFA—a program that has helped shape my inspirations and perspectives today. I distinctly remember the moment when my teacher/FFA advisor said, "You belong in this industry—think of all the lives you could change with your passion and experiences." This moment ignited a deeper passion and a sense of belongingness due to *my* abilities and inspirations. Fast forward to graduation, I decided that I wanted to further my education in animal science and agriculture education in hopes of one day becoming both a producer and an educator.

When entering the agriculture program at Virginia Tech, I found myself surrounded by classmates much like myself...many women (yay!) intrigued and passionate about an industry. This created room for opportunities to hear about others' experiences within the agriculture industry. It wasn't until after graduation when I encountered my first negative experience, that made me realize the sexist dynamic surrounding me. It was the summer of 2021 when I was expanding my beef cattle operation and stumbled upon a Facebook advertisement for a herd dispersal of several heifer calves. I immediately inquired about these animals through an online chat showing great interest in the purchase. Not twenty minutes later, I received a message from a middle-aged producer saying, "Do you know what it takes to care for animals?". I was flooded with emotions as I have spent years surrounded by knowledgeable individuals and personal experiences that shaped me into the woman in agriculture that I am today. Moving forward, I spent time reflecting on the moment and envisioning others encountering this issue as well.

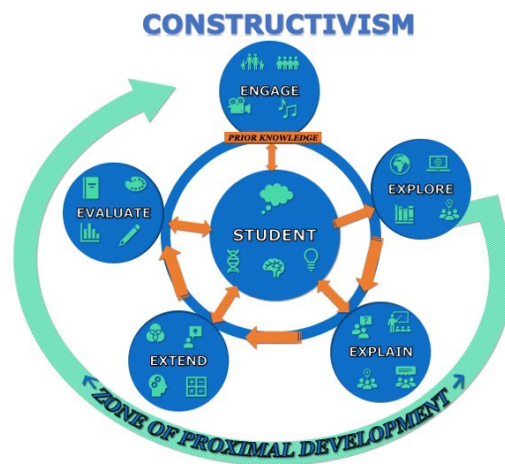
I found that this experience provided me with ample opportunity to reflect on my knowledge and experiences while creating a connection to my career. I became an agriculture teacher and FFA advisor in Craig County during the Fall of 2021, where it was my turn to encourage and provide opportunities to youth just as my advisor did for me. While my story is very different from others, being blessed with the opportunity to gain experience at a young age, I know that not every student is granted this option but could face a similar experience due to the socio-demographics of the small, rural community I had become a part of. Therefore, I found it necessary to emphasize hands-on experiences and reflection in the classroom, as I have learned that the industry is nothing short of those two things. If students are provided with ample opportunities now to understand and derive important industry attributes, it could ignite a flame of positivity and "can do" attitudes that will combat those stereotypical viewpoints of the industry.

Over the past three years, being an educator, advisor, advocate, and producer has presented me with various opportunities to design and implement a variety of hands-on experiences that I feel are necessary for the future generations of agriculturists. This has given me time to truly understand how experiential learning is individualized and continual, as I have seen students grow from shy, timid students in agriculture classes, to prosperous, intellectual individuals passionate about the industry. It is due to my personal experiences and the ability to watch students grow that I further continue to study experiential learning and reflective methods that I can utilize in my agriculture program to ensure that these students “cups run over” with hands-on experiences that they too will reflect and think back to one day.

Theoretical Framework

While the spearhead of the research focuses on the utilization of experiential learning, an education theory itself, and the integrated component of reflection, I think it is important that we understand how these instructional strategies intertwine with the Cognitive Constructivism Learning Theory (Kumar et al., 2009). As we develop an understanding of experiential learning and reflection, the Cognitive Constructivism Learning Theory derives a foundational understanding of learning processes within the realm of the educational setting. This theory focuses on the idea that learning is a dynamic process that allows learners to actively construct their knowledge through collaborative interaction and the creation and testing of various processes based on personal experiences (Piaget, 1968). In developing a basic definition of the Cognitive Theory, this theory focuses on continuous learning, much like the educational teaching method of experiential learning. As students are provided with various experiences, they begin to build upon the preconceived knowledge from previous experiences and build upon these ideas to

expand and integrate new knowledge through the process of active discovery and facilitated guidance (Berkeley Graduate Division, 2006). With this being noted, the continuous cycle of experience and reflective practices provides students with the “5 E’s” as they are actively involved in their learning. It is important to note that within the model of educational cognitive constructivism, while students are actively engaging in the learning process, they are also actively engaging in reflection and the explanation of the experience as a personal phenomenon and a conceptual understanding is developed. It is noted by Osterman (1999) that active engagement in the cognitive constructivist experience and reflective practices emphasize the overall performance of the learner in multi-faceted environments much like experiential learning does. To provide a better understanding of the complexity of the Cognitive Constructivism Learning Theory, the graphic below provides an overview of the cyclic notion of the theory and how the learning process is interconnected and dynamic in the “construction” of learning and passive utilization of reflection.



(Tchoshanov, 2013)

In addition to the student’s role in the cognitive constructivism theory, the educator plays a crucial role in this learning theory. Their role is not to reiterate the facts and figures but to provide

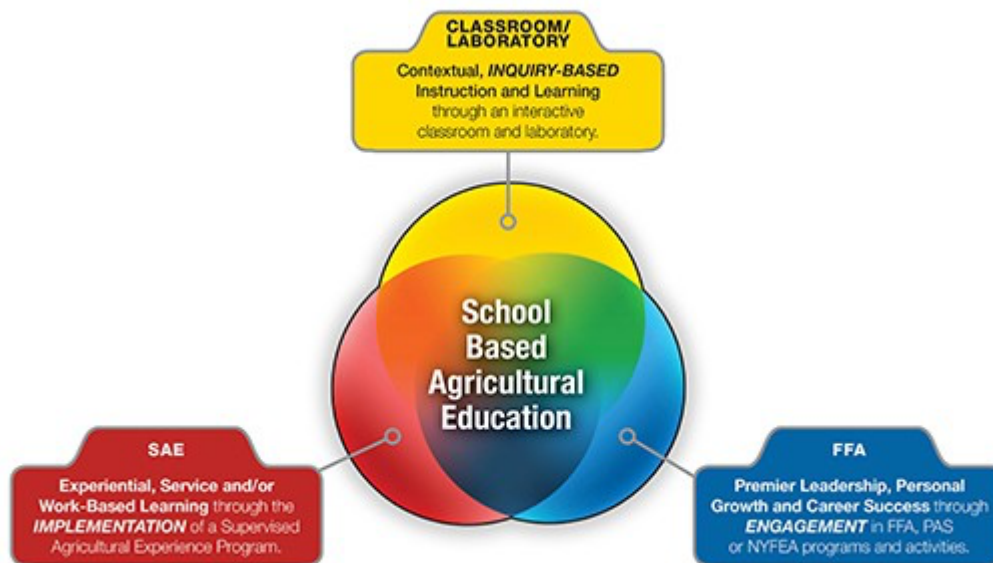
students with opportunities to develop and construct through various tools and resources. Brooks (2004) notes this opportunity for educators to utilize their theory as a methodology to transform students from passive to active participants in the learning process. In aiming to align curriculum standards and learning objectives while incorporating these experiences in the classroom, educators focus on incorporating small group activities, interviews, and interest approaches that can align pre-existing knowledge with future educational goals pertaining to the curriculum as the theory prepares both the student and the educator for an optimal learning experience. Therefore, this theory goes together with the incorporation of experiential learning and reflection as educators provide ample opportunities for students to “learn by doing” through inquiry-based learning and focus on a “building block” system as students engage in activities and experiences that allow for individualized learning and the expansion of knowledge-based relationships while discovering and remediating their previous knowledge and experiences.

Chapter 2: Literature Review

History of Agriculture Education

Ever since the first president, George Washington, developed a strain of wheat by careful seed selection, we have been working towards improved agricultural practices by advancing technology like the cotton gin and the idea of land grant universities and secondary agriculture education programs in public schools. “Agriculture was the nation’s central pursuit” (Seevers & Graham, 2012, p. 26). With this prominent establishment of agriculture in our nation’s endeavors, a precedence has been set regarding the importance of providing agricultural education to future generations. While much of the youth’s agriculture education in the late 1700s occurred in gatherings of small groups in informal settings or experiences on small, rural farms, in time, it was noted that the agriculture industry was thriving with new inventions and agriculture education was gaining more popularity (Tucker, 2018). As the corresponding trend was recognized, Senator Justin Morrill of Vermont proposed to progress the utilization of agriculture education by donating public lands to states to provide colleges for the benefit of agriculture—later known as the Morrill Act of 1862 (National Archives, 2022). This paved a path for future success as it supported public education and the agricultural endeavors of the up-and-coming youth. In addition to the Morrill Act, the advancements of agriculture education continued as the focus remained on providing agricultural and trade education to students at the high-school level through experiential opportunities (Winship, 1917). This act aided in ensuring that the curriculum was incorporating hands-on techniques that would allow students to learn the skill/task presented by physically “doing” (Kolb, 1984). Between these educational acts, agriculture education was a continually growing facet of public education that focused on preparing students through the act of experiences, later becoming known as experiential learning.

As time has progressed, the application and utilization of agriculture education has continued to prosper as the Virginia Department of Education defines this pathway as a program of instruction that provides students with opportunities to learn about animal science, agricultural mechanics and technology, biotechnology, food sciences, management of natural resources, production, processing, marketing and distribution of agricultural commodities and services (Virginia Department of Education, 2022). In opening the doors to a multi-faceted industry, students gain opportunities for leadership development, personal growth, and career success as resembled by the Three-Circle Model. This methodology is emphasized in agricultural education classrooms. This model comprises classroom/laboratory instruction, Supervised Agricultural Experience programs, and student leadership organizations, all of which focus on the foundational concepts presented in our beginning acts that aim to provide students with experiential opportunities in the classroom (National FFA Organization, 2024).



(Georgia Agricultural Education, 2015)

Importance of Experiential Learning & Reflection

As our foundation of agriculture education has been built upon the framework of the Three-Circle Model, many successes have been documented within the realm of agricultural education that utilizes experiential learning methods, as students are given the opportunity to discover and experience while simultaneously reflecting on various agricultural industry practices. While there are many different key components to success within this learning method, this literature review will focus on experiential learning and the importance of self-reflection after engaging in the learning process. Furthermore, this review will present different methodologies educators use to create reflection resources that can be embedded in a variety of course curricula. Examining various resources, we understand how experiential learning and reflection contribute to student growth and development within agriculture.

The literature referenced regarding defining experiential learning suggests that this concept of learning is based on the principle of “learning by doing” (Berman, 2013, p.8), giving way to opportunities for students to build on foundational skills and create connections to their external environment. In the earlier stages of experiential learning development, John Dewey explained this theory as a continuous process built upon previous experiences through hands-on activities and personal reflection (Berman, 2013). Moving forward, further development has been made in defining experiential learning, as Lee (2008) has created an intertwined relationship between Kolb’s Theory (University of Florida Information Technology, 2008), Lewin’s Change Model (Burnes, 2020), and Piaget’s Theory (Kuhn, 1979) They have reiterated the importance of learning through experience, observation, and reflection in the realm of the external environment.

To better understand the interconnectedness of these educational theories, Kolb's Theory consists of four various learning stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation in which students continually cycle through as they are presented with new and ongoing information (University of Florida Information Technology, 2008). Kolb's model creates a positive correlation with Lewin's Change Model as it provides learners with the opportunity to modify and adapt throughout the learning process. Its three primary stages include unfreezing, changing, and refreezing which allows students to knowledge share and implement change based upon their given educational experiences (Raza, 2019). Lastly, Piaget's Model notes that providing students with independent exploration and hands-on interactions aids in cognitive development to further enhance their logical thinking, the complexity of thinking, and overall engagement and collaboration within a skill (The Education Hub, 2021).

In understanding that experiences build the foundation for continuous learning, Arnold et. Al (2006) explains that allowing students to engage in active experiences gives them leeway in their education. In doing so, experiential learning allows students to utilize their previous knowledge and principles and actively apply them to real-life situations, often connecting to foreseeable career practices (Spanjaard & Stegemann, 2018). Therefore, as students participate in individualistic, experiential learning practices, they utilize experiences and continuous reflection to interact, collaborate, creatively think, and problem-solve within the realm of generalizations and conceptual application to further develop their concrete learning experiences (Kolb, 2015).

When further pursuing the components of experiential learning, various literature articles shine a light on the importance of active reflection. Reflection is a crucial component of experiential learning, allowing students to make meaning from their experiences. It involves

analyzing and evaluating the experience, identifying strengths and weaknesses, and considering how to apply the newly learned knowledge in present and future situations (Cunliffe & Easterby-Smith, 2017). It is noted that these hands-on learning experiences build upon one another to create deeper connections between the various course concepts presented in the form of hands-on learning. Regardless of the learning technique presented within the research, whether it discussed the utilization of case studies or creative products within the realm of experiential learning, they all shared a common theme of providing learners with immediate experience reflection, both intellectually and emotionally. Kohonen (2007) follows suit with this common theme as he explains that the learner is in “direct touch” with the phenomenon and starts the reflection process upon the immediate awareness of the activity’s existence. In turn, these students had higher levels of cognitive awareness as they were actively reflecting throughout the learning process.

As students are provided with ample opportunities to actively reflect on their experiences, it has been noted that they develop skills that are critical within career-readiness practices and work-based learning skills—skills needed within industry practices. (Hamilton & Klebba, 2011). To further understand the learned practices noted by the utilization of experiential learning, a study by Moon (1999) concluded that students who engaged in reflective practices demonstrated higher levels of critical thinking and problem-solving abilities. Therefore, as students engage in the process of continuous learning through hands-on experiences, reflection can help build concrete connections to deepen their understanding of skills and knowledge that is applied in future career and industry practices.

In reviewing the definition of experiential learning and the importance of reflection within the concrete learning experience, it is important that we develop an understanding of how

educators are creating resources to aid in the reflection process. Most of the literature reviewed, such as Kolb (2015), Berman (2013), and Lee (2008), expressed that the development of reflective tools is being focused on a more individualistic approach to help meet the reflective styles of various learners. When reviewing the use of individualized reflection tools, it is noted that two distinctions help gauge how educators develop their resources. They look at the overarching need for individual development through reflection or the use of collective action and organization that occurs during the active process of thorough reflection (Gray, 2007). Noted by Mohamed et. Al. (2022), educators have placed more emphasis on using reflective practices and are reviewing their overarching goals found within experiential learning activities to derive various options for reflection. It is noted that instead of strictly enforcing a key reflection method, educators provide students with multiple options to reflect, allowing them to best meet their individualized needs recognized within their concrete experiences (Sackstein, 2015). A study conducted by Loh et Al. (1998) noted that providing less structured reflection and more analytical options, such as reflection road maps, has been beneficial in supporting the reflection process while creating a classroom environment that encourages reflective practices.

Literature Utilized in Developing Reflective Materials

As noted in the world of agricultural education, experiential learning is a powerful learning strategy that provides students with concrete learning experiences and opportunities to reflect on their individualized applications that build upon skills that will be utilized in career-ready and industry practices. As educators, it is important that they provide students with a variety of reflective options that will best meet their learning needs while creating meaningful experiences embedded within the classroom curriculum. Furthermore, a portion of this study

focused on reviewing educational resources that could be utilized as a teaching tool to ensure active reflection. When creating the Educator’s Guide (Appendix A), I found myself completing a variety of online searches to find the most appropriate yet individualized reflective tools that students could use to their advantage. Within these searches, I found all my needed resources from a webpage called *Teachers Pay Teachers (TpT)*. *Teachers Pay Teachers* is an online marketplace community that is comprised of thousands of PK-12 resources that have been developed by an array of experienced educators who share a common goal of helping other educators succeed (Teachers Pay Teachers, 2024). This educational platform provides a variety of categories such as grade level, content area, price, standard, and format—all of which can help teachers find specialized resources that best fit their instructional needs (Teachers Pay Teachers, 2024). Depending on the resources chosen, many are free and easily downloadable, but some educational tools cost a one-time fee before downloading or saving the resource. Within Appendix A, I have provided educators with the following resources from *TpT*:

1. “Brain Dump” Template: This is a manipulative template that can be printed, copied, folded, or cut to fit the instructional guidelines or activity present. Within Appendix A, this resource could be used as a quick yet effective reflective tool to allow students to be “messy” and creative in their thoughts as they are initially presented with a new or foundational hands-on skill (RaiderRockStars, 2023).
2. Comic Strip/Cartoon Template: This resource is compiled in Google Slides and provides an array of templates that can be utilized for reflection, as educators and students can choose a template. Within Appendix A, I presented this reflective tool as a way for students to use illustration to reflect and the opportunity for

reflective expansion by providing keywords or sentences that aid in explaining the various components of the cartoon/comic (Mrs.Macs'sTeachingHacks, 2022).

3. Editable Exit Slip Ticket: This resource is a great, foundational reflective tool as it provides students with a way to reflect and receive handwritten feedback from an instructor. The template I provided does not have any pre-notated questions, leaving room for instructional freedom to ask questions pertaining to the specific lesson or activity. An example question in Appendix A includes “Rate the activity on a scale of 1-10 and provide reasoning behind your answer” (LessonswithLindsey, 2018).
4. “Tweet” Template: This resource is a contemporary reflective tool as many students utilize social media. While this is a PDF template that you print, I provided an opportunity for reflective expansion in Appendix A, which discusses students sharing their tweets with another individual to gather a response and create a conversation (Valentine, 2019).
5. Graphic Organizer Template: This resource is a downloadable reflective tool that aids in strategic planning or building connections between experiential opportunities. While I have only attached a sequencing graphic organizer and Venn Diagram from their website, *TpT* has a wide variety of these available for educators. To expand on the use of this tool, Appendix A has recommendations for using this tool as an assessment to see the progression of the subject or topic being presented (Moynihan, 2016).

In addition to the downloaded *TpT* materials that I have provided educators in the teacher resource, there are multiple opportunities to expand their resource pool. I have made annotated

comments cross-referencing their website and potential products that could be utilized through the guide. As an educator within the agriculture industry, I have learned the importance of reflecting on experiences, as this industry is interconnected in multiple ways. Therefore, these reflective resources provide agriculture educators with adaptive tools that can be utilized in the classroom and modified to fit individualized needs, to open the eyes of young agriculturalists as they are actively engaging in experiential learning opportunities and reflection.

Chapter 3: Methodology

When developing a process for qualitative research, the main practice of phenomenology was utilized. Phenomenological design is based on a philosophical approach as it presents and emphasizes the viewpoint of the educator as they construct thoughts and relationships from their experiences (Ayton, Tsindos, & Berkovic, 2023). This aids in developing an understanding of educator's personal experiences with the experiential learning method and their reflective approaches. This research design approach also allows adaptivity to the various classroom procedures and teaching philosophies utilized within an array of learning environments as we understand the realm of different experiential opportunities presented in the different classroom settings.

A Priori Table

<i>Research Question</i>	<i>Proposition</i>	<i>Supporting Literature</i>
1. How do educators teach student-reflection practices in their classroom instruction?	Reflection is an individualistic approach as we understand that students learn in various ways. Therefore, we must present reflection in an adaptive way.	(Jordi, 2010), (Taylor & Frader, 1997), (Maharshi, 2018)
2. What curricular approaches do teachers utilize in the classroom to engage in reflection on their learning experiences?	Educators are utilizing their individualistic skill sets to create connections to their classroom reflective practices as it differs based on the group of students.	(Wehbi, S. 2011), (Scanlan et al., 2002), (Russell, 1989)
3. What are educators implementing as tools for student reflection within the classroom curriculum?	Technology and hands-on reflective activities have become largely integrated tools in the classroom and can provide students with the opportunity to expand their creativity into reflection.	(Kori et al., 2014), (Boase-Jelinek et al., 2013), (Seale et al., 200), (McNichol et al., 2014)
4. How is a Choice Board learning tool used for student participation in classroom reflection activities?	The implementation of the Choice Board tool provides independence, adaptability, and intrinsic motivation in student reflective practices.	(Malinoksi, 2022) (Cook, 2020) (Algozzine et al., 2007)

Recruitment

To begin the recruitment process, four appropriate agricultural educators were identified based on the Virginia Agriculture Education Association membership list, all of which are located in the Southwest Region. In addition to the agriculture educators, as I am employed at Craig County Public Schools, I identified a core subject teacher and administrator based on the faculty list provided on the district's webpage. Once participants were identified, consent to participate in the study was sent out through electronic email communications. Within the email, participants were provided with an introduction, project goals, and a basic timeline for completion. To participate in this study, participants had to respond to the previous email to be provided with Part One of the study.

Participant Profiles

<i>Participant #</i>	<i>Location</i>	<i>Subject Area</i>	<i>Years of Experience</i>
1	SWVA	Agriculture Education / FFA Advisor	3
2	SWVA	Agriculture Teacher: Plant and Animal Science	4
3	SWVA	Agriculture Teacher: Animal Systems Pathway	4
4	SWVA	Agricultural Education	3
5	SWVA	English: Grades 10-12	3
6	SWVA	High School Principal	30

Procedures

After agreeing to participate in the project, participants complete the study in two corresponding parts. Part One of the study included a link to a Google Form that held the reflective questionnaire made up of seven questions pertaining to their utilization of reflection in

the classroom. Participants then sent a follow-up email notifying me of their completion of this component. In return, participants were provided with Part Two of the study, which included access to a Student Reflective Choice Board tool and the associated Educator's Guide via electronic email communication. In this portion of the study, participants were guided through the annotated document with highlighted sections, arrows, and designated textboxes that allowed participants to provide direct feedback for modifications and/or suggestions for various portions of the document. Furthermore, after both Part One and Part Two were complete, participants were provided access to a clean copy of the reflective resources for their personal use if they so chose to utilize them.

Upon receiving the necessary data for Part One, data was coded by hand and over one hundred codes were detected. During the coding process, all Part One questionnaires were printed and spread out on a large table where transcribed codes were identified using highlighted annotations, shapes, and color-coded pens. Every identified code was then hand-written on a separate sheet of paper to process into themes, as many codes had positive correlations to one another. By the end of the coding process, five major themes were utilized in the Chapter 4 findings. Part Two data was analyzed and copied directly from the annotated documents into a separate file. All participant recommendations were utilized and coded into three themes that focused on the improvement of the provided reflective resources.

Chapter 4: Findings

Part #1 Data Analysis

The purpose of this research was to identify the importance of reflection within the realm of experiential learning as it plays a critical role in the experiential process and the utilization from an educator's perspective. This data was collected from a Part 1 Questionnaire (Appendix B) provided to participants as a Google Form. Six participants provided active feedback to the questionnaire—all of whom are currently in the educational field. Within the questionnaire, participants were prompted with a series of questions that encompassed experiences with reflection and experiential learning, incorporation of these methodologies in curriculum/instruction, and personal approaches utilized in the classroom setting. After transcribing the provided data, numerous codes were identified to summarize the connection between experiential learning and reflection to develop overarching themes. The five themes derived from the data include the following:

1. Benefits of Utilizing Experiential Practices
2. Opportunity for Reflective Individualization
3. Characteristics of a Student Leader
4. Increased Use of Collaboration
5. Variation in Reflective Approaches

Theme #1: Benefits of Utilizing Experiential Practices

Among the questions provided in the reflective questionnaire, six questions focused on developing an understanding of various experiences and outcomes derived from the utilization of experiential learning and reflection. In reviewing the responses, it was noted that educators have

found a variety of instructional benefits that are derived from these educational practices that aid in providing opportunities for application in the classroom and future successes.

In utilizing these practices, there are positive correlations between the student and the learning environment, as the hands-on applications have encouraged students' interest in the classroom topics and curriculum. Participant #6 noted: "I found experiential learning to be the most effective method for increasing the ability of a student to retain learning concepts."

Participant #5 stated: "Students show a greater understanding of the material than using simply memorization as it helps students build connections to the material in an abstract way." Aside from the correlations noted in the classroom, there have been derived benefits that aid in future successes outside of the classroom, such as careers and higher education, as students are incorporating their learned skills into real-world applications. Participant #3 stated: "I try to tie all of my students' reflection activities back to soft skills that they are building to better help them succeed after high school (communication, time management, responsibility, etc.)."

Participant #4 had a teachable moment utilizing an everyday scenario: "A student came into class on a Monday morning with itchy red bumps on his arms and legs. He told me he had completed yard work with his dad the prior weekend. When he asked if he had come into contact with poison oak, he admitted he wasn't able to identify it. That class period was spent outside of the classroom identifying plants in their natural habitats."

From these responses, it is noted that the utilization of experiential learning and reflection are classroom methodologies that provide an array of benefits in the realm of instructional and personal outcomes. These methods allow students to effectively learn and retain the material while creating a concrete learning experience that can be applied in a variety of aspects and build connections to the past, present, and future endeavors.

Theme #2: Opportunity for Individualization

While experiential learning and reflection provide an array of benefits to the educational field, these methodologies also provide opportunities for individualization to meet the needs of the students reflecting and the educators engaging in various instructional activities. In reviewing the provided responses, it is evident that participants felt that engaging in these practices opens the door for individualized opportunity.

As teachers think about engaging in hands-on learning and reflection, they must consider the different stages of expertise that they could encounter within agriculture education; as Participant #1 noted, “I am fortunate to know that many students come with prior experience with animals in many different forms”. In understanding the various levels of knowledge and skills portrayed within your classroom, these educational methodologies provide an opportunity for students to take initiative with the given learning method. For example, Participant #3 uses a blank weekly journal template to allow personal reflection to discuss what they accomplished, what they learned, and how to improve on the activity of the lesson in the future whereas Participant #6 has spent years in the industry and utilizes a “Choice Board” that allows students to pick a reflective tool to best fit their weekly reflective needs. Lastly, opting for individualization within active reflection can provide educators with the opportunity to assess students’ abilities in the classroom and turn a weakness into a strength, making decisions best fit per individual student while adapting to provide a concrete reflective method. Participant #6 stated, “A SPED student was unable to perform well on a “regular” classroom test. I had him write a journal reflection in which he showed advanced mastery of learning concepts.” Participant #1 modified a unit review. “Instead of providing a unit test review, I made the

students reflect on their personal connection to the material and the impact it could have on their future.”

Based on the provided data, it is noted that many educators utilize experiential learning and reflection as a curricular tool to open the doors for individualized practices, as many students are of various learning and experience levels and can utilize personalized reflection to best fit their learning needs and build upon their initial foundations to expand their understanding of the concepts presented.

Theme #3: Increased Use of Collaboration

Another theme derived from this reflective questionnaire builds a bridge to both the benefits and individualization that portrays experiential learning and reflection. As these methodologies focus on abstract ways of thinking and learning, they also create a correlation with the increased use of collaborative practices.

Participants #1- #6 all mentioned the words “groups” in their questionnaire responses when instructed to answer questions that focused on interest approaches and activities utilized to reflect on experiential learning in the classroom. While all participants noted that they encourage group activities the collaborative practices were utilized to further expand on the perspectives and thoughts of others. Participant #5 noted that “when introducing material, they would identify an example in a provided text, create unique examples, then finally discuss those examples with others to help build connections while gaining access to other abstract thoughts.” In addition to these group discussions embedded in the curriculum, Participants #1 and #2 both stated that their main reflective activity involves some form of group collaboration and discussion as it provides students with the opportunity to work amongst others and spend time talking with one another; as a simple conversation can be just as effective as completing a formal reflection. In addition to

the effectiveness of discussion, there are also additional methods in which collaboration has been noted in experiential and reflective practices. These include fluctuation in the classroom environment and opportunities to practice learned skills in collaborative ways. Participant #4 stated “I noted a large enhancement in student cooperation when completing collaborative assignments.” Participant #3 states, “I use collaboration in my reflective experiences, as my students get real-life experience running school-based enterprises where they must collaborate, plan, execute, and reflect on what they have completed.”

As experiential learning and reflection provide a vast array of opportunities, the increased use of group collaboration is providing students with a reflective environment. Within the reflective environment, data has proven that reflection will not only aid in their current curricular success but also provide them with other opportunities that can be utilized in external learning environments. These reflective opportunities allow students to gain insight into the importance of collaboration and its incorporation in future endeavors.

Theme #4: Variation in Reflective Approaches

While much of the data focuses on the reaped benefits that are connected to experiential learning, this coded theme focuses on the use of various reflective tools for reflective observation, the second stage described in Kolb’s Experiential Learning Theory. Allowing time for students to reflect on their learning experiences helps expand the conceptualization and relationships between the knowledge and experiences provided. It is important to understand that this also falls under the category of individualized reflection, as students reflect in various ways that are most adapted to their reflective learning styles.

Traditionally, you think of reflection as getting a piece of paper and writing down “five things you learned” or free writing a paragraph about the classroom topic for reflection. While

these traditional styles are still utilized in some classroom circumstances, all the research participants have provided various reflective tools that they utilize in their classrooms to provide students with differing opportunities that utilize creativity and flexibility. For example, Participant #1 creates weekly surveys that allow students to review their week in the classroom and Participant #3 does a daily exit ticket in which students answer a question to “brain dump” the material presented in the daily lesson and Participant #6 has students complete interactive notebook entries that correspond with the chronological unit and activities within the notebook. Aside from reflective methods utilizing paper and writing utensils, participants have incorporated review activities that focus on hands-on reflection. Participant #2 utilizes community projects and industry certifications to reflect. In contrast Participant #5 creates various gamification methods, and Participant #4 assigns students various topics of discussion where they must lead and navigate the classroom discussion.

From the responses presented in the completed questionnaires, there are a variety of reflective tools that can be utilized to reflect on an experience connected to hands-on learning; it doesn't have to be a traditional methodology. Educators are utilizing modern and adaptive tools such as gamification, student-led discussions, and interactive notebooks to engage students in reflective practices. Adding creativity within reflection will help aid in adaptation to individualized learning while giving the educator a moment of personal reflection on the learning experience as well.

Theme #5: Characteristics of a Student Leader

Lastly, the final theme noted from the provided data focuses on developing characteristics that are being noted in student learners, allowing them to aid in leadership development. While the other four themes focus on instructional and curricular benefits, this

theme intertwines those benefits and builds a foundation for current and future leaders. Experiential Learning and reflection are nothing short of opportunities as their complex, adaptable, and foundational methodologies give insight into an array of skills to better a student personally and professionally.

As you think about your current position as an educator, often you are faced with a question and must find the knowledge to convey the appropriate answer while solving any presented questions and/or issues. When we compare our role of educator to the role of a student, they are essentially presented with the same task at a more entry-level position. Participant #1 states that “providing students with big picture questions and time to solve it is preparing them for future endeavors,” and Participant #2 notes that “allowing the student to play a role in their education aids in the room for creativity and perspective.” In giving students the opportunity to think about their learning through their “own lens,” it can better develop leadership skills that will be noted in future involvement. For example, Participant #4 notes, “When providing an opportunity for students to be in charge of their learning experiences, they are more apt to be accepting when given recommendations and sees more positivity in the educational attitude.” These experiential and reflective opportunities also provide a great leadway for those interested in the agriculture industry. Participant #3 explains that students can create ties to the industry through these practices to further advance their skills, leadership abilities, and networking opportunities.

As students are provided with experiential and reflective opportunities, there is potential for students to not only develop a hands-on skill or strong reflection based on concrete experiences but also begin to progress in leadership skills. These leadership skills will allow

students to learn the importance of problem solving, the ability to communicate, and be adaptable in future agricultural endeavors.

Part #2 Resources Suggestions

In addition to the Part 1 Reflective Questionnaire, participants were provided with a second portion of the project which included an educational resource created and developed by the primary project investigator. Within the educational resource, participants had access to a Student Choice Board and associated Educator's Guide (Appendix C), in which various document annotations provided an opportunity for project participants to provide feedback, suggestions, and recommendations for these products as they will be provided to Virginia Educators upon the completion of this project.

As an educator within the agriculture industry, I have learned the importance of reflecting on experiences as this industry is interconnected in a multiplication of ways. Therefore, the purpose of this educator's guide and Choice Board is to provide agriculture educators with an adaptive tool that can be utilized in the classroom to open the eyes of young agriculturalists as they are actively engaging in experiential learning opportunities. Therefore, the following resources are included in the provided guide:

- A lesson plan explaining the utilization of the semester-long student choice board
- A lesson plan to begin the reflective process in the classroom using a variety of media
- Examples of experiential learning and reflective opportunities that I have incorporated into an agriculture education program.
- Student and Educator Resources that supplement the 16 options on the Student Choice Board, as well as provided extension activities for students who work at different paces.
- A copy of the student worksheet and Choice Board for duplication

While the original product will be provided to educators, I provided all project participants with an annotated document that had shapes and highlighted sections to guide them in providing feedback on various portions of the resource. Areas of research interest included feedback on lesson plans, student resources, and commentary on the various reflective activities. Upon completion of Part 2, participants utilized the provided spaces to contribute suggestions and potential modifications that could further enhance the product as it focuses on experiential learning and reflective practices. Below, I have provided recommendations from project participants that focus on additional experiential learning opportunities, suggestions for instructional resources, and future implementation tips.

Additional Experiential Learning Opportunities

The following activities are additional experiential learning opportunities that can be utilized in the classroom to enhance active reflection utilizing one of the provided methods found in the resource guide:

- Artificial Insemination Demonstration
- Biosecurity Webs
- Floral Design Projects
- Pesticide Applications
- Hay & Pasture Management
- Mock Auctions
- Small Animal Grooming
- Terminology Heads-Up
- Incubation & Hatching Poultry

- Dog/Cat Food Evaluation
- Dissection of the Digestive System

Suggestions for Instructional Resources

In addition to the instructional directions and resources within the Educator's Guide and Student Choice Board, participants had suggestions regarding directional perspectives that could better enhance the product.

- Provide more detail on the incorporation of the Choice Board in weeks 2-17 in the Introduction to Reflection Lesson Plan
- Provide a rubric for the Comic Strip
- Add additional details specifying the completion of the Model/Demonstration and the expected products
- Emphasize the grading scale/system that will be utilized by the educator for students to develop an understanding of the importance associated with the semester-long tool.
- Provide students with a list of potential interview questions for the Choice Board activity
- Add an additional bullet to the Choice Board defining and explaining the importance of reflection to ensure students of various learning levels understand the goals of the assignment
- Have an example of a completed Choice Board to alleviate questions or confusion
- Clarify how students will log their personal reflections during the Introduction to Reflection Lesson Plan
- Be specific with the number of outcomes that you are looking for when students define their goals in Part One of the Choice Board

- Limit them to utilizing a Choice Board box once to increase the use of different utilization methods throughout the course. If this option isn't feasible, provide them with a specific row in which they can utilize the boxes twice.

Future Implementation Tips

Finally, while many of the reflective resources leave room for flexibility and adaptation, here is a list of additional tips for implementation provided by the project participants that could be utilized within the reflective practices:

- Allow students to utilize a small microphone for the Peer Interviews as it replicates TikTok—one of their favorite platforms
- Prior to the use of online blogging sites, check with your IT Department about access to online sources
- Other instructional ideas for the Week 18 wrap-up could include having a student re-teach or demonstrate a skill to the class, create a PowerPoint covering exhibiting skills they gathered from the course, have students participate in post-tests regarding semester material or have the educator create a student-exit survey.
- Further expansion of the Scrabble Board reflective activity could include students defining the terminology used in their board.
- There are pros and cons to creativity. Depending on the group of students utilizing the reflective guidelines, provide guidelines or instructions to maximize reflection while minimizing any confusion.

Chapter 5: Recommendations

Due to the strong correlations presented among the utilization of experiential learning and reflection, these instructional practices have been rooted in agricultural education from the seventeenth century and remain a prominent learning method in today's agriculture education classrooms and curriculums as the project participants placed a large emphasis on their reliance and importance of these instructional methods. From the data presented above, these teaching methods do not follow "cookie-cutter" learning styles, presenting both educators and students with the opportunity to individualize their engaging experiences and participate in an array of experiential activities. In focusing on the utilization of hands-on methodologies, it is important to note that this study recognized the variety of embedded opportunities presented to students within these experiential activities as they aid in defining the correlated aspects of experiential learning.

In understanding that experiential learning and reflection provide a variety of educational domains to the learning environment, it is important to understand the impact these practices have on a student's education. As students are tasked with experiential learning, a variety of "open doors" are presented as the students continually discover and reflect on their education through a variety of reflective dimensions. During the presented study, participants noted a variety of characteristics that begin to build upon foundational concepts that will remain prominent skills to utilize in the external environment and future endeavors. Because these foundational skills are being recognized through the utilization of experiential and reflective practices, students are expanding on their understanding of classroom concepts, developing effective communication strategies, and engaging in collaborative efforts while gaining valuable leadership skills to utilize within industry practices.

As this study provided data supporting the importance of experiential learning and reflection from both a student's and educator's perspective, it also provided insight regarding reflective resources. In recognizing the various educational components derived from these instructional practices, it is pertinent that educators have readily available resources that can aid in providing students with various reflective and experiential practices as they build upon their concrete learning experiences. When participants were provided with an Educator's Guide and Student Choice Board, many new perspectives were presented as project data had a compiled list of recommendations that could better enhance the product for future use. The resource recommendations were further coded into three primary categories, focusing on suggestions for instructional modifications, tips for implementation, and additional experiential learning opportunities. After reviewing the data provided by all participants, the recommendations have been considered and will be utilized to make modifications. Some of the modifications will include adding all the additional experiential learning activities to Page 5 of Appendix C to aid in providing more ideas. Additionally, the suggestions for instructional resources focused on further defining reflective activity instructions, adding information on the grading system utilized on the project, and providing students and educators with rubrics/examples. All these suggestions will be modified throughout various points of the document to help alleviate confusion while providing concrete instructions to maximize the productivity of the educational product. Lastly, data included tips for future implementations to further expand on the provided lessons and activities for extension. The participant's feedback is feasible in that it furthers the opportunities provided to students and allows them to utilize different perspectives and skills within the reflective criteria originally provided.

Conclusion

Experiential learning provides a vast array of opportunities in the realm of agricultural education as the incorporation of reflection aids in providing continual discovery and application in building curricular concepts and concrete learning experiences. This research study recognizes these educational practices as foundational methodologies in an instructional environment as these “hands-on” approaches are working to individualize student learning opportunities while engaging students in a variety of conceptual skills critical to interpersonal, academic, and industry skill sets.

This research has opened many doors to explore the opportunities associated with experiential learning and reflection. It created an overarching image of these instructional methodologies as an interconnected web allowing components of the Cognitive Constructivism Learning Theory to build the foundation for students to expand upon their learned experiences through active discovery, collaborative interactions, and engagement within the learning environment (Berkley Graduate Division, 2006). As the findings from this research is utilized by educators with various levels of experience, it is important to understand the dynamics of these practices. There is not a singular method or approach that defines the practices of experiential learning and reflection. Regardless of the methodologies, approaches, or outreach utilized in presenting these practices, the attributes of experiential learning and reflection are providing students and educators with endless educational opportunities that implement success in both present and future curricular, personal, and career endeavors.

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Appendices

Appendix A: Participant Emails

Project Participation Invitation Email

Subject Line-- Research Study: Evaluation Reflection & Accompanying Resources in the Agricultural Education Setting.

Dear _____,

Hi! My name is Emily Nolen, an agriculture teacher in Craig County and a master's student in the OMALS Program at Virginia Tech. I am currently working on my non-thesis project on the utilization of experiential learning and reflection for beginning educators. Within the data provided by the Virginia Agriculture Educators Association, I recognize that you have been in the classroom for 3-5 years and would like to extend an invitation to participate in this project. I have included a project goal and a basic timeline to aid in making your decision.

Project Goal:

As we focus on utilizing experiential learning in the agricultural setting as a prominent teaching methodology, we must develop an understanding of the complex relationship between experiential learning and reflection as they work together to provide concrete experiences to better prepare student for future endeavors while also discussing various tools educators utilize to maximize potential in the agricultural classroom. Therefore, the overarching goal of this study is to determine the different instructional methods that are used in the agricultural setting through the completion of a survey and suggestions on a provided reflective resource.

Timeline:

After being provided with consent to participate in this project, it will be completed in two parts:

- Part 1: An open-ended questionnaire regarding your experiences with utilizing reflection in the classroom
- Part 2: You will be provided with a Reflective Student Choice Board, an Educator's Guide, and a folder of student resources. There will be embedded questions for completion that ask for modifications/improvements to the product and suggestions for future use.
- Part 3: Data will be gathered and reviewed and provided to the project committee. The products reviewed will then be provided to agriculture educators to utilize in their classrooms if they please

I would appreciate your input in this study. All participation is confidential and voluntary. No identifiable information will be connected to your responses or utilized in future publications or presentations. By responding to this email, you are providing consent to participate in the study and begin Part 1 of the research.

Thank you for your consideration,

Emily Nolen

Part 1 Participation Email

Subject Line-- Research Study: Evaluation Reflection & Accompanying Resources in the Agricultural Education Setting (PART 1)

Dear _____,

I appreciate your willingness to participate in this project! To begin Part 1 of the study, I have provided an open-ended questionnaire that has 7 questions regarding your experiences with reflection in the classroom.

<https://forms.gle/i9MGmS6Np8verSai8>

Upon completion of Part 1, you will receive a corresponding email that includes specific instructions and attachments needed for Part 2 of the study.

Thank you for your participation!

Part 2 Participation Email

Subject Line-- Research Study: Evaluation Reflection & Accompanying Resources in the Agricultural Education Setting. (PART 2)

Dear _____,

Thank you for completing Part 1 of the study. You will now be receiving Part 2 which includes a Student Choice Board and Educator's Resource Guide that can be utilized as a reflective tool in the classroom. This portion of the study will be completed by answering a variety of questions embedded in the resource. Please utilize the following instructions to complete Part 2:

- Within the reflective resources you are looking for a yellow/cream-colored arrow and phrases highlighted in a teal color. These annotations indicate where feedback is desired
- I would like all comments to be made directly in the document therefore there are cream-colored boxes to provide answers.
- As you read through the document, please feel free to add additional comments with the comment tool under the review tab to convey feedback about the resource.
- Upon completing the annotated document, please save as "Educator's Guide & Reflective Choice Board Part 2 and attach in an email.

Make sure you download the document for proper formatting.

After completion of Part 2, data will be analyzed, and resources will become available to agriculture educators for their utilization. I look forward to receiving your feedback.

Thank you!

Appendix B: Part 1- Reflective Questionnaire

Instructions: Please provide an answer to these open-ended questions that focus on the utilization of reflection in the classroom and your personal experiences with reflection during instructional times.

1. Describe your position within education. (*Ex: job description, content area etc.*)

2. Provide a brief overview of your experiences with experiential learning and reflection.

3. Which reflective methods do you incorporate into your classroom curriculum?

4. What are some interest approaches that are utilized to bring active learning into reflection?

5. Do you have certain skill/reflective criteria that you use? If yes, explain.

6. Describe a teachable moment that has had an impact on the use of reflection in the classroom.

7. Is there a particular reflective activity that you like to utilize in the classroom? If yes, would you please describe it?

Appendix C: Part 2 Educator's Guide & Choice Board

Reflecting on Reflections:
Creating Connections in Agriculture
Utilizing Reflective Tools



Educators Guide
Ms. Emily Nolen

Introduction to the Resource

As an educator within the agriculture industry, I have learned the importance of reflecting on experiences as this industry is interconnected in a multiplication of ways. Therefore, the purpose of this educator's guide and Choice Board is to provide agriculture educators with an adaptive tool that can be utilized in the classroom to open the eyes of young agriculturalists as they are actively engaging in experiential learning opportunities.

Included in this Guide:

- A lesson plan explaining the utilization of the semester-long student choice board
- A lesson plan to begin the reflective process in the classroom using a variety of medias
- Examples of experiential learning and reflective opportunities that I have incorporated into an agriculture education program.
- Student and Educator Resources that supplement the Student Choice Board as well as provided extension activities for students who work at different paces.
 - Please note that many resources were compiled from Teachers Pay Teachers; an educational website with instructional resources that can be downloaded and/or purchased for use in the classroom setting.

Tips for using this Guide:

- Modify this resource to fit your classroom standards; many agriculture education programs focus on an array of agriculture and natural resource clusters that teach students an array of hands-on applications.
- Take it in increments—if you are beginning your educational journey, don't feel the pressure that reflection must happen every week during the semester. Slowly incorporate parts of this resource when you feel the time is right!
- Communicate with other team members or educators. You may find that this resource could be a collaborative tool that could help students further their agricultural relationships and career connections.
- Try it yourself! As the students are engaging in a reflective activity, take some time to personally reflect on how you presented the instructional material and utilize this time to make future modifications for next time.



Student Choice Board Lesson Plan

Students Objectives: By the end of the semester, students should be able to:

1. Refine and utilize reflective tools to create connections between instructional material and hands-on activities to develop a deeper understanding/relationship within the realm of agriculture.
2. Utilize creativity and abstract methodologies to complete the various reflective activities

Materials:

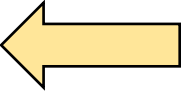
- Student Choice Board Handout (Found at the end of the Educator's Guide)
- Computer/Laptop with Camera & Microphone
- Writing Utensils: Pens, Pencils, Colored Pencils, Markers
- Reflective Templates: Cartoon, Learning Journal, Blog etc.

Agenda/Activity Timeline:

1. Week #1: Introduction to the Course & The World of Agriculture:
 - a. Provide the students with an overview of course competencies and classroom expectations as well as examine the various agricultural facilities that will be utilized throughout the semester
 - b. Recognize the important contributions of the agriculture industry such as communication, collaboration, and creativity
 - c. Engage in various activities such as the Introduction to Reflection Activity
 - i. Have individualized student meetings about semester reflective goals and begin a “silhouette”
2. Week #2 - #17: Experiential Learning & Reflection
 - a. Complete classroom instruction, CTE Competencies, active assessment, and experiential learning activities
 - b. Conduct an individualized student meeting to discuss their reflective practices during the middle of the course (Week #9)
3. Week #18: Semester Wrap-up
 - a. Have students complete their final reflective activity and schedule a “wrap-up” meeting. They can conclude the semester by adding to their original “silhouette”

Question: Are there any other activities/assessments that you think could be utilized to wrap-up the semester? If yes, please provide examples.

Introduction to Reflection Lesson Plan



Student Objectives: Students should be able to:

1. Define reflection and create connections to previous personal experiences
2. Practice active reflection by utilizing various medias to create their own definition of agriculture.
3. Create a reflective goal to accomplish during the semester.

Question: Do you have any suggestions for improvement of this lesson?

Materials:

- Student Choice Board & Resource Packet: Page #1 & #2
- PowerPoint Slides
 - Paul Harvey: So, God Made a Farmer & “We are FFA” Video
 - Jason Aldean: Amarillo Sky Music Video
- Notebook Paper & Highlighters

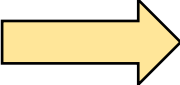
Agenda:

1. Bell Ringer Question: When you were in elementary school, what was your dream career?
2. Introductory Assignment (10 minutes): Give students a moment to quietly complete the questions regarding reflection on Page #2 in the Student Reflective Choice Board Packet
 - a. Remind students that these answers will aid in the success of the upcoming assignment.
3. What is Agriculture & What does it mean to You? Activity
 - a. Students should watch the media provided then write a brief reflective paragraph
 - b. After the writing the reflection, students will highlight key words/characteristics that stand out to them.
 - c. Students will then utilize their reflective paragraph and highlighted characteristics to create a connection and provide a summary to the class.
4. Activity Wrap-Up/Assessment:
 - a. Students will contribute to the classroom word cloud that is built upon the word agriculture by adding three contributing thoughts from their personal reflections.
 - b. These contributions will then be the foundation for their reflective semester goal.

Experiential Learning & Reflective Opportunities

Below is a list of examples of various hands-on activities that I incorporate into my classroom curriculum that could be reflected upon using one of the various activities provided in the student choice board:

1. Injection Methods
2. Blood Flow & Blood Samples
3. Planting & Maintaining a Vegetable Garden
4. Building Fence
5. Pregnancy Detection in Cattle
6. Soil Samples
7. Clinical Exams—large & small animal
8. Flower Dissections
9. Animal Handling & Chute Designs
10. Labeling External Anatomy
11. Herd Management Techniques
12. Anatomy of the Integumentary System: Layers of the Skin
13. Feed Ration Challenges (Pearson's Square)
14. Digestive System Demonstration
15. Skeletal System Models
16. Animal Identification: Ear Tagging
17. Cattle Showmanship
18. Constructing Planter Boxes
19. Gingerbread Livestock Facilities
20. Playdough Pest Models
21. Poultry Evaluation
22. Tree/ Leaf Identification
23. Recordkeeping
24. Germination Tests
25. Bull Soundness Exams



Question: List 4 other experiential learning activities that could be added to the list of ideas that involve reflective practices:

Student & Educator Choice Board Resources

I have created a list that incorporates tips and strategies for each individualized activity found on the Student Choice Board. Due to resource accessibility, there are some implementation and modification suggestions included to confer with online technology or traditional paper/pencil methods!



Cartoon/Comic Strip Template

- This option has a large array of creative freedom as students can develop a cartoon/comic strip to incorporate a variety of information while reflecting. It is also a flexible tool as it can be utilized by print or Google Slides.
 - Google Slides Link: [Cartoon/Comic Strip Editable Template](#) (PDF found in resource folder)
 - Make sure when utilizing the online template that students make a COPY.
 - Students should use color on the PDF printable. If they choose to utilize the online template, they can add colored shapes and textboxes.
- Activity Extension: Have the student place a keyword or sentence from the curriculum or experiential learning activity under each illustrated box.



Tips for Writing an Elevator Speech

- This activity provides students with ample opportunities to reflect while practicing a skill that aids in career readiness. In utilizing this method, students need to understand the components of an elevator speech:
 - Article Link: [How to Give an Elevator Speech](#)
 - Video Link: [Elevator Speech Explanation](#)
- Students will need to make modifications to their speech as we are utilizing it in a different way than originally intended. Have students use the following three questions to get started:
 - What was the goal of the activity?
 - What did you learn?
 - How can you apply it to your future?
- Have students practice presenting their elevator speech to a peer (if comfortable) so they can get feedback!

Question: Are these ideas satisfactory or what needs to be changed?



Peer Interviews

- This tool can be easily modified and adapted to a variety of classrooms as you can make this simplistic or extensive depending on your reflective expectations. Here are a couple of examples of ways to use this tool:
 - Have students create their own interview questions to ask a partner
 - Students can interview multiple classmates and create a reflective conclusion on the information gathered
 - Create a problem/solution interview, where the interviewee must provide solutions based on the learned skill
- Here is a link for Google Forms, which would be an easy method for students who like technology: [New Google Form Template](#)



Scrabble Board Example & Modifications

- I have provided an example of a Scrabble Board in the resource folder of how I implement this tool in the classroom. Here are a couple tips to utilize as directions:
 - Have students use the word reflection, skill name, or facility name as their foundation word
 - Students can build off a word in all directions
 - Dive deeper? Make them use different colors on their board to represent reflective categories and skills to make those connections!
- Looking for another fun way to incorporate reflection? Have students use the word “Agriculture” as their foundation and work with a partner/small group to see how many words they can connect to their board. Fast forward to the last week of school after learning the course curriculum and have students “re-do” their board and they should see a tremendous improvement!



Blog Post Resources

- As students rely on social media platforms for all their information, I find this blog activity as a way that students can make their voice heard about reflective agricultural experiences! Here are some links to free blogsites that students can access:
 - <https://edublogs.org/>
 - <https://wordpress.com/>
- While this activity is heavily reliant on technology—you could always modify this reflective assignment by turning it into a newspaper article or a hand-written letter addressing the class.

Question: Are these ideas satisfactory or what needs to be changed?

- Looking for further involvement? If a student creates a well-executed and thought-out blog, see if the school would post it on its social media pages or include it in a student spotlight!



Model/Demonstration Ideas

- I like to compare this activity to “How to make a Peanut Butter & Jelly” instead of creating a physical 3-D model of the ruminant system. The goal of this activity is to provide students with the opportunity to really think about the skill learned and how they can take this information and efficiently relay the information to someone new to the topic. Here are a couple of ways you can incorporate the activity:
 - Partner Reenactment—Teach them the skill while giving instruction.
 - Use props/classroom objects to demonstrate the task
 - Physically Create—use Playdough to build a model and explain.
 - “Build a House”- Take index cards full of reflective thoughts and utilize the card to build a model full of reflective “structure and support”
- Pinterest is a great resource for educators to find more inspiration!



Exit Slips

- While this activity is seen as an “easier” option for students, this method provides students with an entryway into active reflection. I find this method to be a great printable tool, so that you can provide students with handwritten feedback to utilize for future reflection. Below are some questions that you could add to the editable template in the future:
 - Name a high/low about the skill you learned:
 - What was your biggest takeaway?
 - How can you connect the skill back to the classroom or your future career?
 - Provide 5 key words that help build a connection between the hands-on application and reflection?
 - Rate the activity on a scale of 1-10 and provide reasoning behind your answer:
- Want to incorporate technology? Canvas, Google Classroom, and Moodle allow for teachers to create discussion boards that students can reply to online

Question: Are these ideas satisfactory or what needs to be changed?



Learning Journal Templates

- A Learning Journal is a concrete way of summarizing information for the students as it allows the students to dip into a variety of reflective methodologies as the journal contains the following:
 - Creating an illustration that represents the material
 - Connections & content elaboration
 - Tips for your future self
 - Knowledge and key concepts gathered from the activity
- A template including these methodologies is found in the resource folder
- This activity can be utilized in other ways in the classroom as well—I use a Bell Ringer/Learning Journal Notebook system as a part of my classroom management system to begin class and provide weekly reflection.
- If you are looking to use this online, you could create an ongoing Google Document with a provided template for students to fill out as they please.



Brain Dump

- Looking for something quick and effective? Students can set a 60 second timer and write down as many reflective thoughts as possible!
- I have provided a template in the resource folder that can be printed, copied, and cut in half that equate to the size of a brochure.
- I have also provided some thought/guidelines for students that can be uses when explaining the task:
 - Be creative! Use key words, illustrations, punctuation etc. to make the most of your time limit.
 - Don't worry about it looking organized—messy means that your brain was concentrated on the topic and has a lot of information to provide!
 - This is just the start of reflection; you will have time to reflect on your initial reflection.
- This link has a very thorough explanation of a brain dump and could be utilized as a printed handout for students who like to have a copy of the directions: [The Steps of a Brain Dump](#)
- Want this activity completed on the computer? Create an interactive Flipgrid. [Flipgrid Educator Instructions](#)



Graphic Organizer Ideas

- For students who like organization or strategic planning, a graphic organizer is a great tool for students to reflect and build connections. Here are several

Question: Are these ideas satisfactory or what needs to be changed?

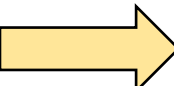
templates that could be used for an array of experiential learning activities completed in the agricultural setting: (In resource folder)

- Template#1: Venn Diagram
- Template #2: Sequencing Chart
- Template #3: Foundational Template
- This link has TONS of interactive PDFs: [Interactive Templates](#)
- This could also be used as an assessment tool like the Scrabble Board, to see how much progress a student has made throughout the class



Writing a "Recipe"

- This activity is a unique way of explanation and reflecting as students bridge the gap between the ingredients/instruction and the output of the recipe/completed activity. This could be a great introductory active for students learning how to reflect!
- To complete the activity with classroom resources, students can:
 - Utilize Google Slides to make interactive steps for the recipe
 - Use index cards to write out the recipe
 - Provide illustrations on the recipe card
- Here is the link to Teachers Pay Teachers that have some PDFs for purchase: [TPT Recipe for Success](#)
- Looking for an extension? Students could make it into a game, cutting the recipe into strips and let others reflect on what they learned by putting the recipe back together!



Group Discussion Pointers

- While the mere thought of discussion can seem boring to students initially, there are a variety of creative ways that we could implement reflective discussion with a group of students. Here are some suggestions:
 - Create a question dice, roll the dice, answer the questions, and have students record their answers on an answer sheet.
 - Collaborate on a Google Jam Board, where students can edit and share
 - After completing the discussion, play charades with the information presented.
 - Gallery Walk: Have students write out their thoughts and post them around the classroom. They must travel to read all the clues then come together as a group and discuss the points in the "gallery"

Question: Are these ideas satisfactory or what needs to be changed?

- In addition to the various creative ways, this would be a prime opportunity for students who would like to obtain leadership roles to practice effective notetaking!



Vision Board Suggestions

- A Vision Board is a reflective activity that allows students to create connections abstractly as they utilize a variety of resources in their reflection. While a vision board is a very personalized method, here are few suggestions for a successful product:
 - To create the physical board, provide students with a Manila folder to keep the vision board organized and protected
 - Find agriculture magazines that can be cut/modified for accurate images
 - Gather a shoebox or crate full of unique vision board supplies that students can access as they please throughout the semester.
 - If students wanted to create an online vision board, Canva has a variety of free templates that students could access ([Canva Templates](#))
- Additional educators note this would be a great activity to use as a Sub Plan to provide some freedom for the student while ensuring reflection is occurring.



Tweeting Template

- Provided in the resource folder is a basic “Tweet” Template that you could make copies of in advanced for students to grab as needed.
- To dive deeper--- have student write the tweet and then share it with another student/staff, to gather a response and reaction to strike a conversation!



Game Links

- Here are links to online game platforms that students can choose a template of their choice, add questions, and create an interactive game for all their classmates to play in the form of a “game show”:
 - <https://kahoot.com/>
 - <https://www.gimkit.com/>
 - <https://www.blooket.com/>
- Technology issues? Have students create matching game based on the information/skill presented.

Question: Are these ideas satisfactory or what needs to be changed?

Suggestions for Implementation

1. To help ensure that students are making progress in their reflective practices while creating connections to future goals, you can schedule one-on-one meetings with each individual student at the beginning, middle, and end of the semester to discuss their initial goals and completed activities.
2. Plan out your experiential learning lessons that you would like to incorporate into the classroom—this helps manage the choice board and gives a proactive start to the course.
3. Allow students to modify their template to an extent—they are learning to reflect individually; if making a change constitutes a stronger reflection, perfect! While trusting students to complete thorough assignments, you could have students get modifications approved before they move forward
4. Find a space in your classroom to showcase the reflective work! I have an old bulletin board that I plan to title the “Reflection Wall” and students can hang up their work as they please. You could even extend this as a classroom management tool to create a process chart to help students reach reflective goals.
5. To ease the use of a variety of materials and ensuring everyone knows where to find materials/handouts, create a resource station with shoe box organizers or folders that house all the ins and outs. This can also create an easy alternative for a substitute, as students will know where to find their materials and resources.

Here are additional links to explain activities in the choice board if needed!

<https://kirstie-parker.com/2017/12/09/top-10-creative-reflection-activities/>

<https://educationrickshaw.com/2017/10/26/5-reflection-activities-to-help-students-glow-and-grow/>

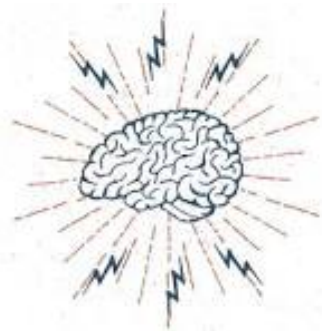
<https://www.celt.iastate.edu/instructional-strategies/learning-activities/powerful-endings-and-reflection/>

<https://docs.google.com/document/d/1akRQXwtP0HYkMH6c4lZtSPomlwlCPjj9RPIRh15atbQ/copy>

Creating the Connection: Reflection & Agriculture Choice Board

Name: _____

Directions: Throughout the semester this choice board will be utilized to learn the value of reflection and grasp an understanding of how you can reflect on your experiences in agriculture. As we progress through the course, there are several rules to utilizing this as a beneficial tool:



- Every box can only be utilized twice.
- You may choose ONE “bonus” box that can be used for a third time.
- On the day of completion, you must sign, date, and receive my signature to keep accurate records
- At the end of the semester, place a star in your top 3 reflective methods you found most useful.



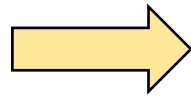
Question: What suggestions do you have for the instructions provided for student use of the Choice Board?

STEP #1: Before we begin, let’s take a moment to define the term reflection and recall past experiences that have utilized reflection:

1. How would you define reflection?
2. Write a list of five (5) experiences/activities that you have utilized reflection:

3. How do you think reflection plays a role in agriculture?

4. Set a goal: What would you like to get out of this reflective assignment?
How can it relate to your future goals or aspirations?



STEP #2:

Question: Do you have any suggestions or modifications that could improve this product?

Utilize this choice board to learn the various reflective methods that can help build a deeper connection to the material presented or the task completed. Remember that you must follow the rules above!

<p>Create an illustration or cartoon describing a skill you learned within the hands-on practice</p>	<p>Create an elevator speech to relay the importance of the agricultural skill.</p>	<p>Interview a classmate regarding their experience with the activity</p>	<p>Develop a “Scrabble board” utilizing the skill, steps, and interconnected working relationships</p>
<p>Write a blog post that you could publish to the community to teach them about our classroom topic</p>	<p>Press Record: Create a short video explaining your understanding of the skill.</p>	<p>Develop a model or demonstration tool to reflect on information learned.</p>	<p>Complete an exit slip that has generalized questions about your experience.</p>

<p>Utilize a page in your Learning Journal to recall concepts and create connections.</p>	<p>One Minute Brain Dump: Place 60 seconds on a timer and write as much as you can regarding the skill/concept.</p>	<p>Create a Mind Map: Develop a graphic organizer of your choice to build connections between agricultural skills.</p>	<p>Write a recipe for success: Include the “ingredients” and method utilized to complete the task.</p>
<p>Lead a group discussion with 3 peers that emphasizes the material or skill developed.</p>	<p>Develop a Vision Board: Utilize photos, clipart, online text to explain your future goals with the skill.</p>	<p>Time to Tweet: Write a #hashtag that summarizes your thoughts that you can incorporate into a Tweet</p>	<p>Game Time: Create a Kahoot or Blooket that recaps the pertinent information that other students should recall!</p>