

Characteristics of Effective Instruction and Student Engagement: A Case Study of Two Exemplary Florida Agriculture Teachers

C. Gilbert¹, R. G. Easterly², J. C. Bunch³, S. Galindo⁴, J. Dossett⁵

Abstract

Student disengagement has been an ongoing problem for educators in the United States. Engaging students is critical to ensuring students see the value of their education. The purpose of this exemplar case study was to understand how effective teaching impacts student engagement of high school agriculture students in Florida. Two Florida agriculture teachers, identified as exemplary agriculture teachers, and 22 students served as participants. Three methods of data collection were involved in this study: teacher interviews, student focus groups, and teacher observations. The top five characteristics of effective teaching described by Rosenshine and Furst (1971) were used as *a priori* themes for the data analysis. These characteristics were clarity, variety, enthusiasm, business and/or task-oriented behaviors, and student opportunity to learn criterion material. The teachers used all five of the characteristics to engage students. Students reported high levels of engagement and positive feelings about class. Further studies should be conducted to replicate the study with a larger group of exemplary agriculture teachers. The study recommends that teacher educators considering teaching pre-service teachers how to demonstrate the characteristics of effective instruction to impact engagement. We recommend agriculture teachers consider reflecting on their use of the characteristics of effective instruction.

Article History






Received: October 17, 2022

Accepted: January 6, 2023

Published: January 18, 2023

Keywords

qualitative observation; effective teaching practices; Student Content Engagement Model

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Introduction and Problem Statement

The purpose of agricultural education has been to prepare students to be agriculturally literate citizens and members of a skilled agricultural workforce (Roberts & Ball, 2009). To meet these goals, students must be engaged in their classes. Student engagement has experienced a downward trend, particularly as students get older (Benner et al., 2019). This disengagement is particularly acute for high school students in low-income or rural areas (Washor & Majkowski, 2014). Disengagement in school is associated with feelings of hopelessness (Hodges, 2018) and a lack of preparation for lifelong learning (Washor & Mojkowski, 2014).

Engaging students in agricultural education classes is critical to meet the demand for agricultural careers (Kuhn, 2020). Around 60,000 agriculture and other related job positions are expected to come open over the next five years (Fernandez et al., 2020; Kuhn, 2020). Agriculture education focuses on giving students opportunities to prepare and apply the knowledge and skills they learn in the classroom through their participation in FFA activities and supervised agriculture experience projects (DiBenedetto et al., 2015). Agriculture education readies students for productive and satisfying careers in agriculture, food, fiber, and natural resource systems (National FFA Organization, 2019). Student engagement is necessary for students to capitalize on their learning in agriculture education. Students have multiple opportunities to be engaged, whether it is through FFA, SAE, or the classroom. Engagement begins the process of developing skills students need to enter a job out of high school or to pursue higher education in an agricultural field.

Theoretical and Conceptual Framework

Student content engagement (SCE) model was the theoretical framework for the study. Student content engagement is considered a critical component for learning (McLaughlin et al., 2005). McLaughlin et al. (2005) proposed the student content engagement model. McLaughlin et al. (2005) defined content as all stimuli that the student confronts during the instructional time. They defined engagement as the cognitive interplay between the student and the material being learned. There are three categories of influences of learning: the student, the instructional material, and the engagement of the two. For SCE to happen, four components must exist: subject matter content level, occasion for processing, physiological readiness, and motivation (McLaughlin et al., 2005).

According to Baines and Stanley (2003), high school students viewed school as dull and irrelevant and called for a renewed emphasis on student engagement. Carlson et al. (2011) found evidence of a lack of cognitive engagement in high school students. Students claimed their teachers did not use effective teaching practices. The researchers also saw weak emotional connections that factored in from the school culture (Carlson et al., 2011). Quin et al. (2017) found students who perceived their teachers having demonstrated quality instruction were more likely to have higher behavioral and emotional engagement. There have been calls for further research into teacher behaviors and student engagement. Carlson et al. (2011)

suggested more research should be done to determine the factors that promote and discourage engagement. Quin et al. (2017) advocated for more research into how quality teaching influences student engagement.

Aspects of agricultural education seem to encourage engagement. De Lay and Swan (2014) found students struggled with teacher-centered approaches but thrived in student-centered approaches in the agricultural education program. Friedel and Anderson II (2017) found students in the agricultural education programs showed higher degrees of behavioral and emotional engagement compared to other students surveyed in nationally. However, there was no significant difference between levels of cognitive engagement of the high school agriculture students and the high school students nationally. Friedel and Anderson II (2017) found a positive relationship between specific teaching practices and increased student engagement. Van Uden et al. (2014) found that interpersonal teacher behavior was a significant factor for student engagement. Estep and Roberts (2013) reported behaviors such as discussions, projects, collaborations, and questioning, and varying teaching methods led to student engagement. Estep and Roberts (2013) suggested further research into the relationships of teacher behavior to student achievement. De Lay and Swan (2014) argued agriculture teachers must pay attention to how their students view their academic core classes so their classes do not follow the same path to apathy. De Lay and Swan argued agricultural education programs need to be looked at holistically to review how to best serve their learners.

Purpose

The purpose of this exemplar case study was to understand how effective teaching leads to engagement of high school agriculture students in Florida. The field of agricultural education must understand learning and teaching environments to promote best teaching practices that will contribute to providing solutions to the challenges facing agricultural education and society (Edgar et al., 2016). The following research questions were used in this study:

1. What are the characteristics of effective teaching seen in the experiences of exemplary high school agriculture teachers' moments in the classroom?
2. What are high school agriculture students' perceptions of engagement when the characteristics of effective teaching are used?

Methods

In this study, the exemplary agriculture teachers were teachers that were deemed highly likely to use Rosenshine and Furst's (1971) five effective teacher characteristics of clarity, variability, enthusiasm, task-orientation, and opportunity to learn criterion material.

University agriculture education faculty and the state agricultural education coordinator each identified 20 exemplary agriculture teachers. Teachers appearing on multiple lists were then compiled for a final list. Two teachers were selected from the final list who exemplified the case. Qualitative observations and interviews were conducted. Three data collection techniques

occurred: (a) teacher observations, (b) student focus groups, and (c) teacher interviews. Teachers followed their planned activities and approach for the day of teaching in the classroom. Teacher interview guides were developed by the researchers. For the teacher interviews, data were collected through semi-structured, one-on-one interviews conducted in person. The questions asked related to exemplary agriculture teachers' moments of engagement and disengagement, as well as their use of the characteristics of effective instruction during those moments. During the teacher observations, the researcher observed the teachers with a teacher observation rubric from the University of Florida education department. This rubric evaluated teacher performance based on Rosenshine and Furst's (1971) five effective teaching characteristics. The researcher observed two class periods taught by each of the teachers during the two days of the visits.

Five to twelve students from each of the two exemplary agriculture teachers were asked about their perceptions of the teachers' use of the characteristics of effective instruction and how they impacted their engagement in the class. The interview guides for the students were developed using McLaughlin et al.'s (2005) SEC. The student focus group questions focused on the four components of the SCE Model, (a) motivation, (b) physiological readiness, (c) subject matter content level, and (d) occasion for processing.

A deductive approach was used to analyze the data. Deductive coding was used because pre-determined codes were determined *a priori* (Medelyan, 2020). Teacher observation guides, along with any extra notes, were scanned electronically. The teacher interviews and student focus groups were transcribed verbatim. The qualitative data analysis computer software NVivo was used for coding. Using pre-determined codes based on Rosenshine and Furst's (1971) characteristics of effective instruction, data from the teacher interviews, teacher observations and student focus groups were coded.

The four components of qualitative rigor were addressed. These four components were identified and posited by Lincoln and Guba (1985). The four components are credibility, transferability, dependability, and confirmability. Credibility refers to ensuring that the findings and interpretations will be credible. Triangulation was in place in this study to establish credibility. The study used three different data collection methods. Using multiple methods of data collection can ensure a deeper understanding about the data (Cohen & Crabtree, 2006). Qualitative researchers use triangulation as way to provide an account that is rich, strong, well-developed, and all encompassing (Cohen & Crabtree, 2006). Transferability involves exhibiting that the findings can be applied in other contexts. In order to address transferability, the researcher in this study provided detailed thick descriptions in order to fully describe each exemplary case of teaching (Lincoln & Guba, 1985). Dependability is the idea that the findings are consistent and replicable (Cohen & Crabtree, 2006). To address dependability in this study, an external qualitative researcher overlooked the process and the products of the study (Cohen & Crabtree, 2006). Confirmability is how much the findings are neutral and reflect the respondents and not the researchers (Cohen & Crabtree, 2006). The technique employed to establish confirmability in this study was a reflective journal kept by the researcher (Guba, 1981).

Findings

Students reported high levels of engagement and positive feelings about class. They also had positive perceptions of the displays of the Rosenshine and Furst's (1971) characteristics of effective instruction by their teachers. Students in each of the four focus groups agreed they were engaged in classes with Mr. Berry and Ms. Riley. One of Mr. Berry's students said, "I would say we're all highly engaged because we want to be here." Some of Ms. Riley's students had similar responses. One of her students said, "[I am] more engaged in this class, honestly, this is my favorite class." There were five *a priori* themes and one emergent theme.

Theme #1- Use of Clarity and Student Engagement

Mr. Berry and Ms. Riley's students' responses showed positive perceptions of their use of clarity in the classroom. One of Mr. Berry's students said:

When the topics were hard, he kind of broke them down for us and he would take more complex ideas and break them up into simpler ideas, so that we were all able to learn because we're all different and we all learn on different levels. But when it was broken up, we can all learn the same but at our own pace.

One of his students mentioned, "He's very good at explaining in different ways." Another student stated, "[some] people don't understand it. But for those people, he will explain everything and draw stuff out and I feel like it makes it easier." Ms. Riley's students also had similar responses. Students believed her use of clarity "[made] it doable" and "[they] understand so [they are] not left behind." These responses showed Mr. Berry and Ms. Riley's use of clarity helped their students understand the concepts and motivated them to engage.

Mr. Berry also used his experience as a teacher reading students' body language to gauge his speed in presenting the material clearly to his students. As he lectured, he moved around the room and made eye contact with students.

Mr. Berry and Ms. Riley also spoke about the importance of clarifying instructions to their students. Ms. Riley said she tries to make sure that "instructions [are] fantastic, and very clear." She went on to discuss how important clear directions are with students. She said:

I'll try to have [instructions] written and try to repeat them several times and I'll even read the paper with them. Because kids are horrible about reading instructions...I try to make sure that, explicit instructions are there. I read it, they repeated it.

Theme #2- Use of Variety and Student Engagement

The second theme found in this study was the use of variety and student engagement. Mr. Berry and Ms. Riley's students' responses show positive perceptions of their use of variety in the classroom. One of Ms. Riley's students said:

Yeah, like we'll do a Quizlet, or do a worksheet, or do website, vocabulary. It's like a whole bunch of stuff about the topic and then we'll switch to the next topic and a whole bunch of different stuff that we didn't do before. It's just a variety every time.

When asked what makes Ms. Riley's class not boring, one student responded, "the amount of activity we'll be doing." A student also stated that variety made the class fun. That student said, "she tries to make it fun for us, [by] mix[ing] it up." Another student said, "I thought [the class] would be boring" but found to the course to be enjoyable. Mr. Berry's students felt the same way. One student alluded that they saw more variety in their agriculture class with Mr. Berry than they did in academic subject classes. That student said, "Ag isn't like English class or like the Spanish class or like science class. They throw notes at you and there like okay figure it out." Another student added that it was more than just bookwork in Mr. Berry's class. That student said, "He doesn't read straight from the textbook." These responses showed that Mr. Berry and Ms. Riley's use of variety helped decrease monotony for their students and motivated the students to engage.

Variety was present in both teachers' high engagement lessons. According to Ms. Riley, "I think that's the key is changing it up. Trying to involve everyone, but also trying to keep it interesting enough to where they're not bored." She mentioned several types of activities she utilizes. She said, "I try to incorporate different activities, videos, games, and such that kind of helps it be more engaging to the students and instead of bookwork all the time." Mr. Berry spoke about the variety in his high engagement lesson on parliamentary procedure. He said:

I would say yes [when asked about his use of variety]. Because they took notes, then they verbally responded. I lectured, which meant I verbally explain the content and then showed they're understanding of the content by their verbal demonstration.

Mr. Berry believed in incorporating variety in his teaching. Mr. Berry said he likes to "mix things up." He also said he has been "trying to use more videos and social media and ways to incorporate more technology and trying to engage them that way."

Theme #3- Use of Enthusiasm and Student Engagement

The third theme found in this study was the use of enthusiasm and student engagement. Mr. Berry and Ms. Riley's students' responses showed positive perceptions of their use of enthusiasm in the classroom. One of Ms. Riley's students said, "her attitude just helps a lot." Another student added, "[she is] very outgoing...outgoing and interactive." One of Ms. Riley's students spoke about how her attitude helped show them she cared about them and their learning. That student said, "her attitude and that if you're going to care about this then I'll show you I care. I'm going to make sure you learn stuff." Students also detailed how her attitude has helped the classroom environment. One student said, "[she] make[s] sure we're all happy. If we're like upset, she'll come and talk to us and stuff and, yeah, she's, make sure everyone's [ok]." Mr. Berry's students also had positive responses about his use of enthusiasm. One of his students said, "When we come into class, he's always real nice he's always got a smile on his face and he's in a great mood every time we come in." One student talked about how Mr. Berry's enthusiasm pushes them to learn. That student said ". . .he pushes everybody because he knows we all have potential." Another student said, "And like the way he acts and his personality, it gets you excited to learn and be in a classroom with him." These responses

showed that Mr. Berry and Ms. Riley's use of enthusiasm helped positively shape students' attitudes and perceptions of the class and motivate their students to engage.

Enthusiasm was found to be displayed in both Mr. Berry and Ms. Riley's lessons with engagement. In Ms. Riley's interview, it was clear that enthusiasm was present in the lesson as well. When asked about her moments displaying enthusiasm during this lesson, she alluded to being very enthusiastic. Ms. Riley said:

I'm 34 years old, and we've always had pigs, so [I am] super passionate about show pig industry and so anytime I can talk about that, whether it's just showing pigs or talking about our family operation, the phases of production, I don't know, I feel like I don't have to make myself be passionate, it just kind of comes with the job. Just because that's the topic that I really enjoy.

She talked about the importance of being enthusiastic when she teaches. She said, "[I] try to put myself in their shoes. So, if I feel like I'm not enjoying it, then probably teenagers not going to be enjoying it. So just kind of like keeping that that mindset." When Mr. Berry spoke about his lesson on parliamentary procedure he stated he felt he had good engagement from his students, enthusiasm was seen. He spoke about how teaching this topic gets him excited because he loves the National FFA contest associated with the topic. He said, "And then we move forward with the Parli. Pro. Just because of when it comes to FFA that that's kind of the contest that gets me excited." He said that parliamentary procedure "gets me excited" and that he is "passionate about that." He also spoke about the importance of being enthusiastic as a teacher. He said:

Enthusiasm is important because with anything that we teach or in coaching. If you're not enthused about that [the students are] not going to be. Because if you're not, why should they be? And I really think that's very important.

Theme #4- Use of Businesslike and/or Task-Oriented Behaviors and Student Engagement

The fourth theme found in this study was the Use of businesslike and/or on-task behaviors and student engagement. Mr. Berry and Ms. Riley's students' responses showed positive perceptions of their use of businesslike and/or task-oriented behaviors in the classroom. One student spoke about how they know when they come in that Ms. Riley takes her job seriously. That student said, "like how she [carries] herself and how she cares about her job. How she takes it serious." Another student added that Ms. Riley keeps them on top of what is going on in her class and that gets them to look forward to their next class. One student added on to this saying, "she tells us what we need, goes over what we are going to do today, tells us what's in the future to get it done. Making sure our submissions are on schedule and stuff." It was clear from student focus groups that students were impacted positively by the businesslike/task-oriented behaviors used by Ms. Riley. Mr. Berry's students also had positive responses towards his uses of businesslike and/or task-oriented behaviors in the classroom. One student mentioned how these behaviors keep them accountable. They said:

He keeps us accountable with it because he has a bell ringer on the board every day when we come into class, we're supposed to write it down and he keeps us accountable by doing bell ringer quizzes throughout the year.

When asked what contributes to the effort the students put in, one student responded, “expectation.” Mr. Berry’s students all knew the expectations. Students alluded that the way Mr. Berry runs class keeps them at ease. One student said, “And especially as Mr. Berry he doesn't purposely make it stressful on us, because he reminds us, weekly, that we're only in high school once and that we shouldn't be stressed out.” These responses show that Mr. Berry and Ms. Riley’s use of businesslike and/or task-oriented behaviors helped keep students on track, provided order for students, and motivated their students to engage.

Theme #5- Use of Student Opportunity to Learn Criterion Material and Student Engagement

Mr. Berry and Ms. Riley’s students’ responses showed positive perceptions of their use of behaviors to promote student opportunity to learn criterion material in the classroom. One of Ms. Riley’s students said, “[she tries] to explain everything step by step and gives us an opportunity to learn it, instead of just trying to make us do it.” One student spoke about how Ms. Riley provides feedback to help them know where they are at in comprehending the material. That student said, “[we can] share it with her and see if it was up to what we needed to be able to understand at the time.” Mr. Berry’s students also responded positively to the behaviors used by him to promote student opportunity to learn criterion material. One of his students added how Mr. Berry works to better their learning experience. That student said, “then he'll post like extra links and stuff like that just to better our learning experience.” A student also spoke about Mr. Berry’s willingness to help them learn the material. They said, “If we need help, he'll come and help us.” Additionally, a student spoke about Mr. Berry’s use of his personal experiences to add value to what they were learning. That student said, “He's able to like interject his own personal background into the class, which helps us absorb more information than if we were just studying a textbook.” One student added that, “I've been able to open my mind up to other aspects of agriculture that I'm not around at home.” Another student said, “I [have] learned something new every year from this class.” These responses show that Mr. Berry and Ms. Riley’s use of behaviors used to promote student opportunity to learn criterion material helped their students learn material and motivate the students to engage.

Theme #6- Teachers Facing Challenges in Engagement

The final theme found in this study was an emergent theme that teachers are facing challenges in engaging students. Ms. Riley said:

Over the last 10 years of teaching, that's probably [been] the biggest challenge is to try to keep them engaged and just to try to get them motivated. And I don't really have the answer to that. I'm still trying to figure out how to motivate kids.

She added, “sometimes it's hard for me to comprehend these students who don't want to try.” She voiced more frustrations about getting students engaged as they got into high school. She said:

I mean, I can think of a class right now, where there's a handful of students who just about every day, they're going to come in, put their head down. And so you really have

to just beg them or sit there and kind of do it with them to get them to do anything. And, unfortunately, that's just how it is sometimes.

Mr. Berry talked about his challenges with engagement in his classroom. He said that his challenges came from being consistent and diverse in interest approaches and other tactics to engage students. He said, "so you know just being consistent, and being diverse is important, I think that is the hardest thing. And then staying up with whatever is new, you know, whatever that may be." Mr. Berry said that as an agriculture teacher there are certain times of year that they are busier. He said this impacts how he goes about incorporating interest approaches and other tactics to engage students. He said:

It's hard sometimes to, depending on the time of the year, to have the energy to do a good job of interest approaches and those kind of things. Instead of just saying here, "this is what you need to know, deal with it and go."

Mr. Berry also added that he has seen a change in students. He said "As we move forward in history, we've got a group of kids that are not connected with the real world and have no earthly idea what's going on outside of their smartphone. I call them the YouTube generation." He says that this generation of students is much more into learning with technology. He said, "They all got Chromebooks now, so that's good, that's a great asset but you know trying to always have them focused on what's going on because there's so many other things. It's hard to compete with that Chromebook." Ms. Riley also stated that she feels students are much more into learning with technology. She said, "They like less of interaction with the teacher and more of independent stuff, and I think that's coming from the technological side of virtual learning."

Conclusions, Discussion, and Recommendations

The teachers in this study demonstrated characteristics of effective instruction. Their students noted the instances of effective instruction and reported that it impacted their engagement in the classroom. Each characteristic of Rosenshine and Furst's (1971) characteristics of effective instruction was evident in the observations, teacher interviews, and student interviews. Clarity in the classroom was found to be displayed in student instructions and explaining content to students. Variety was demonstrated by the teachers using varied instructional materials and several teaching methods and student assignments. Enthusiasm was displayed by pleasant moods, positive interactions with students, and authentic displays of enjoyment of the subject. The use of businesslike and/or task-oriented behaviors was displayed by keeping the class orderly and on-task, holding students accountable with their work and behavior, and the use of bell-ringers. The use of student's opportunity to learn was demonstrated by challenging and encouraging students to learn, giving students real life examples to connect material to, communicating the end goals of the lesson, focusing on important material, and not moving ahead until most students have mastered the material.

Mr. Berry and Ms. Riley demonstrate characteristics of effective instruction in the agricultural education classroom. Specific examples of effective instruction were highlighted by students

who mentioned “. . .he pushes everybody because he knows we all have potential.” Another student said, “And like the way he acts and his personality, it gets you excited to learn and be in a classroom with him.” Another student said of Ms. Riley, “I’ve been able to open my mind up to other aspects of agriculture that I’m not around at home.” Also, Mr. Berry and Ms. Riley noted teaching about topics they were knowledgeable about and had passion for, which helped them express these characteristics. Agriculture teachers should be encouraged to explore their passions within agricultural education to enhance their enthusiasm for the subject area. They could also find ways to bring in characteristics of effective instruction for topics in agricultural education. Teachers are encouraged to develop intentionality in delivering clear directions, explaining concepts clearly, using a variety of instructional techniques, and giving students clear tasks related to the content.

These findings hold several recommendations for future research. Future studies could be conducted with larger groups of exemplary teachers and their students. This study was limited to two teachers and their students from the same high school agriculture program. Future research could have exemplary teachers from diverse agriculture programs participate. This study was done at a rural high school agriculture program in Florida. Results could potentially vary if done at urban, rural, and suburban high school agriculture programs.

This study has several recommendations for pre-service teacher educators. First, pre-service teachers could be taught how to demonstrate Rosenshine and Furst’s (1971) characteristics of effective instruction in the classroom. Pre-service teachers are normally taught a variety of different instructional topics on how to impact students. This study recommends that pre-service teachers should be taught specifically how to display these characteristics within the different teaching methods. Pre-service teachers could also be taught how to engage students. There has been a problem with engagement in American schools (Benner et al., 2019; Kuhn, 2020; Washor & Mojkowski, 2014). Teaching methods that increase student engagement should be taught in pre-service teacher education programs. To increase student engagement, pre-service teachers should be taught different behaviors and strategies to implement in their classrooms. This study has multiple recommendations for current agriculture teachers. First, agriculture teachers should reflect on current teaching practices and determine how to properly implement Rosenshine and Furst’s (1971) characteristics of effective instruction in the classroom. Agriculture teachers should also take regular assessments of their students to determine student engagement.

Acknowledgements

We would like to thank Mr. Berry and Ms. Riley, as well as their high school agriculture students.

C. Gilbert: Writing original draft and investigation. **T. Easterly:** Advisor, edited draft, initial review. **J. Bunch:** Draft theoretical framework and methods. **S. Galindo:** Developing methods

and coaching qualitative data analysis. **J. Dossett:** Format article for review and submission and incorporated previous reviewer comments.

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