

An Early Historical Examination of the Educational Intent of Supervised Agricultural Experiences (SAEs) and Project-Based Learning in Agricultural Education

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Abstract

Project-based learning has been a component of agricultural education since its inception. In light of the current call for additional emphasis of the Supervised Agricultural Experience (SAE) component of agricultural education, there is a need to revisit the roots of project-based learning. This early historical research study was conducted to examine the underlying educational intent for the use of the project method. The study was developed to determine the circumstances surrounding the origination of the method and the original intent for the project method, along with events which may have led to shifts in the purpose for integrating project-based learning in agricultural education. Findings substantiate the initiation of project-based learning in agricultural education with Rufus Stimson, who likely intended the method as a way to apply concepts learned in classes. Modern project-based learning has essentially shifted in intent and is now viewed as a method for students to acquire new knowledge and learn new concepts in agriculture as well as other academic areas. The historical examination of this topic allows for context with which SAE reform may be considered, and allows a more complete understanding of the factors behind the shift in intent for project-based learning both in classroom and SAEs.

Keywords: Supervised Agricultural Experience, home project method, historical, agricultural education, Rufus Stimson

Introduction

Agricultural education has long been intertwined with project-based learning. The early days of agricultural education were guided through project-based farms (Hurt, 2002) which paved the way for the passage of federal legislation forever linking project-based learning and secondary agricultural education (National Vocational Education Act, 1917). Although agricultural education has included project-based learning as a required component since the passage of the Smith-Hughes Act, there may have been fundamental shifts in the perceived educational intent of supervised projects and project-based learning in agricultural education.

Without a doubt, Rufus Stimson's project method has made a "profound impact on the vocational education profession" (Moore, 1988, p. 51). Essentially, the project method laid the groundwork for what early agricultural educators believed the Supervised Agricultural Experience (SAE) should be. Stimson (1919) described the intent of the farming project by explaining, "a farming project, as the term is here used, is a thing to be done on a farm, which, preparing to do it and carrying it out to a successful result, involves a thoroughgoing educational process" (p. 42). To further describe the method, Stimson (1919) quoted his description of the project method from a booklet he had previously published outlining the plan

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for Smith’s Agricultural School, which touted projects as “...plots of ground at home...where he [the student] will apply the methods taught by the school on the soil he may someday own” (p. 37-38).

The project method and SAEs in agricultural education today bear resemblance to the home-project method outlined by Stimson, but are not an exact replica. Potential shifts in educational intent for the use of projects in this content area are related to one general philosophical question: Should students in agricultural education complete projects as a way to apply concepts they have already learned in the classroom, or should they complete projects as a way to discover and learn new concepts? With each era of educational reform, philosophical shifts have occurred to change the focus of the intent for agricultural projects.

Understanding the historical background of the project method in agricultural education may prove helpful in determining the role of SAEs today and in the future, and thus is directly related to the American Association for Agricultural Education (AAAE) research agenda priority 5 “to develop meaningful, engaged learning in all environments” (Doerfert, 2011). Agricultural education has changed with the landscape of education, the question remains, is the educational intent of the project method still the same?

Review of Literature \ Theoretical Framework

The origination of project-based learning and SAEs has been a topic included in several quality historical studies in agricultural education, perhaps due to its dynamic beginnings (Hyslop-Margison, 2000; Moore, 1985; Moore, 1988; Knoll, 1997). The theoretical beliefs surrounding the origination of the home-project method and SAEs served to provide the theoretical underpinnings of this study.

The turn of the twentieth century was a time of great change and advancement in our nation (Hurt, 2002). Educational systems were being criticized for doing little to prepare an able workforce (Hyslop-Margison, 2000). The project method originated within this time of educational upheaval. The timeline for the origination of the project-method is shown in Figure 1.

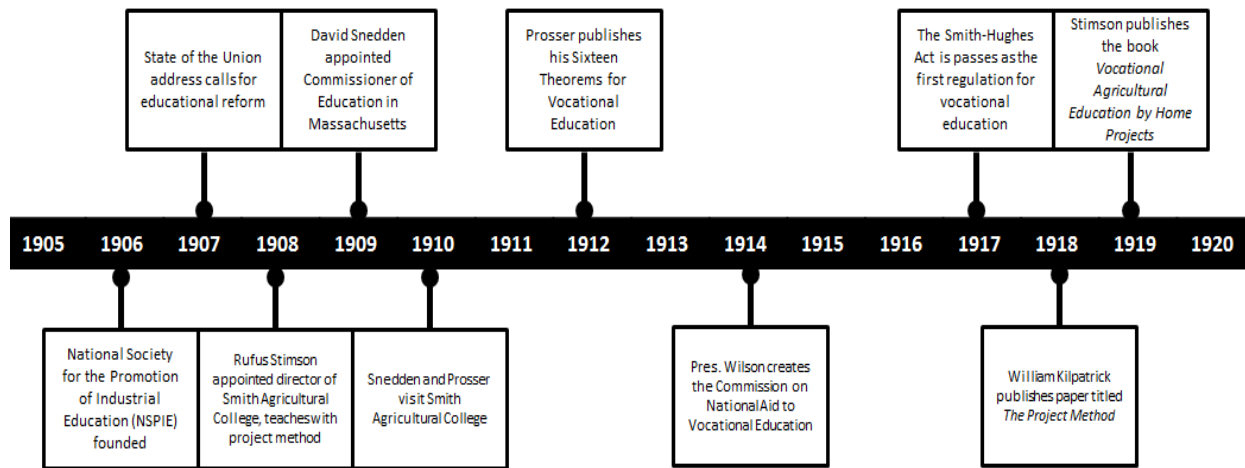


Figure 1. Timeline of major events leading to the development of the project method and SAEs in agricultural education.

In the 1907 State of the Union Address (Woolley & Peters, 2014b), Roosevelt urged school reform, saying:

Our school system is gravely defective in so far as it puts a premium upon mere literary training and tends therefore to train the boy away from the farm and the workshop. Nothing is more needed than the best type of industrial school, the school for mechanical industries in the city, the school for practically teaching agriculture in the country. (p. 2)

Roosevelt's statement served as a catalyst to an already mobile educational movement; away from abstract academics toward applied and vocational training. Vocational education in secondary schools became a topic of interest for educational policymakers, primarily for those who were looking for a workforce of highly qualified employees. The National Society for the Promotion of Industrial Education (NSPIE), was developed in 1906 as a group dedicated to providing guidance and impetus for vocational education (Hillison, 1995). Charles Prosser, a steelworker's son turned educator, became the executive secretary of the NSPIE in 1912, and advocated for the strengthening of vocational education for secondary students (Hillison, 1995; Prosser, 1913, 1918). Even the National Education Association, which had previously suggested that high schools should be college-prep oriented, advocated for trade schools as an alternative to students leaving high school without job skills (Ogden, 1990).

In 1914, President Woodrow Wilson facilitated the creation of the Commission on National Aid to Vocational Education, which served to determine the need for federal funding of vocational education programs (Hillison, 1995; Hyslop-Margison, 2000, S. Rep. 63-1004, 1914). This commission was chaired by Georgia Senator Hoke Smith, and included Charles Prosser as a member and principle author of the commission's final report. In their report, dated June 1, 1914, the commission concluded that there was urgent need for federal support for vocational education, citing in part:

It is clearly recognized not only that a stronger vocational element is needed in general education, but that no vocational school is worthy the name with fails to give a considerable amount of general education along with the special preparation for a vocation. (p. 16)

Regarding agricultural education, the commission report said, "On some phases of agriculture, exhaustive work has been done... This work should not be neglected, but it should be supplemented by studies of the simpler processes applicable to the more common and every-day problems of the farmer" (p. 56).

The influences of project-based learning on the first guiding piece of legislation for vocational education were profound, and began long before the formation of the commission to determine aid. In 1908, Rufus Stimson became the director of Smith's Agricultural College (Heald, 1929; Moore, 1985, 1988). Stimson quickly began infusing the school with his version of project-based learning, which he deemed the "home-school cooperation plan". Stimson went on to publically share his successes and philosophy regarding the importance of students engaging in work that was what they would actively be doing when they finished school (Moore, 1988; Stimson, 1912, 1915, 1919; Wirth, 1972). Stimson's (1919) theory of the home-project method as an application of knowledge served as the foundational theory guiding this study.

Agricultural educators today work to balance the needs of students from many backgrounds, many of whom will not pursue production agriculture full-time (Croom, 2008). A standardized curriculum has left teachers to navigate Stimson's model, and the modified interpretation of it, in order to ensure that each student can learn those skills from project-based learning that are directly related to their specific chosen careers.

Purpose of the Study

The purpose of this study was to examine the educational intent of project-based learning as it originated in agricultural education, and events that led to potential historical shifts in intent for this method

as driven by educational legislation and policy. To guide the historical examination of this topic, two research questions were developed:

1. What was the original educational intent of project-based learning and SAEs?
2. Have there been historical shifts in the educational intent of project-based learning and SAEs in agricultural education?

Methods

This study was conducted using historical research methods. Historical research is research conducted for the purpose of understanding the past as it relates to present situations (Ary, Jacobs, Sorenson, & Walker, 2013). Borg and Gall (1996) defined the process of historical research as a systematic search for documents, artifacts, and other sources of information related to specific research objectives. Historical research is considered a type of qualitative research (Ary, et. al., 2013), and as such is guided by the measures of accountability for all qualitative research (Lincoln & Guba, 1985).

Sources included for consideration in this study included library, archival, and digital searches related to the topic and guiding questions of the study. Whenever possible, primary sources were utilized, including digital copies of original works. Primary sources utilized included transcripts of speeches, personal communications, proceedings of conventions and meetings, congressional reports, books, research studies and articles in *The Agricultural Education Magazine* (formerly *Agricultural Education*). Secondary sources of data included books and research articles.

Fulfilling the measures of accountability require qualitative research to establish trustworthiness with the intended audience by ensuring credibility, transferability, dependability, and confirmability (Lincoln & Guba, 1985). To meet the requirements for credibility, multiple sources were used whenever possible to triangulate data, and sources used for inclusion in this study were subjected to internal and external criticism to determine the value of the material (Creswell, 2012). With regard to transferability, the manuscript was prepared with detailed information related to the sources of data used. This allows the consumer a broad base of information from which to draw conclusions related to the transfer of the findings of this study to other situations (Lincoln & Guba, 1985). Dependability was established through careful notes maintained by the researchers, along with both printed and digital cataloging of data collected and included in this study being. Related to confirmability, the results drawn from this research are directly addressed by the data sources. At all feasible points, original quotes from primary sources have been included, and results and interpretations were gleaned directly from the evidentiary support provided. The use of multiple artifacts from reputable libraries and search engines was used to triangulate data and verify authenticity of information presented. To prevent threats to neutrality as outlined by Lincoln and Guba (1985), reflexive journaling was used throughout the research process to identify and acknowledge researcher bias toward the topic and further establish trustworthiness.

Results/Findings

Question One: What was the original educational intent of project-based learning and SAEs?

Stimson, a philosopher with deep agricultural roots, had previously noticed the high level of retention for abstract concepts when the students had the opportunity to apply concepts through concrete experiences (Stimson, 1915). His work at Smith's Agricultural College had not gone unnoticed and others began to look to Stimson for guidance in the use of what he called the home-project method, the predecessor to the Supervised Agricultural Experience.

Massachusetts appointed Dr. David Snedden to the post of Commissioner of Education in 1909. This marked a change in educational policy in the state and a move toward educational reform consistent with the climate of education at this time period. Snedden (1900, 1910) was concerned with the importance

of vocational education and was a vocal advocate for vocational education that was rooted in workforce needs (Hyslop-Margison, 2000). Shortly after taking his position, Snedden appointed Charles Prosser, who had studied under him at Teachers College within Columbia University, as the Deputy Commissioner for Vocational Education in the state.

Having heard of the success of Stimson's home project method, both men visited Smith's Agricultural College in 1910 and fostered a relationship with Stimson in which he shared his philosophy of project-based learning (Snedden, 1917; Moore, 1988). The three men continued to refine the concepts of the home-project in agricultural education when Stimson took a post as Supervisor of Vocational Agriculture in the Massachusetts Department of Education in 1911. In a letter dated April 15, 1918, Snedden wrote to Stimson, "I am quite sure that the use of the words 'project' and 'home project' both began in the early days of the work of yourself, Mr. Prosser, and myself in Massachusetts" (Stimson, 1919). Of the home project method, Stimson (1919) said, "certain it is ... that the home-project plan benefited from the close collaboration and stout support of both Mr. [Charles] Prosser and Dr. [David] Snedden, in the earlier days..." (Stimson, 1919, p. 40).

As a result of the collaboration of Stimson, Snedden, and Prosser, Prosser's (1912) sixteen theorems of vocational education emerged. Similarities in the wording of Prosser's sixteen theorems, Stimson's home-project method, and the Smith-Hughes Act of 1917 are very apparent, and not surprising given Prosser's significant contributions to the writing of the bill (Moore, 1988; Wirth, 1972; Wonacott, 2003). As outlined in the Smith-Hughes Act (S. Res. 374), in order to receive federal funding "schools shall provide for directed or supervised practice in agriculture, either on a farm provided by the school or other farm, for at least six months per year" (p. 934); and so, project-based learning and agricultural education were forever intertwined.

Perhaps as important as the initiation of the project method was the intent behind it. To understand the intent of the method is to understand something of the philosophies of the men who originated and refined the method in its relation to agricultural education.

In a presentation later published in *The School Review*, and again printed in his book *Vocational Agricultural Education by Home Projects*, Rufus Stimson (1915, 1919) outlined his idea of what he believed was typical of a high school in the early 1900s, which focused instruction in the "cultural subjects". Stimson (1915) also described the turn of the century vocational school as a place where boys would go because "they saw in the high school courses nothing that would be of use to them" (p. 474). Stimson's (1915, 1919) illustrated view of these two types of schools are shown in Figure 2, with traditional high school being shown depicted as a capital "C" and vocational school being shown as a capital "V". Stimson noted that his figure depicted the concept that cultural education was held in a higher regard than vocational school.

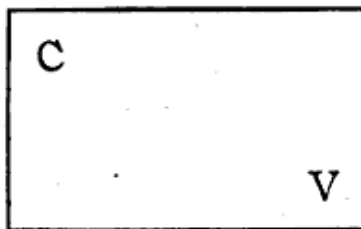


Figure 2. Stimson's (1915, 1919) outline of the traditional view of high schools (C) and vocational schools (V)

Stimson (1915) continued to outline his thoughts on what he believed to be a better model for schooling in and around that time, as shown in Figure 3. In the figure, Stimson represents cultural high schools shown with a capital C for the cultural subjects but with a smaller v to illustrate that high schools at the time had “at least some recognition given to direct training for the career the pupil is likely to follow” (p. 475). His view of vocational schools at the time was that they still prepared students for careers, but were infused with “decided civic or cultural values... in Massachusetts at least” (p. 475). It is important to note the positioning of the two schooling systems in Stimson’s model, as Stimson believed both had equal value to society.

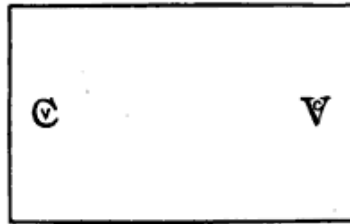


Figure 3. Stimson’s (1915, 1919) desired outline of differentiated high schools (Cv) and culturally infused vocational schools (Vc)

One might wonder why Stimson was content with the concept of two school types, each having a different focus, rather than one school which taught concepts in general education through applied vocational projects, Stimson (1915) wrote:

In view of this development, there have been those who have urged the desirability of a balanced type of training—not so much time as in the cultural type school to general studies, not so much attention given to direct preparation for a calling as in the vocational type school - a type of school, in short, which might be symbolized by a rather large C superimposed upon a V drawn to the same scale. So far as the Board of Education is concerned, we erase from consideration this middle type. (p. 475)

Stimson’s statements about cultural schools did not mean that he did not value cultural integration. He was a large proponent of creating well-rounded students. As the director of Smith’s Agricultural School in Northampton, Massachusetts, he incorporated cultural subjects into both instruction and as extracurricular activities, while still maintaining the focus on vocational training. As evidence of his desire to instruct in vocational subjects first and supplement with cultural topics, a Federal Security Agency (FSA) report compiled by Stimson and Lathrop (1942) discussed the instruction at Smith’s Agricultural School, saying, “eighty percent of the school time has been devoted to agriculture and related science, and 20 percent to general or cultural training” (p. 193). The school hosted theatrical presentations, dances, and other cultural events to provide students with the technical skills and cultural manners required for success both on and off the farm.

With regard to the home project method, Stimson seemed to show support for the method as support and application of concepts. In the 1908 brochure for Smith Agricultural College, Stimson wrote “students will learn agriculture at the school, but apply what they have learned to their home farms” (Stimson, 1919). On many occasions, Stimson stated that the application of concepts was a key component for the home project method. (Stimson 1912, 1914, 1919, 1922, 1942). Instruction at Smith’s Agricultural College mirrored Stimson’s heavy emphasis on the home project method, with “at least 50 percent of the total time, including out-of-school hours and the summer months... allotted to project or other supervised agricultural work and technical study involved in it” (FSA, 1942).

The theory of using home projects as an application of concepts fit well with the background of Stimson, who studied under philosopher William James. Stimson wrote an article about James for

Agricultural Education in January 1933 and described his mentor's philosophy as follows, "...his passion for stripping the subject of 'analytical technicality' in the interest of being 'concrete' and 'practical', in order to, as he said 'to satisfy the more genuine public need'" (p. 99). It appears as though Stimson picked up on his mentor's pragmatic philosophical view, and was likely indoctrinated with thoughts about finding the value in an educational endeavor. Certainly using the project method as a means to gain vocation, or a practice of concepts learned in the classroom would fit with Stimson and James' philosophical views.

David Snedden and Charles Prosser were also vocal advocates for using the project method as an application of the concepts learned in the classroom. According to Drost (1967), Snedden outlined a plan for vocational education that would allow the students who lacked the ability to grasp abstract concepts, a group Snedden estimated as high as 80% of the students in high school. Snedden (1910, 1917, 1920, 1929), went on to explain that vocational education, including the use of home projects, provided methods by which vocational type students could understand basic concepts required for employment. His concept was to use vocational education as a method of creating what he called "social-efficiency," whereby all students could gain employment (Snedden, 1910, 1917, 1929; Gordon, 1999).

Charles Prosser seemed to echo his former instructor James' views on the intent of project-based learning and the home project method. It has been well-documented that Prosser believed vocational training should be separate from general education and be instructed by teachers who were trained specifically to administer the project method as a way to apply vocational skills (Lewis, 1994; Prosser, 1912, 1913, 1918, 1939; Prosser & Quigley, 1949).

After analyzing the artifacts surrounding the original intent of the project method in agricultural education, it appears as though Stimson, Snedden, and Prosser were all of a similar belief that the intent of the project method, and what we now call SAE projects, was to reinforce skills learned in their agricultural classes. Although those directly involved in development of project-based learning felt that application was the core function of this method, opponents to this philosophy existed.

Two of the most outspoken advocates for a conflicting use of the project method as a way for students to learn and discover new concepts through experimentation were John Dewey and William Kilpatrick (Drost, 1977; Hyslop-Margison, 2000; Labaree, 2010). Roberts and Ball (2008), outlined the different philosophies of opposing sides of the issue. These gentlemen found themselves polar opposites on the issue of why project-based learning should be used in schools. Dewey believed that the project method should be used as a component of an integrated comprehensive curriculum which allowed students to pursue their individual interests (Dewey, 1909, 1915, 1916). Kilpatrick based his philosophy of project-based learning on Dewey's theory (Knoll, 1997) and spoke in opposition to Snedden and the project method as originated by Stimson.

Question 2: Have there been historical shifts in the educational intent of project-based learning and SAEs in agricultural education?

Passage of the Smith-Hughes Act essentially married the concepts of project-based learning and agricultural education. The newly intertwined concepts seemed to be coexisting well for a time. The tumultuous climate of education in the late 1950s and early sixties was partially in response to decreased spending and noticeable advances in science by other countries. This climate led to massive educational reform, especially in vocational education. Those events, along with more recent events like the push for more integration of core academics through the 1980s and even current shifts in educational policy, have all had a potential influence on the educational intent of project-based learning in agricultural education.

Throughout the 1920s and '30s, reports of project-based learning and the application of concepts learned in classes through home projects were favorable. In March, 1929, *Agricultural Education* printed a tribute to Rufus Stimson, authored by F. E. Heald. In part, the article read:

Professor C. B. Gentry, state supervisor in Connecticut, recently said publically:

I believe that Mr. Stimson has been the means of saving millions of dollars to this country...I think we all now see that the establishment of vocational agriculture in a comprehensive high school using the home project for supervised practice is highly superior (p. 4)

A slight shift in the intent from application to learning was seen in the remarks of G. A. Schmidt in 1934:

In most states, point of view regarding project work have recently changed. Projects are now regarded as the most important part of a farmer-training program...The new point of view regards projects as important training devices by means of which pupils acquire experience and skill in the execution of the jobs involved in such enterprises (p. 86).

Ten years after the passage of the Smith-Hughes Act, the National Education Association saw some opposition to the use of project-based learning in education (Washburne, 1928). In postwar 1943, the National Education Association's Educational Policy Commission proposed *Education for ALL American Youth*, a document which hinted at an attempt to integrate core subjects into vocational training into general education. The book described what the authors felt was a model educational system. In relation to vocational education, the NEA supported a document which defined vocational education as:

Shop or laboratory practice, related science and mathematics, field trips to observe the occupation in action... are all taught in the same course at the times deemed best for learning. Much of the work is done on individual and small-group learning schedules, thus making it possible to adapt students' programs to their particular interests and to adjust their progress to their learning abilities. (p. 297)

The document also discussed the importance of project-based learning as used for training and understanding of vocational concepts in the simulated school system and was a foreshadowing of the educational reform related to vocational education and agricultural education to come.

As the launching of Sputnik highlighted that the United States was falling behind in areas related to science and engineering, many policymakers looked for solutions within public education reform. The early 1960s were marked by high unemployment and a period of time when job skills required and skills available in the workforce were vastly mismatched (Ray, 1968). President Kennedy called for changes to education in his 1961 State of the Union Address when he stated that "we lack the scientists, the engineers and the teachers our world obligations require" (Woolley & Peters, 2014a). Kennedy urged Congress to review educational appropriations in order to prepare a nation of workers who could compete on a global level.

Agricultural education professionals noticed the changes. The July 1961 issue of *The Agricultural Education Magazine* included special focus on the impending educational reform. Editor Alfred Krebs wrote "teachers have become uneasy regarding the future" (p. 3). J. C. Atherton, a teacher educator from Arkansas, brought to light the underlying discussion:

The national emphasis on science... has and is having a noted impact upon high school programs in agriculture. It seems that someone has overlooked the fact that agriculture is a field of science and needs scientists in a wide variety of categories. (p. 6)

The change which had the profession so concerned occurred with the passage of the Vocational Education Act of 1963. This legislation essentially replaced the Smith-Hughes Act as the regulatory piece of legislation guiding vocational education in the United States. Related to agricultural education, the act allowed for several specific changes related to the project method in agricultural education.

First was a change in the requirement for a home project set forth by the Smith Hughes Act. The verbiage changed from "farm-project" to "field, shop, laboratory, cooperative work, apprenticeship or other occupational experience" in an effort to incorporate the expanded scope of vocational education. The length of time required for completion of the project also changed to "sufficient duration to develop competencies

necessary for the student to achieve objective.” Additionally, funding was available for “any occupation involving knowledge and skills in agricultural subjects...and such education may be provided without directed or supervised practice on a farm.”

A second change for agricultural education was related to expanded content in agricultural education. By allowing agricultural educators to broaden courses and allow more vocational students to pursue academic areas, a multitude of new agriculture courses were developed and offered to a wider range of students (Ray, 1968).

Responses to the legislation were overall positive, as highlighted in a special issue of *The Agricultural Education Magazine* dedicated to the new regulations in July 1965. Among comments regarding the change came a statement highlighting the shift in focus “the purpose of vocational classes should be the application of scientific principles” (Petticord, Christensen, & Butler, 1965, p. 10). The shift for project-based learning is further evident in the statement “the project done by a student should no longer be considered the criterion for complete evaluation of progress in a vocational education class. However, there are many skills and understandings that can be derived from projects” (Golden, 1966, p. 5)

The apparent shift continued to progress from project for application to project for learning over the course of the next 10-15 years, until project-based learning became a term associated with a method for learning information. The theme of the March 1983 edition of *The Agricultural Education Magazine* was the “Supervised Occupational Experience” a term used as an updated version of “the home project.” In this edition, Colleen Kaczor wrote, “SOE programs are the instructional component that makes vocational agriculture different from the non-vocational school courses offered. They make agricultural instruction meaningful and practical, by educating through experience” (p. 9).

Changes continued to occur in vocational education and the early 1980s saw another move in agricultural education that had an indirect influence on project-based learning. The National commission on Excellence in Education published *A Nation at Risk* (Gardner, 1983), which gave a woeful update on the academic competency of American students. The report also stressed the importance of integrating science concepts into agricultural courses. The National Academy of Sciences echoed the call for science concepts in agricultural education in 1988. This time period led many in the profession to make a call for revisiting the original philosophies of Stimson, Snedden, and Prosser as a way to evaluate the new direction agricultural education, including project-based learning, was taking (Camp, 1982, 1983; Camp & Hillison, 1983; Moore, 1985, 1988).

Project-based learning has continued to change this century. Roberts and Harlin (2007), compared the changes to projects as they were initiated and used and found the use of projects had changed considerably from those guiding principles originally set forth by Stimson (1919). Project-based learning remained rooted within agricultural education as a method for students to gain knowledge, rather than apply it.

Conclusions and Recommendations

The importance of project-based learning and SAEs in agricultural education cannot be overlooked. Interwoven in the very fabric of our foundation is the method developed by Rufus Stimson. There is no doubt that project-based learning, in the context of agricultural education, emerged from the mind of Stimson. His collaboration with other great vocational education leaders in Massachusetts helped to develop a strong concept that greatly influenced the wording of the Smith Hughes Act. Although project-based learning still exists in agricultural education, there have been changes to the way leaders in agricultural education feel students should use the method.

It is likely the philosophical views instilled in Stimson by William James, among others, led him to view the intent of the project method as simply a way for concepts to be applied and practiced. Stimson

(1919) outlined the home project as a way for students to take their knowledge out of the classroom and into the real-world. Stimson's outline for two types of schools; one cultural with some vocation and one vocational with some culture, is telling as well. Perhaps the biggest indicator that Stimson never intended for the project method to be the means to acquire knowledge is the fact that he would not entertain a school in which cultural subjects and vocational training were given the same emphasis. This, combined with the outspoken philosophical views of Charles Prosser and, to a greater extent, David Snedden lead to the conclusion that the original educational intent of project-based learning was simply an extension of concepts which had already been learned in a vocational agriculture class. The opposition of Dewey and Kilpatrick highlight that these gentlemen likely saw the project-method through a different lens. This core examination of philosophies in the past has implications for our profession as we determine how the original intent has changed.

From this examination of evidence, it appears as though the educational intent of project-based learning and SAE in agricultural education has shifted to include additional aspects of student development in addition to the basic skill development proposed at its origin. The postwar era brought concerns about the lack of core academic concepts being taught through vocational education, and the project method was brought into the shuffle during the educational reform of the Vocational Education Act of 1963. Both of these events helped to move the intent of project-based learning from an application of concepts already learned to a method by which information could be acquired. Understanding this shift allows current agricultural education professionals to better examine the intent for project-based learning and SAEs today.

The changes found in the Vocational Education Act of 1963 combined to further shift the focus of project-based learning for agricultural education. No specific time requirement for projects allowed students to spend less time focusing on the project as an application of the concepts learned in class. The increased focus on science allowed project-based learning to become more prevalent in the agriculture classroom and used more as an instructional method for delivering information to students than the sole purpose for the completion of an SAE. The deep roots of the project-based learning method in agricultural education allow our profession to take a leading role in using this method as a model for other educational disciplines. Continued research in the area of project-based learning in agricultural education is recommended to more completely examine how years of using this instructional method have affected its use in agricultural classrooms. This examination may allow us to further develop a model based on the current agricultural education application of project-based learning that translates to other branches of education.

It is interesting to note, that even through the changes of the Vocational Education Act, which essentially provided funding for vocational agriculture programs even without the requirement for project-based learning for every student, and declining numbers of students with SAE programs (Croom, 2008), we could not find any artifacts suggesting that projects simply be removed from the program. This leads us to believe that the use of projects is so deeply rooted in agricultural education that those in the profession inherently recognize the need for it to stay, in whatever form the educational climate dictates. Unfortunately, although project-based learning and SAEs are foundational to agricultural education, there are less than optimal guidelines to help relate these projects to the broader educational spectrum. We recommend continued efforts in the profession be directed toward developing guidelines and metrics for conducting and assessing SAE programs for all students.

With federal shifts toward increased focus on math and science in the 1980s, it appears as though project-based learning continued to evolve to more closely fit the model of agricultural education. As education started to shift again at the end of the 20th century toward the paradigm of learner-centered instruction (Elmore, 1996; Forrester, 1992; Lezotte, 1997), with a heavy emphasis on the concepts of science, technology, engineering, and mathematics (Hillison, 1996; Myers & Dyer, 2004), project-based learning again came into play as a method of instruction (Blumenfeld, et. al., 1991; Helle, Tynjala, & Olkinuora, 2006).

Agricultural education has been seen as a possible solution to teaching STEM concepts and research has been conducted to support the instruction of STEM concepts through agricultural education (Clark, Parr, Peake, & Flanders, 2012; Johnson, 1996; Myers & Thompson, 2006; Ricketts, Duncan, & Peake, 2006; Shinn, et al., 2003; Thoron & Myers, 2012; Thompson & Balschweid, 2000; Warnick, Thompson, & Gummer, 2004). Agricultural education has been asked to answer the challenge of instructing students in core academic subjects. One can only guess the thoughts that Stimson, Snedden, and Prosser might have on this request.

The shift in educational intent in project-based learning in agricultural education toward the use of project-based learning for instruction of concepts may help with the task. Based on this updated intent, agricultural educators may be able to integrate these core concepts seamlessly using project-based learning. This has implications for agricultural educators who may be able to draw from both the original intent of project-based learning as an application of concepts learned in agricultural education courses, and as the vehicle through which students learn.

The current focus on SAE in our field is, in part, a call for agricultural education to return to our roots, and Stimson's project method. It appears as though the agricultural education profession believes there may be a totally different reason for us to use the method in today's agricultural education classroom. Stakeholders should carefully examine the balance between the multiple intents as the future of project-based learning in agricultural education, and student involvement in SAEs is explored.

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