

Perspectives on Agricultural Education at the University of Idaho

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Abstract

The purpose of this study was to examine the perspectives of faculty members at the University of Idaho held toward agricultural education curriculum. Improved communication is predicated upon better understanding of the perspectives of all team members involved in interdisciplinary studies. Q-methodology and purposeful sampling techniques were used to discover the perspectives of 21 participants from across the university. Four perspectives emerged, each differing on levels of agreement toward agricultural education programs. The perspectives added to the findings from similar studies conducted at other universities. The progressive idealist is a visionary who sees agricultural education as a rigorous academic content area capable of preparing students for any college major. Progressive realists see agricultural education as a program that creates better students, while most concerned with the positive impact it makes in the lives of students. Supportive idealists were not directly involved with agricultural education, but see it as an ideal model that should be aspired to by other sects of education. Skeptical academics are not convinced of the rigor and preparation agricultural education claims, but they acknowledge the overall benefit of the program while maintaining their skepticism. Trying to better understand these perspectives will improve communication in interdisciplinary projects involving agricultural educators.

Introduction

In today's educational environment change occurs at a rapid rate. In fact, it is commonly said that there is nothing as consistent as change. Agricultural education is not immune to the changes occurring around it.

In *Understanding Agriculture: New Directions for Education*, agricultural education was asked to change, to become more relevant (National Research Council, 1988). *Transforming Agricultural Education for a Changing World* came out 20 years later and once again asked agricultural education to change (National Research Council, 2009). Recommendation 2 of that report asked for agriculture faculty to work with other faculty to improve education about agriculture.

Interdisciplinary projects are now required, or highly recommended in seeking grant funding from NIFA, NSF and many other funding organizations (Karsh and Fox, 2010). With ever increasing portions of the agricultural education budget being decided by granting organizations, agricultural education faculty must learn how to improve communications with faculty in other departments of their universities and with stakeholders at all levels. Blanchard (2007) indicated the key to being able to perform at a higher level is better communication with those with whom we work. Covey (2004), found that the key to communication was to first seek to understand and then seek to be understood. To move from low-level communication to higher-level communication Covey insists levels of trust must increase. Trust, Covey posits, is gained as we work toward understanding, or seeing things through the paradigm, or perspective, of the others in our new collaborative teams.

A study of the perceptions of stakeholders in agricultural education in Oklahoma found three distinct groups of perspectives relating to agricultural education and recommended follow-up studies be conducted to "foster conversations leading to a strengthened voice and concerted effort in ensuring that agricultural

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education remains viable” (Baker and Montgomery, 2012, p.911). Agricultural education in this context refers to the entire agricultural education community from the secondary level up through the university level, with admittedly more focus on the secondary level. University perspectives of agricultural education have not been conducted through the peer-review process in the past in Idaho. Informal communication with bench scientists collaborating on other interdisciplinary projects involving agricultural education have suggested a lack of knowledge as to what agricultural education does, the research they traditionally conduct, or the methods their research utilizes (P.T. White, personal communication, May, 3 2013). Perspectives of agricultural education at the University of Idaho need to be evaluated campus wide to enhance communication between faculty in all colleges and departments who engage with agricultural education students.

Theoretical Framework

The theoretical framework for this study was grounded in social constructionism, which, according to Watts and Stenner (2012, p.42) *“attempts to understand and map the currently predominant viewpoints or bodies of knowledge relative to a particular context, event, or object of enquiry.”* More specifically, social constructivism in this study defines a reality that is defined socially by the interaction of groups of people. Social constructionism tells us that *“this lived world is a world of interpretation, a world in which meaning and the objects that are meaningful cannot be separated”* (Slife and Williams, 1995, p.91). Those in the agricultural education field, as well as those interacting with it continually construct and revise their views of what is agricultural education and what role does it play in the education of our youth. The identification of specific perspectives and utilizing commonalities with our own perspectives offers agricultural education faculty the ability to better communicate between themselves and with the larger university community. Defining and understanding the perspectives currently in use is critical in increasing trust and furthering this communication.

Purpose and Objectives

The purpose of this study was to examine the perspectives of agricultural education at the University of Idaho by faculty and staff across the university. Specific objectives were:

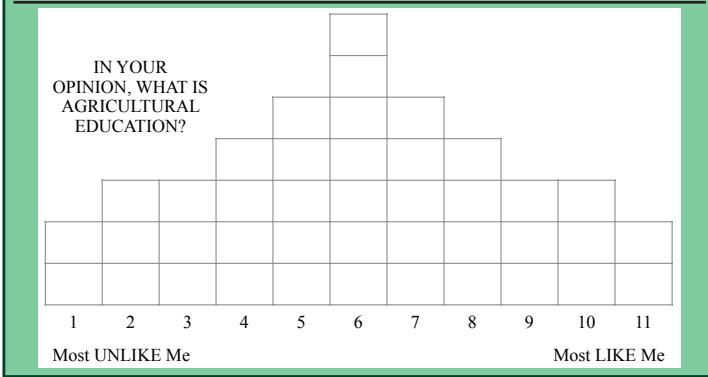
1. To identify the distinct groups (factors) of perspectives relating to agricultural education at the University of Idaho.
2. To identify the characteristics that most define a group (factor) of faculty perspectives of agricultural education.
3. To describe similarities and differences found between perceptions of University of Idaho faculty and faculty at Oklahoma State University based on a similar study.

Methods/Procedures

The methods used to conduct this study follow Q methodological design, also known as Q method or Q sorting. Q methodology, hereafter referred to as Q, is the opposite of R type studies in that respondents are correlated and not their responses (Watts and Stenner, 2012). This tenant of Q removes researcher bias by allowing for operant subjectivity. Definitions are not decided a priori, instead, definitions are defined as the participants sort the provided statements (McKeown and Thomas, 1988). In Q, participants are correlated into factors (groups) and not their responses, allowing groups of similar minded people to be grouped and defining statements to emerge about the group (McKeown and Thomas, 1988; Watts and Stenner, 2012). Q was chosen as the method for this study for its ability to define groups based on factor analysis of the respondents and not to try and pigeon-hole them into stereotypical researcher defined groups. This study was modeled after Baker and Montgomery’s study of faculty in Oklahoma (2012).

The participants in this study were purposefully chosen using snowball-sampling techniques to represent all four groups of perspectives Marshall and Montgomery (2012) identified as interacting with all levels of agricultural education in performance of their normal duties. The first groups of participants were chosen primarily from university faculty with direct associations with agricultural education faculty, graduate and undergraduate students and high school agricultural education students and instructors. These consisted primarily of career development event (CDE) superintendents and their assistants who conduct the skills based events for the state. These participants were chosen to better define the perspectives of those most involved with the agricultural education department and its students. The second group of participants chosen consisted of the administrative faculty who interact directly with agricultural education departmental faculty and staff. This consisted of deans, associate deans and their office staff members in both the College of Education and the College of Agricultural and Life Sciences, many of these had also interacted with secondary agricultural education. The third group of participants was selected from the agricultural education department itself. This group of faculty represents agricultural education in both the formal and informal settings of classrooms, 4-H and extension. The last group consisted of university faculty solicited from conversations with graduate and undergraduate students in the department. Students were asked to recommend faculty from the university who a majority of agricultural education students would take courses from who, in the students’ minds, had strong opinions about them as a group. Faculty who were perceived as favorable or unfavorable were equally sought to try and include every possible perspective towards agricultural education. Several faculty members perceived as representing a unique group, or as enhancing a perceived group, refused to participate in the study, even when we

Figure 1. Form board for rank-sorting statements used in this study.



attempted to elicit responses during office hours. A total of 21 subjects participated in the study.

Q statements, also known as the concourse, for this study were taken directly from those statements used in the Baker and Montgomery (2012) study. A 41 statement Q sort board was utilized by participants to rank-sort the Q statements (Figure 1). Baker and Montgomery categorized these 41 statements as representing content, context, affective effects, social development and other. They were developed through both literature review as well as from statements made during interviews with stakeholders (Baker and Montgomery, 2012).

All 41 statements were used in their entirety. Following IRB exemption, prospective participants were contacted by email with a description of the project and asked to let the research group know when they would be available to participate in our study. After the second follow-up request research assistants solicited participation from non-respondents through face-to-face visits with faculty during their office hours. Snowball-sampling expanded the selection of participants to 21.

Participants initially grouped statements as like me or unlike me and were then instructed to start in one pile and place the two statements most like them on the board. Participants then proceeded to go back and forth between both their piles two statements at a time filling the board from the outside in. Alternating helped participants to both re-evaluate their choices and become more familiar with the remaining choices. Several participants decided to place the entirety of either their like or unlike piles and then proceeded to the other pile. It is of note that this variation in the procedure did not reduce the time required to complete the sort, nor did it appear to reduce the number of statements respondents moved around on the board following initial placing of all statements. Participants were asked questions relating to their unique placing of items as they progressed through the sort to help provide more depth into their perspective. Sorts were conducted by four researchers over the course of two months in the spring of 2013. Data was analyzed using the free PQ-Method software, which required a 32-bit MS Windows-based computer to be able to run all aspects of the data analysis.

Statistical analysis of data was utilized to delineate the number of arrays best representing the perspectives of the participants. Correlations between respondents

suggested that there were three to five possible arrays, or groups of perspectives present. Eigenvalues suggested three factors (Watts and Stenner, 2012). Four factors were chosen for this study for two main reasons; first, one respondent represented more traditional faculty outside both the colleges the department primarily works with and second, any rotation with this perspective included always placed it alone. By including this factor, we were able to examine its perspective in relation to the other respondents while still being able to discriminate between the perspectives represented by those more involved with the department and its students. Measures for validity do not apply to Q-methodology since it relies on operant subjectivity with no outside criteria, or researcher imposed meanings as most other scalar methodologies (Brown, 1996; Nicholas, 2011).

Findings

Four distinct groups were found in this study. Of the 21 participants, six were represented by factor (group) one, one was by itself in factor two, three were represented in factor three and seven were represented by factor four. The remaining four participants were not represented in a factor. Interpretation of results focused on those statements each factor specified as most like them (+5, +4) or least like them (-5, -4) resulting in five statements in each of the four categories representing the statements with the strongest opinions both favorably and unfavorably. In addition to absolute ranking, distinguishing statements for each factor were given additional credence in describing the perspectives of each of the four factors. Seven of the 41 statements in the sort were not distinguishing for any of the four factors represented in this study, even though several of these statements' z-scores placed them in columns (+/-) four and (+/-) five. This indicates that there is a mixed, yet not distinctly unique, perspective on these statements. Combined, these statements suggest participants did not have distinct opinions on students being involved with agricultural education just to have fun. Likewise, agricultural education developing employability skills, students being more motivated or goal driven and students developing poor academic skills were not distinct.

Factor One: Progressive Enthusiasts

Progressive enthusiasts were defined by six of the participants and accounted for 25% of the explained variance in the study. Progressive enthusiasts felt agricultural education was an academic and leadership program. Progressive enthusiasts had only one distinguishing statement, number 12; "Involvement in agricultural education prepares students for any college degree program." In addition, statements 18, 20, 6 and 31 were reported as the most like this perspective (Table 1). Together these statements describe agricultural education as supporting intellectual growth and being able to prepare students for any college program.

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In addition, progressive enthusiasts felt that, rural or not, agriculture is a science and all students can benefit from participation in agricultural education. Progressive enthusiasts felt that the agricultural education teacher is a role model for their students and agricultural education is really about teaching leadership. Progressive enthusiasts disagree that agricultural education is out of date, closed minded and lacks diversity in demographics and thought. Progressive enthusiasts disagreed that agricultural education should not include science, math and language arts, or that involvement in agricultural education caused students to develop poor academic and personal habits. Progressive enthusiasts like the direction agricultural education is taking and felt agricultural education is a beneficial program.

Factor 2: Skeptical Academic

Skeptical academics were defined by one participant and accounts for 6% of the explained variance in the study. Skeptical academics responses correlated less than .08 with all other factors. Presented in Table 2 include the statements that were selected by the Skeptical Academic as the most like and least like, them. Dis-

tinguishing statements (Table 3) show skeptical academics differ throughout the array from all three other factors.

Skeptical academics believe funding agricultural education is a good use of money, naturally includes science, math, reading and writing, develops employment skills, makes confusing math and science easier to understand and supports the intellectual growth of students (Table 3). However, skeptical academics do not believe that agricultural education enables students to perform better on standardized tests, makes students any more prepared for any college degree program, or develops citizenship skills. Skeptical academics also don't believe agricultural education causes students to develop poor academic skills or is most beneficial for high achieving students. Skeptical academics were notably neutral on the inclusion of science math and language arts in the agricultural education curriculum.

Factor 3: Supportive Idealists

Supportive idealists were defined by three participants and account for 16% of the explained variance in the study. Type three perspectives are

Table 1. Factor Scores of the Five Most Like and Least Like Statements for Progressive Enthusiasts

No.	Progressive Enthusiasts— <i>Most Like</i> Statements	Array Position	Z Score
18	Agricultural education supports the intellectual growth of students.	5	1.67
12*	Involvement in agricultural education prepares students for any college degree program.	5	1.57
20	The agricultural education teacher is an important mentor and role model for high school students in and outside of the classroom.	4	1.51
6	Agriculture was the first science and any student, whether rural or not, can benefit from learning about agriculture broadly defined.	4	1.20
31	Agricultural education is really about teaching leadership and citizenship to students.	4	1.10
Progressive Enthusiasts— <i>Least Like</i> Statements			
28	The culture is close-minded and lacks diversity in demographics and thought.	-4	-1.52
4	Agricultural education is only viable in rural communities where production agriculture is practiced.	-4	-1.56
35	Students involved actually develop poor academic and personal habits.	-4	-1.57
41	Keep the science, math, and language arts out of agriculture.	-5	-1.59
9	Agricultural education is out of date and impractical in today's high schools.	-5	-1.76

Note. Statements marked by * are significant ($p < .01$)

Table 2. Factor Scores of the Five Most Like and Least Like Statements for Skeptical Academics

No.	Skeptical Academic— <i>Most Like</i> Statements	Array Position	Z Score
17*	Studying agriculture naturally includes the study of math, science, reading and writing – it doesn't require special attention to integration.	5	1.85
27	Investment of state funds in agricultural education is a good use of money.	5	1.85
5	agricultural education courses develop necessary skills for employment in business and industry.	4	1.48
13	agricultural education makes confusing math and science concepts easier to understand by putting the concepts in a real-world context.	4	1.48
18	agricultural education supports the intellectual growth of students.	4	1.48
Skeptical Academic— <i>Least Like</i> Statements			
23	agricultural education is most beneficial for high achieving students.	-4	-1.48
35	Students involved actually develop poor academic and personal habits.	-4	-1.48
33	agricultural education is an elective that helps students develop citizenship skills.	-4	-1.48
12*	Involvement in agricultural education prepares students for any college degree program.	-5	-1.85
11*	agricultural education enables students to perform better on standardized exams.	-5	-1.85

Note. Statements marked by * are significant ($p < .01$)

Table 3. Distinguishing Statements of the Skeptical Academic

No.	Statement	Array Position	Z Score
17	Studying agriculture naturally includes the study of math, science, reading and writing – it doesn't require special attention to integration.	5	1.85
15	Agricultural education has no business teaching students core subjects like science, math, and language arts.	3	1.11
9	Agricultural education is out of date and impractical in today's high schools.	2	0.74
8	High school agricultural teachers know a lot about agriculture, but are not qualified to teach core concepts such as science, math, and reading.	2	0.74
41	Keep the science, math, and language arts out of agriculture.	0	0.00
32	Agricultural education is a vital bridge between the community and public education.	-2	-0.74
12	Involvement in agricultural education prepares students for any college degree program.	-5	-1.85
11	Agricultural education enables students to perform better on standardized exams.	-5	-1.85

Note. Significant Z-scores ($p < .01$)

significantly ($p < .01$) defined by the statement “agricultural education is a rigorous science or math class in the context of agriculture” (Table 4). Overall, supportive idealists see agricultural education as rigorous, making confusing math and science easier to understand and felt agricultural education takes a “refreshing, hands on, approach to learning.” Supportive idealists do not agree that agricultural education is out of date, impractical, or causes students to develop poor academic skills. Supportive idealists felt livestock exhibitions, FFA contests and student projects have educational value and agree agricultural education should be teaching core content. Supportive idealists and progressive enthusiasts show a very strong association ($r = 0.73$), therefore it is important to note the statements exhibiting the greatest difference in Z-scores. The greatest difference ($\Delta z = 1.84$) occurs with their perspective relating to the rigor of agricultural education compared to science or mathematics. While supportive idealists rank it as the statement most like them, progressive enthusiasts respondent were nearly neutral ($z = 0.19$). The next highest difference score comes in relation to agricultural education’s importance as a bridge to the community ($\Delta z = 1.31$).

Factor 4: Progressive Realists

Progressive realists were defined by seven participants and accounts for 30% of the explained variance in the study. Progressive realists felt agricultural education is a good use of state funds, the agricultural education instructor is an important role model, but agricultural education teachers need to collaborate with core content instructors to increase awareness of agriculture (Table 4). Progressive realists believe agricultural education is valuable outside rural communities, science math and language arts belong in agricultural education and agricultural education should be teaching core subject concepts. Progressive realists are similar to the progressive realist identified by Baker & Montgomery (2012). Progressive realists know there is value in agricultural education programs but felt there is work to be done still to achieve its potential. Progressive realists were also very strongly associated with progressive enthusiasts ($r = 0.86$). The largest difference occurs between their perspective on agriculture as the first science ($\Delta z = 1.10$), agriculture naturally including science, reading

and writing ($\Delta z = 1.02$) and agricultural education really being about teaching leadership and citizenship ($\Delta z = 1.01$). Progressive enthusiasts felt they were more like these statements than progressive realists. Progressive realists were less likely to disagree agricultural education is the best place for lower achieving students ($\Delta z = 1.20$).

Differences in Perspectives between Studies

Baker and Montgomery (2012) found three factors, as opposed to four factors, in their study of Oklahoma State University faculty. They named their perspectives the supportive idealist, the critical academic and the progressive agricultural educator. Comparisons between this initial use of the statements and our use of them a year later provide some additional insight into how academic faculty at both institutions view agricultural education, as well as an additional perspective.

The one perspective that appears to be consistent between both studies is the supportive idealist. Results from both studies suggest supportive idealists see agricultural education through rose-colored glasses. Baker and Montgomery (2012) found this perspective indicative of those mostly outside agricultural education. We, too, found this to be true. All three of the participants were from outside agricultural education, but were instead from our sibling organizations; one was from 4-H, one from the family and consumer sciences and one from career and technology education. Their exposure to agricultural education was through high school experiences, growing up on farms and through their interaction with both collegiate and secondary agriculture students.

Similar in title, the critical academic (Baker and Montgomery, 2012) and the skeptical academic show some level of similarity. Both are outside the Colleges of Agriculture, both represent hard sciences and both feel agricultural education students do not perform any better on standardized exams. However, on the issue of academic rigor, Baker and Montgomery found critical academics more critical (statement 10, z-score -2.28, array position -5) of the academic rigor as opposed to our skeptical academic who was more neutral (10, -0.74, -2). Additionally, Baker and Montgomery’s critical academic viewed agricultural education as close-minded (28, 2.18, +5) but teaching in a refreshing experiential

Table 4. Factor Scores of the Five Most Like and Least Like Statements for Supportive Idealists

No.	Supportive Idealists— <i>Most Like</i> Statements	Array Position	Z Score
10	Agricultural education is a rigorous science or math class in the context of agriculture.	5	2.02
13	Agricultural education makes confusing math and science concepts easier to understand by putting the concepts in a real-world context.	5	1.80
14	It is important that agricultural educators and core content educators collaborate in order to be aware of connections between the agricultural classes and core classes.	4	1.52
31	Agricultural education is really about teaching leadership and citizenship to students.	4	1.39
40	Agricultural education takes a refreshing, hands-on, approach to learning.	4	1.33
Supportive Idealists—<i>Least Like</i> Statements			
9	Agricultural education is out of date and impractical in today’s high schools.	-4	-0.94
35	Students involved actually develop poor academic and personal habits.	-4	-1.49
39	There is little educational value to the livestock exhibitions, FFA contests, and extracurricular student projects. It is just that extracurricular.	-4	-1.73
15	Agricultural education has no business teaching students core subjects like science, math, and language arts.	-5	-1.97
41	Keep the science, math, and language arts out of agriculture.	-5	-2.11

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manner (40, 1.22, +4). Our skeptical academic felt more that agricultural education was not close-minded (28, 0.37, +1), but was not conducting hands-on learning (40, -0.37, -1).

Baker and Montgomery's final category, the progressive agricultural educator, was represented by two faculty members in the agricultural education department at Oklahoma State. They viewed agricultural education through the lens of what is and compared it to what could be. As such, they see the potential but lamented the gap that needs to close. We specifically looked for this category in our study among the agricultural education faculty. However, upon statistical analysis it became evident that we had two distinct separate categories emerge. The progressive enthusiast was represented by a group possibly more visionary or forward thinking. This group was composed of department heads and higher level administrative faculty in the College of Agricultural and Life Sciences, most with direct involvement in agricultural education for many years. The progressive enthusiast is someone who imagines a more academic agricultural education (18, 1.67, +5) that prepares students for any college degree program (12, 1.57, +5) and leadership (31, 1.10, +4).

Our final category, the progressive realist (Table 5) sees a more limited agricultural education. Progressive realists (20, 1.49, +5) like Baker and Montgomery's progressive agricultural educator (20, 1.41, +4) see the importance of the mentoring of students both inside and outside the classroom. Our progressive realist does not see agricultural education as merely a fun place (19, -0.56, -1) as the progressive agricultural educator is more likely to do (19, 1.51, +4). However, progressive realists agree with the progressive agricultural educator (4, -1.84, -5) that agricultural education is too important for just rural students (4, -1.74, -5).

Conclusions/Recommendations/Implications

Increasing trust between individuals will increase understanding and the quality of communication (Covey, 2004). At the onset of this study, we felt that there would be a shared perspective from the agricultural education faculty. This was not to be the case as the faculty who completed the Q-sort were divided between three of the four found perspectives. Understanding that even those with similar backgrounds can espouse a different point

of view is crucial in learning to communicate with them. This task becomes even more important as agricultural education faculty increase the number of interdisciplinary projects they are collaborating on with investigators who may not be from their same background or share their philosophical epistemologies.

Skeptical academics may make up a large portion of the faculty in colleges of agriculture. Communicating with these individuals requires careful consideration of their perception of agricultural education. Skeptical academics hold the potential to become more supportive of agricultural education with increasing knowledge about agricultural education. We will consider communicating the ideals of personal benefits of agricultural education to begin conversations with skeptical academics, while also acknowledging that there is room to grow in weaker programs to increase academic rigor. Likewise, it became apparent that array positions of zero in areas of science and math integration (41, 0.00, 0) suggest there is room for increased understanding and acceptance of agricultural education in those areas. Not all hard scientists, or non-social scientists, are skeptical academics and in fact, many of the hard scientists participating in this study were progressive realists. The skeptical academics agree that secondary agricultural education has value and that it also needs improvement. Progressive idealists see a future for agricultural education that espouses science, language arts and mathematics as rigorous integral components of agricultural education. Understanding and communicating with them requires us to see agricultural education as it could or arguably should be. Progressive idealists look to a future where agricultural education is a vibrant thriving component of the education system. Progressive idealists look to agricultural education as they think it should be and you should communicate with them considering the best of agricultural education. Starting conversations with what has been done in the past is not a recommended strategy.

The progressive realist may be the most understanding of the perspectives. Progressive realists see the value in agricultural education as they see it today. Communication with progressive realists requires complete honesty about what is and why it is important to agricultural education. They see a program that is all about making students better (25, 1.10, +3; 26, -1.30, -3). They have no grand illusions about agricultural

Table 5. Factor Scores of the Five Most Like and Least Like Statements for Progressive Realists

Progressive Realists— <i>Most Like</i> Statements		
27	Investment of state funds in agricultural education is a good use of money.	5 1.56
20	The agricultural education teacher is an important mentor and role model for high school students in and outside of the classroom.	5 1.49
14	It is important that agricultural educators and core content educators collaborate in order to be aware of connections between the agricultural classes and core classes.	4 1.39
13	Agricultural education makes confusing math and science concepts easier to understand by putting the concepts in a real-world context.	4 1.32
18	Agricultural education supports the intellectual growth of students.	4 1.24
Progressive Realists— <i>Least Like</i> Statements		
39	There is little educational value to the livestock exhibitions, FFA contests, and extracurricular student projects. It is just that extracurricular.	-4 -1.52
15	Agricultural education has no business teaching students core subjects like science, math, and language arts.	-4 -1.68
35	Students involved actually develop poor academic and personal habits.	-4 -1.70
41	Keep the science, math, and language arts out of agriculture.	-5 -1.72
4	Agricultural education is only viable in rural communities where production agriculture is practiced.	-5 -1.74

education being the academic solution for gifted or struggling students and may be the most dependable of supporters and collaborators. Recognizing the truths and celebrating successes is a strategy that we recommend in order to keep these progressive realists informed of the current status of agricultural education.

This study illustrates key differences in the varying perspective held by groups defined as progressive enthusiasts, skeptical academics, supportive idealists and progressive realists among the faculty at the University of Idaho with regard to secondary agricultural education. The results provide information that may be helpful in enhancing, trust and communicate with faculty both within the agricultural education community, as well as without. This study focused primarily on the outcomes of agricultural education, students and teachers. Further research needs to be conducted with university faculty concerning epistemological perspectives held by hard and social scientists. Research needs to be directed toward ways to better understand the methodological similarities and differences, as well as the strengths of interdisciplinary projects once trust, communication and understanding are established.

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