

## A TRI-STATE NEEDS ASSESSMENT OF EMOTIONAL INTELLIGENCE IN AGRICULTURAL EDUCATION

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### Abstract

*This study explored the importance and inclusion of emotional intelligence in the existing curriculum by agricultural education instructors. Although much research has been conducted about the importance of emotional intelligence in the realm of education, research in the area of emotional intelligence in agricultural education programs is limited. The concept of incorporating emotional intelligence into the agriscience curriculum is not a new idea. The very philosophy of agricultural education lends itself to the development of emotional intelligence. Agricultural education instructors identified eight out of twenty emotional intelligence competency areas identified through the review of literature as high-level success abilities. This means agricultural education instructors believe these competency areas are important and they are actually including them in their current curriculum. Eleven of the twenty emotional intelligence competency areas were identified as low-level needs. This indicates that agricultural education instructors do not believe these competency areas are important, and therefore they do not believe that the competency areas need to be included in their programs. One competency area, conflict resolution, was identified as being a critical need. This indicates that teachers believe conflict resolution is important, but they are not including it in their program curriculum.*

### Introduction/Theoretical Framework

The explosive growth in the body of knowledge about how the brain works has captured the interest and imagination of educators and the general public (Sylwester, 1994). Researchers are learning, at an unprecedented rate, about how the brain processes, stores, and retrieves information. During the 1990's, brain research exploded into dozens of subdisciplines, such as social learning and emotional intelligence. The book *Emotional Intelligence* by Daniel Goleman (1995) brought to the public's attention the importance of our emotional lives (Jensen, 1998).

There is a rising tide of understanding

among educators that students' social and emotional learning can and should be promoted in school (Langdon, 1996). The challenge of raising knowledgeable, responsible, and caring individuals is recognized by nearly everyone. Today, educators have renewed their perspectives on what common sense has always suggested: when schools attend systematically to students' social and emotional skills, the academic achievements of students increase, the incidents of problem behaviors decrease, and the quality of the relationships surrounding each student improves. Thus, social and emotional education is sometimes called the missing piece in education (Jensen, 1998).

Emotional intelligence has its roots in the concept of social intelligence, first identified by E.L. Thorndike in 1920. Thorndike defined social intelligence as “the ability to understand and manage men and women, boys and girls—to act wisely in human relations” (p. 228). Thorndike’s (1920) definition included interpersonal and intrapersonal intelligences in the definition of social intelligence. Interpersonal (knowing how to get along with others) and intrapersonal (knowing yourself) intelligences made up Howard Gardner’s “personal intelligences” (Young, 1996). There was not just one kind of intelligence crucial for life success, but rather a wide spectrum of intelligences. The operative word in his view is multiple.

Emotional intelligence is a psychological construct not easily defined. However, in his 1995 book, *Emotional Intelligence*, Goleman defined emotional intelligence as simply “a different way of being smart” (p. 279). Understanding the concept of emotional intelligence, according to Salovey and Sluyter (1997), requires the understanding of the two component terms, emotion and intelligence. Intelligence is typically measured by psychologists as how well the cognitive sphere functions. Emotions belong to the affective sphere of mental functioning.

Much research has been conducted about the importance of emotional intelligence in the realm of education. Researchers such as Goleman, Salovey and Sluyter, and Gardner have worked to impress upon educators the importance of emotional intelligence. Goleman (1995) has noted that emotional intelligence predicts as much as 80% of a person's success in life, whereas the traditional measure, IQ, predicts about 20%. Goleman (1995) comments, traditionally, the emphasis when evaluating potential performance has been intellectual; now compelling research indicates that emotional intelligence is twice as important as IQ plus technical skills for outstanding performance. According to studies by EQ University (1999), emotional intelligence is on the decline across all economic groups and cultures. Today's social climate in the United States is supportive of teaching emotional intelligence to students. There

are a number of programs and projects, often referred to as character education initiatives, aimed at the development of emotionally competent young people.

Recent findings in emotional intelligence support the concept of confluent education, which holds that effective learning develops in the interaction of cognitive and emotional domains. Therefore, effective educational practices require attention to the development of many forms of intellect through formal teaching practices as well as through modeling, or informal teaching practices. Current research and practice both firmly demonstrate that the growth of ethical or principle-driven behavior—a critical component of emotional intelligence—develops through numerous informal interactions both in and out of class.

Agriscience programs have a long tradition of informal interactions in that there are four primary components: classroom instruction, laboratory instruction, supervised agricultural experience, and the FFA. Although research in the area of emotional intelligence in the agricultural education classroom is limited, the concept of incorporating emotional intelligence into the agriscience curriculum is not a new idea. The very philosophy of agricultural education lends itself to the development of emotional intelligence. The philosophy states, “practical application and successful transfer of knowledge, skills, and attitudes into real-world settings is the goal of instruction” (Phipps & Osborne, 1988, p. 19). Goleman (1995) noted that success in the adult world depends on both academic ability and social and emotional skills. Elias, Butler, Blum and Schuyler (1997) also stated it is important to clearly outline the social and emotional education students need to acquire in the course of their school years—skills and capacities that schools must impart in partnership with parents and the surrounding community. Agricultural education addresses many of the skills that are the initial building blocks of emotional intelligence.

Agricultural education is often considered a program that encompasses more than just agriculture. Agricultural education instructors have the ability to

reach their students on a variety of levels because of instructional components such as classroom instruction, laboratory instruction, supervised agricultural experience programs, and the FFA organization.

### Purpose and Objectives

The purpose of this study was to explore the importance and inclusion of emotional intelligence competency areas in agriscience curriculum by agriculture instructors. As a means of accomplishing the purpose of the study, the following objectives were developed:

1. To determine the characteristics of agricultural education instructors in Texas, New Mexico, and Oklahoma in regard to the following: (a) personal characteristics, (b) school characteristics, and (c) program characteristics.
2. To determine the critical curricular needs of emotional intelligence in agriculture classrooms as perceived by agriculture instructors.

### Methodology

#### *Population/ Study Design*

The target population of this study was all secondary agricultural educators teaching in public secondary schools in Texas, New Mexico, and Oklahoma during the 2000-2001 school year. In 2000, there were approximately 2,064 agriculture instructors in these three states. The accessible population for the study was teachers identified in the *Agricultural Educator's Directory* (Henry, 2000). According to Krejcie and Morgan's (1970) table for determining sample size, a simple random sample of 325 was selected. This sample size provided a margin of error of plus or minus 5%. Each questionnaire was coded to identify the respondents and non-respondents. A reminder post card was mailed approximately one week after the initial mailing of the survey packet. Two weeks later another mailing of a cover letter, the questionnaire, and a self-addressed, stamped envelope was sent to each of the

non-respondents. Approximately one week later another reminder postcard was sent to all non-respondents. Telephone calls were made to non-respondents two weeks after the second mailing as a final reminder. One hundred seventy-six teachers responded to the survey for a return rate of 57.23%.

According to Ary, Jacob, and Razavieh (1996) non-response is a serious problem in survey research. Research has shown that non-respondents are often similar to late respondents (Goldhor, 1974). In order to control for non-response error, respondents were categorized into early and late groups. Early respondents were compared to late respondents in order to check for any significant differences (Miller and Smith, 1983). Early respondents included those surveys returned after the first mailing (n = 123). The late respondents included those surveys returned after the second mailing of the instrument (n = 53). Independent t-tests were run comparing specific variables of the early and late respondents. The variables used were number of years teaching agriculture, number of students in agricultural education program, the importance mean and the inclusion mean. No significant differences were found, therefore late respondents were believed to be typical of non-respondents. This allowed the researchers to assume that respondents were an unbiased sample, and allowed for generalization to the population.

#### *Instrumentation*

The instrumentation for the study consisted of a four-part mailed questionnaire. It was researcher-designed and composed in a booklet format according to Dillman's (2000) Tailored Design Method (TDM). Part One was used to accumulate demographic information from the subjects. Part Two consisted of twenty competency areas rated on the level of importance and inclusion by the agriscience instructor. Twenty emotional intelligence competency areas were selected based on an extensive review of literature. The level of importance and inclusion was determined using a four point likert type scale. The following competency areas were identified: (1) ability to cooperate (2) capacity to

communicate, (3) citizenship, (4) confidence, (5) conflict resolution, (6) coping skills, (7) curiosity, (8) empathy, (9) health promotion, (10) life skills, (11) managing relationships, (12) mood management, (13) negotiation skills, (14) problem prevention skills, (15) self-awareness, (16) self-control, (17) self-motivation, (18) service skills, (19) social competencies, and (20) workplace skills.

The instrument was presented to a panel of agricultural educators for review. The review was used to verify the face validity of the instrument. The content validity was determined by the extensive review of literature completed to identify the competency areas. A pilot test was also conducted using a random sample of agriscience instructors in Texas that were not part of the sample for the study for the purpose of establishing internal consistency. Data collected were analyzed using SPSS version 10. Cronbach's coefficients ranged

from  $r = .85$  to  $r = .87$  for each of the competency areas.

*Data Analysis*

Descriptive statistics were used to summarize the demographic data. For the second objective, critical needs were determined based on the use of a needs assessment matrix developed by Witkin (1984) for assessing needs in social and educational programs.

The grand mean of importance (GM = 3.51, SD = .36) as well as the grand mean of inclusion (GM = 3.15, SD = .50) were calculated separately for each competency area. These means were then used to construct an XY graph by plotting the overall importance of each competency area on the Y axis and the degree of inclusion for each competency area on the X axis. By plotting the grand means (GM) for each competency area (importance and inclusion), four quadrants emerged, as shown in Figure 1.

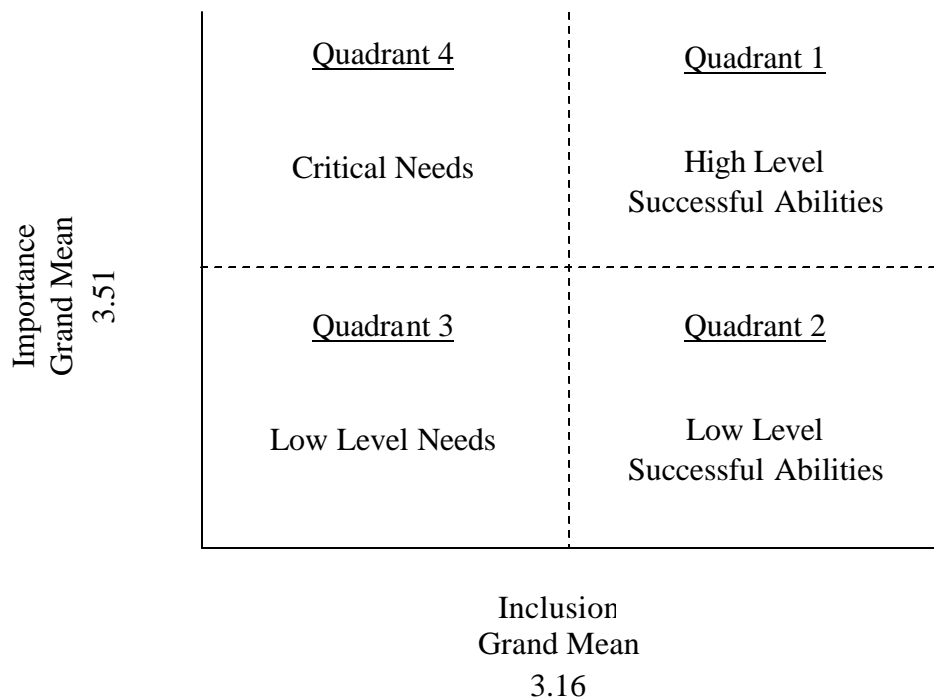


Figure 1. Needs Assessment Matrix (Witkin, 1984).

If the competency area mean for overall importance was greater than the competency area grand mean, and the mean for inclusion was less than the competency area grand mean, the competency area was placed in the fourth quadrant and defined as a critical need.

## Findings

### Objective One

The mean years of teaching experience for the respondents was 16.4 years, and teachers had taught agriculture for an average of 15.1 years. A majority of the teachers were either in single-teacher departments or in programs with one teaching partner. The vast majority (93.2%) of respondents were male. The average age of the teachers was 41, with the youngest being 24 and the oldest being 65. The

majority (92.5%) of the respondents were white/non-Hispanic.

Most of the teachers taught in small communities with populations of less than 5,000. The average school size was 888 students, with 142 students enrolled in agricultural courses. The mean percentage of agricultural students participating in the FFA organization was 72. Forty-seven percent of the students in the teachers' programs participated in SAE programs.

### Findings Related to Objective Two

Objective two was to determine the critical needs of emotional intelligence in agricultural education classrooms as perceived by agriculture instructors.

### High Level Success Abilities

Table 1 indicates the competency areas and the means of the competency areas that

Table 1  
*Competency Areas in Quadrant 1 (High Level Success Abilities)*

Competency areas	Importance <sup>a</sup>			Inclusion <sup>b</sup>		
	Mean	SD	N	Mean	SD	N
Ability to cooperate	3.84	0.38	160	3.64	0.59	159
Ability to communicate	3.86	0.35	160	3.64	0.61	158
Citizenship	3.69	0.55	160	3.44	0.74	159
Confidence	3.71	0.48	160	3.48	0.61	159
Life skills	3.76	0.46	160	3.52	0.71	159
Self-control	3.65	0.57	159	3.20	0.88	158
Self-motivation	3.78	0.45	159	3.42	0.77	158
Workplace skills	3.79	0.41	159	3.64	0.58	158

<sup>a</sup> 4 = "Very important" 3 = "Somewhat important" 2 = "Of little importance" 1 = "Not important at all"

<sup>b</sup> 4 = "Definitely included in curriculum" 3 = "Somewhat included" 2 = "Slightly included" 1 = "Not included"

were identified as high-level success abilities. The teachers identified eight competency areas as high-level success abilities. These competency areas were: (1) ability to cooperate, (2) capacity to communicate, (3) citizenship, (4) confidence, (5) life skills, (6) self control, (7) self-motivation, and (8) workplace skills.

*Critical Needs*

Table 2 indicates that one critical emotional intelligence need surfaced. This

need was conflict resolution.

*Low Level Needs*

Table 3 lists eleven competency areas the teachers identified as low-level needs. These competency areas consisted of (1) coping skills, (2) curiosity, (3) empathy, (4) health promotion, (5) managing relationships, (6) mood management, (7) negotiation skills, (8) problem prevention skills, (9) self awareness, (10) service skills, and (11) social competencies.

Table 2  
*Competency Area in Quadrant 4*

Competency area	Importance <sup>a</sup>			Inclusion <sup>b</sup>		
	Mean	SD	N	Mean	SD	N
Conflict resolution	3.52	0.6	159	2.99	0.78	159

<sup>a</sup> 4 = "Very important" 3 = "Somewhat important" 2 = "Of little importance" 1 = "Not important at all"

<sup>b</sup> 4 = "Definitely included in curriculum" 3 = "Somewhat included" 2 = "Slightly included" 1 = "Not included"

Table 3  
*Competency Areas in Quadrant 3 (Low Level Needs)*

Competency areas	Importance <sup>a</sup>			Inclusion <sup>b</sup>		
	Mean	SD	N	Mean	SD	N
Coping skills	3.43	0.57	159	3.01	0.75	160
Curiosity	3.24	0.68	159	2.87	0.80	158
Empathy	3.04	0.78	158	2.68	0.85	158
Health promotion	3.19	0.73	158	2.75	0.85	159
Managing relationships	3.27	0.79	160	2.93	0.84	159
Mood management	3.16	0.81	160	2.68	0.92	158
Negotiation skills	3.31	0.69	159	2.88	0.83	158
Problem prevention skills	3.42	0.67	159	3.04	0.80	157
Self-awareness	3.42	0.68	159	2.99	0.81	158
Service skills	3.41	0.61	158	3.11	0.76	157
Social competencies	3.42	0.63	159	3.14	0.75	158

<sup>a</sup> 4 = "Very important" 3 = "Somewhat important" 2 = "Of little importance" 1 = "Not important at all"

<sup>b</sup> 4 = "Definitely included in curriculum" 3 = "Somewhat included" 2 = "Slightly included" 1 = "Not included"

### Conclusions and Recommendations

Curricular planners need to answer such questions as, "What will the world be like in the Twenty-first Century?" and "What characteristics will our graduates need to be successful at the turn of the century?" (Sledge, Darrow, Ellington, Erpelding, Hartung, & Riesch, 1987, p. 119).

If agricultural education programs are going to survive, they must be able to adjust to new situations and environments that help to improve the on-the-job effectiveness of future graduates (Coorts, 1987; Slocombe &

Baughner, 1988; Scanlon, Bruening, & Cordero 1996). This study was a first step in evaluating and identifying the curricular needs of emotional intelligence. Similar studies need to be completed looking at other stakeholders, such as students and future employers.

Most of the teachers in Texas, New Mexico, and Oklahoma who are currently teaching (2000-2001) are middle-aged, white males who have taught agriculture for several years. Most of them teach in rural communities as the only teacher, or with one partner.

The average high school size where these instructors teach is small (average enrollment is 888). Enrollments in agriculture also represent a significant proportion of the total school population (16% of the students in these schools enroll in agricultural courses). High school agricultural education programs have a relatively high percentage of membership in the FFA, with membership being over 70%. Nearly half (47%) of agricultural students participate in SAE programs.

The teachers identified eight out of the twenty competency areas as high-level successful abilities. This means that agricultural education instructors believe these components are important and they are including them in their curriculum.

Eleven of the twenty emotional intelligence competency areas were identified as low-level needs. This indicates that teachers do not believe that these competency areas are important, and therefore do not need to be included into their programs. In-service training should be provided for agriscience teachers, in order for them to realize the importance of incorporating emotional intelligence in their existing program.

One critical need surfaced in the findings of this study. This indicates that teachers believe conflict resolution is important, but they are not including it in their program curriculum. In-service training needs to be provided for agriscience teachers, to help them incorporate conflict resolution in their curriculum.

More research needs to be conducted in the area of emotional intelligence in agricultural education programs. The findings of this study address "breadth" of emotional intelligence. Subsequently, the "depth" issue remains uncertain. It is essential that subsequent research be conducted that involves stakeholders in the development of a consensus of the age-appropriate fundamental and powerful concepts associated with the specific competency areas of emotional intelligence.

A similar needs assessment should be conducted with other stakeholders. Other stakeholders might be parents, students, and future employers.

Goleman, Boyatzis, and McKee (2002)

identified eighteen emotional intelligence competencies. This book was published after this study was completed. The eighteen competencies Goleman and his associates identified are similar to the twenty competency areas used in this study. Future studies might utilize the eighteen competencies identified in Goleman's latest book. These competencies are based on longitudinal research.

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