A Comparison of Early Career Agriculture Teachers in Two States: Perceived Success in Teaching Students with Special Needs

Mollie S. Aschenbrener, California State University, Bryan L. Garton, University of Missouri, Amanda L. Ross, Salisbury R-IV Schools

Abstract

This study sought to compare the perceptions of beginning agriculture teachers’ ability to teach students with special needs between a state requiring special education pre-service coursework and a state without required coursework for teacher certification. With similar demographic characteristics, the self-perceived efficacy of respondents from Missouri was 4.72 (SD = .90) and 4.59 (SD = .87) for North Carolina. Teacher efficacy uniquely accounted for 27% of the variance in self-perceived success for Missouri, and 40% of the variance in self-perceived success for North Carolina, while controlling for administrator support, teacher preparation, and in-service participation.
Introduction

Students with special needs have been mainstreamed into regular classrooms since 1975 when Federal laws mandated students be educated in the least restrictive environment (Treder, Morse & Ferron, 2000). Beyond the normal challenges faced by adolescence, students with special needs also face challenges created by their individual disabilities (Lerner, 2003). For example, students with special needs may lack the attention span necessary for a majority of high school classes. Despite pre-service instruction focused on teaching adolescents, pre-service teachers may not acquire the necessary teaching methods for teaching students with specific learning deficits (Mims, Harper, Armstrong, & Savage, 1991).

Most students with special needs require modifications and/or adaptations (Mastropieri & Scruggs, 1995). Individualized Education Plans (IEPs) outline the type of modifications and services students with special needs should receive and provide direction for classroom teachers (Algozzine, Ysseldyke, & Campbell, 1994). Many teacher education programs require coursework in special education for all pre-service teachers to prepare future teachers for the challenges of implementing IEP’s (Powers, 1992). Subject specific teachers must also be prepared to implement IEPs (Sharpe & Hawes, 2003).

Subject specific areas, such as agricultural education, have addressed the topic of students with special needs (Elbert & Bagget, 2003; Kessell, Wingenbach, Burley, Lawver, Fraze & Davis, 2006a, 2006b). Elbert & Baggett (2003) suggested agriculture instructors experience a number of challenges when special needs students are incorporated into their classroom. Technical classes may present even greater modifications and thus greater challenges. In addition, special education teachers seldom have experience working in technical classrooms, making it more difficult for them to assist technical teachers (Evers & Bursuck, 1995). Furthermore, safety can become an additional concern in technical laboratory courses when students with special needs are enrolled. Complex tasks and a wide variety of equipment may overwhelm some students with special needs. Furthermore, students with special needs who enroll in career and technical education classes often experience similar challenges to student with special needs enrolled in “core” academic subjects (Evers & Bursuck). Agriculture teachers must be prepared to provide appropriate instruction to this group of students. Are secondary agriculture teachers confident they can teach students with special needs? What factors determine the efficacious beliefs of secondary agriculture teachers who instruct students with special needs? Do pre-service requirements affect the efficacious beliefs of agriculture teachers who instruct students with special needs?

Theoretical Framework

Self-efficacy is often viewed through Bandura’s (1986) social cognitive theory. Efficacy describes confidence in one’s ability to accomplish tasks in a specific domain. Self-efficacy influences a person’s acquisition of specific skill development and demonstration of behaviors related to that domain (Bandura, 1997; Ormrod, 2004). Self-efficacy connects knowledge and action and strongly influences the accomplishments a person will attain (Plourde, 2002; Soto & Goetz, 1998). Low self-efficacy can make situations appear to be more difficult than they really are and promotes an increase in stress and depression (Soto & Goetz, 1998). As a result, those
who doubt their ability in a specific domain will often avoid difficult tasks in that domain (Bandura, 1997). Although knowledge, skills and past accomplishments are not always strong predictors of future achievement (Bandura, 1986), highly efficacious individuals in a specific domain will approach difficult tasks within the domain as challenges to overcome (Pajares, 1997). In fact, self-perception of their capabilities, or efficacy, may offer a better prediction of future behavior. Furthermore, self-efficacy is critically important to how well knowledge and skills are acquired (Pajares). Efficacy can be viewed through specific domains, such as teaching.

Teacher efficacy has been the topic of considerable research (Ashton & Webb, 1986; Bandura, 1977; Brownell & Pajares, 1999; Guskey & Passaro, 1994). Teacher efficacy is the belief that both desired learning outcomes will be achieved (Soto & Goetz, 1998) and student achievement will occur (Hoy & Spero, 2005). Treder, Morse, and Ferron (2000) suggested “the level of responsibility a teacher will assume for educating students with behavior or learning problems is related to specific attitudes that the teacher holds” (p. 202). A high personal teaching efficacy indicates teachers’ confident in their ability to promote student learning (Hoy & Spero, 2005). “Teacher’s efficacy beliefs appear to affect the efforts teachers invest in teaching, their level of aspiration, and the goals they set” (Hoy & Spero, p. 745). A teacher with a high sense of self-efficacy will provide students the guidance they need to succeed and devote more time to academic pursuits (Bandura, 1997). Teacher efficacy also influences classroom practices such as praise instead of criticism, enthusiasm, and acceptance of students’ opinions (Soto & Goetz). Student achievement and attitude toward learning has correlated to teacher efficacy (Goddard, Hoy, & Hoy; Midgley, Feldlaufer, & Eccles, 1989). Students with a highly efficacious teacher felt they were performing better and the subject was less difficult than students who had teachers possessing lower self-efficacy. Similarly, Ashton and Webb found teacher’s self efficacy was related to their instructional practices and to student achievement. Twenty years of research has “established a strong connection between teacher efficacy and teacher behaviors that foster student achievement” (Goddard et al. p. 480). However, teachers do not always feel the same level of efficacy in all teaching situations. Teacher efficacy may be content specific. Teachers may feel efficacious for certain students in specific settings and teaching particular subjects. Teacher efficacy may differ under diverse circumstances (Goddard et al.). Teaching students with special needs may be an example of a specific setting, and thus teachers’ sense of efficacy may change. Not surprisingly, highly efficacious discipline specific and special education teachers are more likely to recommend a regular classroom placement for students with special needs than teachers with low efficacy in this domain (Soodak & Podell, 1993).

Teacher efficacy, self confidence and personal satisfaction of beginning teachers in subject specific areas such as agricultural education have also been studied. Joerger and Boettcher (2000) found self-confidence and personal satisfaction impact beginning agriculture teachers. Knobloch and Whittington (2002) found teacher efficacy of novice and student teachers was associated with teacher preparation quality, collective efficacy, and student teaching experience. Student teachers and novice teachers may need to believe they contribute to an efficacious group of teachers (Knobloch & Whittington, 2002). Additionally, Knobloch and Whittington (2003) found pre-service and novice teachers demonstrating a higher commitment to their careers were more efficacious after applied teaching experiences. More specifically, commitment to the

---

*Journal of Southern Agricultural Education Research, Volume 60, 2010*
teaching profession may be impacted by early teaching experiences (Knobloch & Whittington, 2003).

Raundenbush, Rowan, and Cheong (1992) investigated 315 high school teachers and determined teachers instructing honors classes were more efficacious than vocational and discipline specific teachers. In addition, Watson (2006) noted academic achievement impacted teacher efficacy. However, teachers’ years of experience does not appear related to their level of efficacy (Watson). Brownell and Pajares (1999) identified three factors affecting a teacher’s self-efficacy when assisting students with special needs. These factors included pre-service preparation, in-service participation, and administrative support (Figure 1).

Pre-service teacher preparation includes both traditional coursework and student teaching. Student teaching experience places a student in a teaching/learning setting under the supervision of an experienced teacher. This field based learning experience provides an opportunity for modeling. Bandura (1997) suggested a person’s self-efficacy may be enhanced through modeling and observing or visualizing successful practices. For example, Brownell and Pajares (1999) found pre-service experiences to be a direct indicator of a teacher’s self-efficacy and self-perceived success when working with students with special needs. Student teachers who have developed a high sense of self-efficacy will behave in a manner that will make them efficacious teachers (Plourde, 2002).

Beyond pre-service preparation, in-service participation improves teacher efficacy (Brownell & Pajares, 1999; Telljohann, Everett, Durgin, & Price, 1996; Watson, 2006). In-service education should enhance teacher knowledge and skills in an effort to improve their effectiveness (Garton & Chung, 1996) and provide opportunities to improve their teaching abilities (Telljohann et al.). Not surprisingly, in-service participation directly affects a teacher’s self-efficacy and self-perceived success when working with students with special needs (Brownell & Pajares).
The third area impacting teacher efficacy is administrative support (Brownell & Pajares, 1999). The educational leadership and support of administrators contributes to teachers’ commitment to the profession (Colardarci, 1994). In fact, Brownell & Pajares suggested supportive administrators increase teacher efficacy. This increase in efficacy may increase teacher perseverance.

If pre-service preparation, in-service participation and administrative support have enhanced the efficacy of some teachers, will these factors also be predictive of the self perceived success of secondary agriculture teachers? Secondary agriculture teachers face the challenge of teaching students with special needs and diverse student learners. However, do agriculture teachers feel prepared to teach students with special needs? Do teachers perceive they are successful in teaching students with special needs? Do differences exist between pre-service requirements for teaching students with special needs? Will the teaching efficacy for a state which requires specialized coursework be different than the efficacy of teachers from a state that does not require specific coursework for teaching students with special needs? Addressing these questions may shed light on an important topic in agricultural education.

**Purpose and Research Objectives**

The purpose of this study was to examine and compare the self-perceived success in working with students with special needs of beginning agriculture teachers between two states with different certification requirements. Missouri requires specialized coursework for working with students with special needs, while North Carolina does not require specialized coursework. More specifically, Missouri requires a minimum of two semester hours of coursework devoted to students with special needs for teacher licensure. North Carolina teaching licensure does not require coursework which addresses students with special needs. The following research objectives were constructed to guide the study:

1. Compare the personal and professional characteristics of teachers (age, sex, years of teaching experience, teacher licensure, and level of education).
2. Compare teachers’ assessment of their teacher preparation program, in-service programs, and administrator’s general support toward working with students with special needs.
3. Compare teacher efficacy toward the competencies necessary for working with students with special needs.
4. Compare the self-perceived success of teachers when working with students with special needs.
5. Compare the explained variance in self-perceived success of working with students with special needs accounted for by teacher efficacy while controlling for teacher preparation, administrative support, and in-service participation.

**Methods and Procedures**

This descriptive study utilized an on-line questionnaire to survey beginning agriculture teachers in two states. The self efficacy of Missouri’s beginning agriculture teachers who were
required to complete special education coursework was compared to the level of efficacy held by beginning agriculture teachers in North Carolina who were not required to complete specific coursework. Four variables were investigated in the study: 1) teachers’ perception of their teacher preparation program, 2) perception of in-service participation, 3) administrative support and 4) self-efficacy toward teaching students who possess special needs. These variables were assessed to investigate factors influencing a teacher’s self-efficacy when working with students with special needs, as well as their influence on teachers’ self-perceived success. Finally, the factors influencing teacher efficacy and the overall self-perceived success were compared between the selected states.

The target population included 123 beginning agriculture teachers in Missouri with five or less years of teaching experience and 115 beginning agriculture teachers in North Carolina with similar experience. No sampling procedures were employed as the entire population meeting the criterion were included in this study. The population frame was developed using the Missouri Agriculture Teacher Directory and the North Carolina Agriculture Teacher Directory. These directories included all persons teaching agriculture in each of the selected states, as well as their years of teaching experience. These references were considered reliable to construct the frame, as they were maintained by the Missouri Department of Elementary and Secondary Education and the North Carolina Department of Public Instruction, respectfully.

The data collection instrument used was a modified version of Working with Diverse Students: The General Educator’s Perspective (Brownell & Pajares, 1999) Modifications were made to the original questionnaire by removing demographic questions which did not address the objectives of this study. The questionnaire was validated through prior research (Bandura, 1993; Billingsley, Pyecha, Smith-Davis, Murray, & Hendricks, 1995; Morvant & Gersten, 1991; Rosenholtz, 1989) and was assessed for reliability with teachers in the state of Florida (Brownell & Pajares). Cronbach’s alpha coefficients were reported for each section of the questionnaire and ranged from .81 to .96. Additionally, post-hoc reliability was calculated and ranged from .78 to .97 for Missouri and .70 to .97 for North Carolina. Overall reliability was estimated to be .93 for Missouri and .93 for North Carolina.

The questionnaire was administered to the teachers through an on-line survey tool. To ensure the results of the study were representative of the population, non-response error was addressed. Miller and Smith (1983) stated that late respondents are often similar to non-respondents. Therefore respondents were categorized into separate groups of early and late respondents and compared for statistical differences (Ary, Jacobs, & Razavieh, 2002).

Descriptive statistics were used to simplify and characterize the data. Pearson product correlation coefficients were calculated between variables and interpreted using Bartz’s (1999) descriptors. In addition, hierarchical multiple linear regression was used to explain the variance in beginning agriculture teachers’ self-perceived success of working with students with special needs, while controlling for the variables of interest.

Results and Findings
After appropriate follow-up procedures were employed (Dilman, 2007), 81 of the 123 (66%) beginning agriculture teachers in Missouri and 69 of the 105 (66%) beginning agriculture teachers in North Carolina returned useable questionnaires. Respondents were categorized into separate groups of on-time and late respondents, individuals who replied after the third request, and compared for statistical differences (Ary, Jacobs, & Razavieh, 2002). The variances were assumed equal after calculating Levene’s test for equality of variances ($p > .05$). The independent samples $t$-test for Missouri showed no significant difference between on-time ($n = 48$) and late respondents ($n = 25$) for teacher preparation ($t = .04; p > .05$), in-service ($t = -1.65; p > .05$), administrative support ($t = -1.76; p > .05$), self-efficacy ($t = -1.82 p > .05$) and perceived success ($t = -0.02; p > .05$). Similarly, independent samples $t$-tests for North Carolina failed to show significant difference between on-time and late respondents for teacher preparation ($t = .09; p > .05$), in-service ($t = -1.99; p > .05$), administrative support ($t = .16; p > .05$), self-efficacy ($t = -.02 p > .05$) and perceived success ($t = 1.29; p > .05$).

The first research objective sought to describe teachers on their personal and professional characteristics. The respondents from Missouri and North Carolina were found to be nearly equally split between males ($n_1 = 42; n_2 = 36$) and females ($n_1 = 39; n_2 = 33$) (see Table 1). In addition, the most frequent level of education for both states was found to be a bachelor’s degree. On average, respondents from Missouri had 2.71 years of teaching experience and were approximately 26 years of age, ranging from 22 to 48. Beginning agriculture teachers in North Carolina averaged 27 years of age and ranged in age from 22 to 63. The average length of teaching experience for North Carolina was 2.5 years.

The second research objective sought to compare teachers’ assessment of their teacher preparation program, in-service programs, and administrator’s general support toward working with students with special needs. First, beginning agriculture teachers assessed their teacher preparation program. Individual items in this construct consisted of questions such as

<table>
<thead>
<tr>
<th>Construct Items</th>
<th>Missouri ($n_1 = 80$)</th>
<th>North Carolina ($n_2 = 69$)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>Mean</td>
</tr>
<tr>
<td>Age</td>
<td>26.10</td>
<td>4.00</td>
</tr>
<tr>
<td>Years of Teaching</td>
<td>2.70</td>
<td>1.50</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>48.00</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>52.00</td>
<td></td>
</tr>
<tr>
<td>Teacher Licensure</td>
<td></td>
<td></td>
</tr>
<tr>
<td>University preparation</td>
<td>95.10</td>
<td></td>
</tr>
<tr>
<td>Temporary certificate</td>
<td>4.90</td>
<td></td>
</tr>
<tr>
<td>Educational Level</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bachelors</td>
<td>80.20</td>
<td></td>
</tr>
<tr>
<td>Masters</td>
<td>19.80</td>
<td></td>
</tr>
</tbody>
</table>
“knowledge of the different needs of student with disabilities” and “ability to manage the behavioral difficulties of students with disabilities.” Missouri’s beginning agriculture teachers overall (summated) assessment of their pre-service coursework regarding working with students with special needs was 3.57 (SD = 1.22) (see Table 2). The summed assessment of North Carolina’s beginning agriculture teachers was 3.44 (SD = 1.11).

Table 2
Perceptions of Working With Students With Special Needs;

<table>
<thead>
<tr>
<th>Construct Items</th>
<th>Missouri (n1 = 80)</th>
<th>North Carolina (n2 = 69)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Preparation a</td>
<td>3.57</td>
<td>3.44</td>
</tr>
<tr>
<td>In-Service Participation a</td>
<td>3.36</td>
<td>3.42</td>
</tr>
<tr>
<td>Administrative Support a</td>
<td>4.66</td>
<td>4.20</td>
</tr>
<tr>
<td>Self Efficacy b</td>
<td>4.31</td>
<td>4.11</td>
</tr>
<tr>
<td>Self Perceived Success</td>
<td>4.72</td>
<td>4.59</td>
</tr>
</tbody>
</table>

Note. a Scale: 1 = disagree, 6 = agree. b Scale: 1 = nothing, 6 = a great deal

Next, participants were asked their level of agreement in response to the statement “I have actively participated in staff development programs in my school or district that focus on…” The statements included examples of in-service opportunities which addressed students with special needs. Descriptive statistics were calculated for perceptions of in-service participation for each of the four construct items, followed by a summated score. The overall assessment of the in-service participation for beginning agriculture teachers was 3.36 (SD = 1.51) for Missouri and 3.42 (SD = 1.44) for North Carolina (see Table 2).

Research objective two also sought to assess teacher’s perception of general administrative support. Administrator support was measured using twelve individual items. Respondents ranked their level of agreement with statements such as “supports me in my interaction with parents,” “informs me about school/district policies” and “supports general educators in mainstreaming students with disabilities.” The summed score for Missouri’s general administrative support was 4.66 (SD = 1.16) (see Table 2), while North Carolina’s teachers indicated an average of 4.20 (SD = 1.20) for administrative support.

Comparing teacher efficacy toward the competencies necessary for working with students with special needs was the purpose of research objective three. According to the theoretical framework offered by Brownell & Pajares (1999), self efficacy is one factor of self-perceived success. Self efficacy ascertains the beliefs teachers hold about their ability to teach students. Teachers were asked to respond to the question: “considering your current instructional situation and teaching responsibilities, how much can you do to…” Eleven items defined the construct and included items such as “keep students with learning problems on task during difficult assignments” and “individualize learning for students with learning problems.” The teacher efficacy of Missouri’s beginning agriculture teachers’ summed score was 4.31 (SD = 0.72) (see Table 2). The teaching efficacy of beginning agriculture teachers in North Carolina was determined to have a summate score of 4.11 (SD = .84).

Describing the self-perceived success of beginning agriculture teachers’ ability to teach students with special needs was the purpose of the fourth research objective. Self-perceived
success evaluated the actual success teachers have experienced. Construct items included statements such as “special education students have been successfully included in my classroom” and “I have successfully taught students with learning problems.” Beginning agriculture teachers in Missouri reported their self-perceived success toward teaching students who possess special needs ($M = 4.72$, $SD = .90$) (see Table 2). The mean score for beginning agriculture teachers in North Carolina was 4.59 ($SD = .87$).

To address research objective five, a hierarchical regression analysis was calculated. Prior to conducting the regression analysis an intercorrelation matrix was generated to reveal the presence of multicollinearity (see Tables 3 & 4). The bivariate correlations between the three control variables posed no threat of multicollinearity (Berry & Feldman, 1985). In addition, multicollinerarity was also examined through the tolerance values.

Table 3
Intercorrelation Matrix Missouri

<table>
<thead>
<tr>
<th>Variable</th>
<th>X¹</th>
<th>X²</th>
<th>X³</th>
<th>X⁴</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Preparation (X)</td>
<td>1.00</td>
<td>.24</td>
<td>.36</td>
<td>.47</td>
<td>.35</td>
</tr>
<tr>
<td>Administrative Support (X)</td>
<td>1.00</td>
<td>.24</td>
<td>.18</td>
<td>.09</td>
<td></td>
</tr>
<tr>
<td>In-service (X)</td>
<td></td>
<td>1.00</td>
<td>.45</td>
<td>.23</td>
<td></td>
</tr>
<tr>
<td>Teacher Efficacy (X)</td>
<td></td>
<td></td>
<td>1.00</td>
<td>.51</td>
<td></td>
</tr>
<tr>
<td>Self-Perceived Success (Y)</td>
<td></td>
<td></td>
<td></td>
<td>1.00</td>
<td></td>
</tr>
</tbody>
</table>

For Missouri, teacher preparation ($r = .35$) and in-service participation ($r = .23$) were determined to have low and positive relationships with the dependent variable, self-perceived success of teaching students with special needs. The relationship between administrative support and self-perceived success for Missouri was determined to be positive and very low ($r = .09$). A moderate and positive relationship occurred between self-efficacy and perceived success of working with students with special needs ($r = .51$) for Missouri respondents.

North Carolina respondents indicated pre-service preparation ($r = .22$), administrative support ($r = .29$), and in-service participation ($r = .30$) had low and positive relationships with the dependent variable, self-perceived success of teaching students with special needs. North Carolina was determined to have a moderate and positive relationship between self-efficacy and perceived success of working with students with special needs ($r = .62$).

Table 4
Intercorrelation Matrix North Carolina

<table>
<thead>
<tr>
<th>Variable</th>
<th>X¹</th>
<th>X²</th>
<th>X³</th>
<th>X⁴</th>
<th>Y</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher Preparation (X)</td>
<td>1.00</td>
<td>.20</td>
<td>.26</td>
<td>.26</td>
<td>.22</td>
</tr>
<tr>
<td>Administrative Support (X)</td>
<td>1.00</td>
<td>.17</td>
<td>.32</td>
<td>.29</td>
<td></td>
</tr>
<tr>
<td>In-service (X)</td>
<td></td>
<td>1.00</td>
<td>.25</td>
<td>.30</td>
<td></td>
</tr>
<tr>
<td>Teacher Efficacy (X)</td>
<td></td>
<td></td>
<td>1.00</td>
<td>.62</td>
<td></td>
</tr>
</tbody>
</table>
The control variables of administrative support, pre-service preparation, and in-service programs were entered first and together accounted for 13% of the variance in self-perceived success of working with students with special needs for Missouri (see Table 5). When the variable of interest, teacher efficacy, was added to the control variables, 27% of the variance in self-perceived success of working with students with special needs could be explained. For Missouri, teacher efficacy accounted for 14% of the variance in teacher’s perceived success of working with students of special needs, beyond the contribution of teacher preparation, administrator support, and in-service participation.

For North Carolina, administrator support, pre-service preparation, and in-service programs accounted for 15% of the variance in self-perceived success of working with students with special needs (see Table 6). When teacher efficacy was added to the control variables, 40% of the variance in self-perceived success of working with students with special needs could be explained. For North Carolina, teacher efficacy uniquely accounted for 25% of the variance in teacher’s perceived success of working with students of special needs.
Note. aControl variables included administrator support, teacher preparation, and in-service programs.
*p < .05

Conclusions and Recommendations

Beginning agriculture teachers in Missouri and North Carolina are similar in their years of teaching experience, sex, education level, and pre-service preparation programs. Slight differences were seen in the pre-service programs reported by participants in the two states. For example, five percent of the beginning agriculture teachers in Missouri reported holding a temporary certificate, while ten percent of the respondents in North Carolina held a temporary certificate.

When the four teacher perceptions areas were examined, including perceptions of their preparation, in-service participation, administrative support, and self-efficacy, administrative support contributed the greatest to teaching students with special needs for both Missouri and North Carolina. These finding suggest beginning agriculture teachers perceive administrators as generally supportive of their efforts to assist students, including students with special needs. In addition, the findings for administrative support approached the findings of Brownell & Pajares (1999), who found administrative general support to have a mean of 4.82. However, participants in this study had a much lower level of agreement on the in-service construct. In-service participation focusing on students with special needs contributed the least to self perceived success for both states. The findings of this study indicate limited in-service participation for in-service activities which addressed students with special needs. This finding supports the research by Brownell & Pajares. In-service participation addressing teaching students with special needs in the context of agriculture education may be lacking. However, do agriculture teachers perceive the need for additional in-service training focused on students with special needs? Is there a difference between the quantity of in-service opportunities which address students with special needs and the actual participation reported by agricultural teachers? Telljohann et al. (1996) found health education in-service programs increased teachers’ efficacy. Could this also be found in agricultural education? If beginning agriculture teachers were able to participate in additional in-service activities focusing specifically on working with students with special needs, would their teacher efficacy also increase?

Beginning agriculture teachers in both states varied in their perceptions of teacher preparation program’s ability to address teaching students with special needs. Previous research by Brownell & Pajares found less level of agreement of teachers’ perceived pre-service preparation for teaching students with special needs. However, these findings are consistent with the related findings of Rieck (1992), who examined pre-service preparation in working with students with special needs. Rieck suggested nearly two-thirds of pre-service programs graduated students inadequately prepared to work with students with special needs. Slightly differences exist between Missouri, which requires coursework in teaching students with special needs, and North Carolina, which does not require specific coursework in this area. However, there is little practical difference in the perceptions of beginning secondary agriculture teachers in the selected states. The varied response to pre-service preparations may be a concern for agricultural educators.
In general, beginning teachers reported some success in teaching students with special needs, illustrated by their perceived self-efficacy and self-perceived success, in both states. Findings indicate high self-efficacy than the previous research of Brownell & Pajares. This finding supports a study of student teachers in the southeastern United States that found to be adequately confident when teaching students with special needs (Kessell et al., 2006). However this finding contrasts the results of Rieck’s (1992) study of pre-service programs. Would the level of perceived success compare to a measured competency for teaching students with special needs?

Teacher preparation, administrator’s general support, in-service participation and teacher efficacy explained more of the variance in self-perceived success for North Carolina. However, the variables of teacher preparation, administrator support, and in-service programs accounted for approximately the same amount of variance in Missouri and North Carolina’s beginning agriculture teachers’ self-perceived success of working with students with special needs. The percent of variance in self-perceive success account for by self-efficacy was substantially different between the two states. Self-efficacy for North Carolina respondents explained approximately twice the amount of variance in self-perceived success as that accounted for by the self-efficacy of respondents from Missouri.

This finding supports prior research where teacher efficacy had a pronounced effect on elementary school teacher’s self-perceived success (Brownell & Pajares, 1999). What factors, besides required coursework for working with students with special needs, exist between these two states which might account for the vast difference in the variance in self-perceived success? What additional factors contribute to the self-perceived success of secondary agriculture teachers?

Much of the variance in self-perceived success of working with students with special needs is still unknown and should be the goal of future research efforts if we are to effectively teach all agricultural education students. The hands-on, practical experience students in agricultural education programs may be a factor for enrollment in agriculture classes by students with special needs. Agriculture teachers must be equipped to teach these diverse learners. The variance in self-perceived success of beginning agriculture teachers when working with students with special needs should be examined in other states. With the number of alternatively certified teachers increasing, new questions arise for their perceived success in working with students with special needs. Research should be conducted to determine the most effective method for increasing teacher efficacy concerning working with students with special needs. In addition, the self-perceived success of experienced agriculture teachers when instructing students with special needs may also be the subject of future research. Beginning agriculture teachers expressed a limited amount of participation in in-service programs focusing on working with students with special needs, suggesting additional in-service opportunities and participation may be beneficial.
References


