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Considering Professional Identity to Enhance Agriculture Teacher Development

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The professional identity secondary agriculture teachers display can affect their receptiveness and interest in different professional development events, yet is often overlooked when designing professional development because it is not included in the consensus of proven methods of professional development design and delivery (Desimone, 2009). Currently, there is a gap in determining the effects of addressing the professional identity of agriculture teachers in professional development. We posit that, due to its production–based history melding with recent reform efforts, many agriculture teachers have entered an era of professional development that centers around ideals that are inconsistent with those of their professional identity. This paper serves to identify areas of research still necessary in order to enhance the effectiveness of agriculture teacher professional development.

Keywords: professional development, teacher education, agriculture teachers, inservice teachers, professional identity

Introduction

"Teaching, like farming…, is a cooperative art which helps nature do what it can do itself — though not as well without it" (Adler, 1976, The Art of Teaching, para. 3). In his quotation, Mortimer Adler gives words to the feeling many have about the business of teaching; to teach well is not an exact science, but rather an art form that one improves over time through experience and learning. However, the notion that teaching is not an exact science does not imply that it cannot be improved through methodological inquiry. Contrarily, teachers are expected to improve their skills through proven methods of professional development to enhance student learning. The current consensus on proven methods, however, may not be enough to maximize the learning of all teachers during professional development. Just as the art of teaching is not a solid science but one that alters with context, the notion of being a teacher is viewed and displayed differently, and can follow contextual patterns as well (Paechter & Head, 1996). In middle and high schools, these contextual patterns can lie with the subject the teacher is responsible for teaching, especially in marginal subjects that are associated with specific characteristics (Paechter & Head, 1996). Marginal subjects are characterized by the teaching of a set of skills, and therefore typically struggle to gain acceptance among the traditional academic curriculum, often "devoted to self–referring, abstract bodies of knowledge" (Sparkes, Templin, & Schempp, 1990, p. 5). These academic subjects tend to be the focus on educational goals and organization, leading the skills– or career–based subjects, including physical education and career and technical education subjects such as agriculture, to become marginalized (Sparkes, Templin, & Schempp, 1990). The professional identity teachers display socially due to these marginal contexts can affect their receptiveness to and interest in different professional development events, yet is often overlooked when designing professional development because it is not included in the consensus of proven methods of professional development design and delivery (Desimone, 2009). For teachers of marginal subjects that display professional identities separate from those of the required–subject teacher or elementary school teacher, ignoring the aspects of identity that can affect teachers' attitudes toward professional development may lead to a lack of learning that could have easily

been enhanced. This may be particularly true in agricultural education, a subject in which teachers may hold professional identities very distinct to the profession.

Agricultural education is an area in American middle and high schools in which over 11,000 teachers educate more than 600,000 students (National FFA Organization, 2010). While efforts have been made to diversify agricultural education, this elective subject traditionally brings to mind production–based, rural images (Camp, Broyles, & Skelton, 2002). The researchers posit that, due to its production–based history melding with recent reform efforts, many agriculture teachers have entered an era of professional development that centers around ideals that are inconsistent with those of their professional identity. Currently, there is a gap in determining the effect of professional identity of agriculture teachers in professional development. However, theories of cognitive dissonance state that inconsistencies between internal beliefs and new information inhibit learning if established beliefs are ignored (Raths, 2001). This paper serves as a call for research regarding professional identity's effect on teacher learning in an effort to enhance the learning of agriculture teachers during professional development.

Professional Identity and Constructivism

Professional identity, dealing with how individuals perceive themselves individually and as part of a larger professional group, is rooted in constructivist views of education, which state that knowledge is obtained only through experience that occurs both individually and socially, resulting in personally unique knowledge (Doolittle & Camp, 1999). While some teacher educators may strive to disseminate knowledge in professional development, constructivist views state that because knowledge is not known on its own apart from experience, it can only be constructed through an individual's subjective reality, and so the dissemination of knowledge actually results in the acquisition of separate knowledge based on individual experiences (Keiny, 1994). Keiny thoroughly explained how constructivism affects teacher learning:

> Once we realize that there can be no single correct representation of reality, but that reality is what the different persons involved in the situation perceive and construct conceptually, reality ceases to constitute one objective truth and is conceived instead as complex, multifaceted, and multidimensional. It follows, therefore, that the notion of "a model teacher" or "a correct way of teaching" can be discarded. (p. 158)

When teachers attend professional development, they construct knowledge through individual experiences, both from the past and during the professional development, and socially, from interaction with others experiencing the professional development. This notion implies that knowledge is ultimately shared and agreed upon from co–participation in social activities (Doolittle & Camp, 1999). It is through social experiences that professional identities develop, and are therefore exhibited in those social contexts that individuals share.

Constructivist views have been utilized in learning theories and teaching (Keiny, 1994), and successful constructivist professional development programs typically display six main characteristics. As cited by Richardson (1996), these characteristics are:

1. The participating teachers' beliefs and understandings are a major element of the content of the staff development process.
2. The goal of the process is not to introduce a specific method or curriculum to be implemented by the teachers. Instead the goal is to facilitate conversations that allow the participants to understand their own beliefs and practices, consider alternatives, and experiment with new beliefs and practices.
3. Conversations about beliefs and practices are brought together with considerations of the moral dimensions of teaching and schooling.
4. During the course of the process, the discussions among staff developer and teachers move away from domination by the staff developer toward teacher control of the agenda, process, and content.
5. The staff developer is knowledgeable about current research and practice; however, he or she is not seen as the only "expert." A

collaborative process is facilitated that allows the teachers to recognize and value their own expertise.
6. The staff development process is long term, and it is expected that teachers change at very different rates. (p. 113)

These six characteristics together indicate that teacher knowledge is constructed from prior experiences that have established internal beliefs and understandings, as well as the social construction of knowledge and a social negotiation of reality in order for learning to occur in a constructivist professional development program. However, when beliefs and understandings do not agree with new information, cognitive dissonance occurs, forcing learners to make cognitive choices, many times being to discredit the source of the new information (Raths, 2001). Teachers experiencing cognitive dissonance during professional development are therefore at a great disadvantage for gaining valuable information if their beliefs are not acknowledged and addressed. When the beliefs of teachers, as seen through the identity with which teachers associate socially, influence teacher education, cognitive dissonance brought about by professional development opportunities can be vehicles of powerful teacher change.

Teacher Beliefs

Teacher beliefs affect many aspects of a classroom, including thought processes, practices, change implementation, and learning to teach (Richardson, 1996). However, the exact source of beliefs is not known. Many influences, such as upbringing, life experiences, knowledge, and socialization can contribute to their formation (Desimone, 2009; Raths, 2001). Regardless of where beliefs originate and how they form, teacher educators must acknowledge that beliefs affect the way all teachers carry out their jobs; "the idea that teachers are neutral has to be banned – consciously or not, their opinions affect the way they teach" (Simonneaus, 2000, p. 29). Constructivist theory states that learners, in this case inservice teachers, are strongly influenced by their beliefs with regard to both what and how they learn (Richardson, 1996), implying that teacher education should understand these belief systems to determine how their development's ideals react with existing attitudes. Because belief systems are utilized by individuals to filter, select, use, and dismiss information and ideas (Simonneaus, 2000), the notion of incorporating belief systems into professional development appears to be a sound method of investing in teacher change. However, understanding the construction and alteration of beliefs is a complex undertaking, and involves many facets of an individual's life.

The anatomy of beliefs is complex. While beliefs exist in cognitive clusters, each cluster in a belief system may be protected from other clusters so that contradictory beliefs can exist within an individual (Richardson, 1996). The social context in which information is presented helps guide the individual in interpretation and action (Simonneaus, 2000). However, this web of beliefs also indicates that the alteration of a central belief can affect other beliefs (Raths, 2001), based on how the beliefs are cognitively connected. Creating cognitive dissonance in teacher professional development can provide opportunities for new beliefs to be created and for existing beliefs to be changed (Raths, 2001).

Beliefs stem from various areas of an individual's life, and begin long before he or she considers becoming a teacher. According to Richardson (1996), three stages of experience influence belief systems, which include personal experience, experience with schooling and instruction, and experience with formal knowledge. Formal knowledge is constructed socially, and learners "experience formal knowledge in their school subjects, outside readings, television, religion classes, and so forth" (p. 106). These experiences are collectively more influential in developing beliefs regarding teaching than the education received through teacher preparation programs (Richardson, 1996), indicating that ignoring them in teacher education is a grave mistake on the part of teacher educators.

Because experiences are shared through social interaction, the social culture of which a learner is a part during these experiences also contributes to the shaping of beliefs. Individuals' social experiences are holistic and include aspects of a variety of beliefs based on the social context (Simonneaus, 2000). However, the connection between beliefs and social experiences is a two–way street – while social contexts influence beliefs, beliefs are also

exhibited through social representation. Teachers utilize the shared beliefs of their social groups to interpret and react to information in professional development. As ideas are introduced, teachers interpret, weigh, and react according to the real or imaginary social norms they attribute to their social group. It is through the implied agreement of the social group that knowledge is interpreted, which allows teachers to assess whether the knowledge is worthwhile and valid (Richardson, 1996). As stated in the main tenets of constructivism, it is through this social interpretation that knowledge is acquired by teachers. However, the specific social groups with which teachers identify and to which they feel that they belong when they are making these decisions is crucial in the interpretation, and possible acceptance or dismissal, of knowledge (Richardson, 1996). Studies have proven that teaching practices are influenced by teachers' disciplinary cultures, indicating discipline as one of the social contexts with which teachers identify (see Simonneaus, 2000). Subject matter–related beliefs and orientation toward the subject matter influence teaching practices, further supporting the notion that disciplines in which teachers teach act as the social groups with which teachers relate (Richardson, 1996). Even reform efforts acknowledge the impact discipline–related beliefs have on teaching practices, as seen in work by Cohen and Ball (1990), which states that new teaching policies only affect learning through teachers' beliefs about their subject matter.

When teachers recognize a social group, they either identify themselves as part of the group or disassociate from the group based on shared beliefs and their views of self (Perissini, Borko, Romagnano, Knuth, & Willis, 2004). Sense of self is considered to be closely linked to central beliefs, making these self–related beliefs the most powerful (Raths, 2001). A teacher's view of self–as–teacher is crucial to learning through professional development; "a teachers' concept of 'self–as–teacher' has a profound impact on learning, decision–making, and knowledge and beliefs about teaching (Peressini, Borko, Romagnano, Knuth, & Willis, 2004, p. 80). Between individual views of self and social norms, identities are formed and allow individuals to act in appropriate ways to introduced information (Peressini et al., 2004). Teachers' sense of self has been shown to be related to the concept of professional identity (Beijaard, Meijer, & Verloop, 2004). It is the professional identity established by teachers that influences how teachers respond to professional development.

Professional Identity

Professional identity affects how teachers interpret and react to information throughout their learning when engaging in teacher preparation, as well as when participating in professional development throughout their teaching careers (Peressini et al., 2004). Both social and individual factors contribute to one's professional identity, and each of these three aspects is a fluid entity that undergoes transformation based on the other two. Simonneaus (2000) explained this complex relationship in a fairly concise fashion:

> The social role of individuals, which varies throughout their lives, is a determining factor in whether they adopt or reject the dominant system of representation. These representations help to build up a shared social reality, and develop within a social context which is supported to a greater or lesser degree by the individuals who make them their own. As such, they are relevant to the idea of identity, since they become an integral part of the way individuals perceive themselves and the groups to which they belong. (p. 26)

As Simonneaus stated, professional identity is partially the product of one's social relationships. However, social expectations regarding a group originating from individuals outside that group can also influence professional identity (Beijaard et al., 2004). Personal and professional experiences, the importance teachers put on their responsibilities, and broadly accepted societal views about a teacher's responsibilities are greatly influential in sculpting one's professional identity and therefore play a significant role in the utilization and management of educational practices (Peressini et al., 2004). Through the ways teachers identify with their specific professions, they interpret shared views and identifying actions to make instructional and classroom management decisions (Peressini et al., 2004;

Simonneaus, 2000). However, this identity is not static once developed; as it is dependent on the environment with which it is identified, developing one's professional identity "can be best characterized as an ongoing process, a process of interpreting oneself as a certain kind of person and being recognized as such in a given context" (Beijaard et al., 2004, p. 108). Beijaard et al. (2004) developed a list of features essential in the development of teachers' professional identity, each supporting a constructivist approach to teacher education. They include the notion that the development of professional identity is an ongoing process, hinges on the interpretation of experiences, involves both person and characteristics, and blends sub–identities that more or less coexist harmoniously in an individual. These essential features align well with constructivist tenets; Beijaard et al. concluded their list with the notion that the development of professional identity is altered through active participation in experiences, such as professional development. When observing these features, one can conclude that no teacher is vacant of professional identity, and teacher educators should consider both the aspects of the identities of specific groups of teachers as well as the process of identity development in teacher education and development. In the next section, these two ideas will be unfolded as they specifically relate to agriculture teachers, a group which shares a particularly unique professional identity.

The Unique Circumstances of Agricultural Education

Agriculture teachers committed to their profession display a tendency to "stick together" (McCracken & Etuk, 1985, p. 6), suggesting that a shared professional identity among the group is a natural component of the profession. Agriculture teachers in schools across the nation have experiences drastically different from teachers of other subjects, both in their personal experiences leading them to become teachers as well as their teacher preparation programs. We posit that the societal views and expectations of agriculture teachers also have the potential to be unique when compared to other teachers, and these differences, combined with the history of agricultural education, can create a distinctive professional identity shared among many agriculture teachers. These differences have resulted in unique professional identities among teachers in past research; university teachers have been shown to display values and share a perspective on teaching and learning as an occupational group (Nixon, 1996). Aspects of professional identity development in previous studies, including context, gender, marginalized subjects, and personal experiences, have not yet been applied to the small collection of research on the professional identity of agriculture teachers, but could prove to be quite influential based on research up to this point. The following aspects of professional identity research, when viewed through the eyes of agricultural education researchers, provide a convincing argument for the need for research in this area.

The Influence of Teaching Discipline

Multiple researchers have supported the notion that discipline holds great influence on the development of teachers' professional identity (Biejaard et al., 2004; Coldron & Smith, 1999; Connelly & Clandinin, 1999; Goodson & Cole, 1994). Simonneaus (2000) went so far as to say that pursuing training in a specialized discipline actually signifies a virtual identity. The value of discipline is not unique to the professional identity of agriculture teachers, but does serve to explain some of the values agriculture teachers may have. Past research has shown that students in elementary teacher preparation programs are more child–oriented, while secondary majors (which includes agricultural education majors) are more interested in subject–matter content than the children themselves (Richardson, 1996). This could indicate that agriculture teachers do not necessarily enter the profession because of their love for children, but perhaps more because of their love for the subject–matter of agriculture. Additional research on the reasons agriculture teachers pursue their careers is needed, as these interests hold great influence on professional identity. This alternate interest in subject matter may stem from the personal experiences had by many agriculture teachers unique to their group. Many agriculture teachers have agricultural experience before they enter agricultural education, and these experiences typically begin with family farms and rural communities.

Childhood family experiences "strongly influence teacher role identity" (Richardson, 1996, p. 106), and so one might argue that any teacher growing up in a rural or farming community may share these experiences. However, they do not affect all types of teachers in the same way. We posit that teachers who choose to teach agriculture based on these experiences have a different relationship with their subject matter than other teachers; research has even shown that elementary and high school teachers typically lack adequate understanding of the subject matter they teach (Richardson, 1996); however, agriculture teachers may choose to teach based on their subject interest more often than other teachers. Again, while this logic is merely proposed, it is an untouched research area, indicating that researchers have great tasks ahead of them in order to determine the actual relationship between the professional identity and discipline of agriculture teachers compared to those of other teachers.

The Influence of Teacher Gender

Research has shown that great differences in professional identity may stem from the combination of gender and context. Khan and Weiss (1973) found that more positive attitudes toward students were held by elementary and female teachers than by secondary and male teachers. Book and Freeman (1986) concluded that males are more likely than females to express their selection in teaching as a career due to failures in initial academic majors. Further, studies have concluded that female teachers of certain disciplines tend to professionally identify with teaching in general more than with their specific subjects than male teachers, allowing them to be more willing to change their views of teaching and related practices (Paechter & Head, 1996). These conclusions hold significant implications for agricultural education, as the majority of agriculture teachers are male (Camp, Broyles, & Skelton, 2002). Many educational contexts have traditionally consisted of mostly female teachers; however, agricultural education did not even allow female students to be members of their intracurricular organization until 1969 (National FFA Organization, 2010). Although efforts have been made in recent years to increase diversity in agricultural education, the well–established traditions of the profession still thrive. In 2001, the number of male agriculture teachers almost quadrupled the number of female agriculture teachers (Camp et al., 2002). These statistics, combined with the research stating that secondary male teachers do not hold as much concern toward students and more readily state that teaching was not their first career choice, and with the notion that agriculture teachers choose educational professions for reasons other than a love for children, make a significant case for the idea that agriculture teachers may have different views of teaching than other teachers. Research determining the frequency and severity of these differences is greatly needed in order to determine how these potential differences may affect learning in professional development.

The Influence of Educational Reform

Gender and teaching motives are not the only differences that create the potential for unique professional identity in agriculture teachers. Along with the tradition of gender in the profession is a traditional method of education. Due to the production–based foundation of our nation's agriculture industry, teachers have been trained to teach students about production agriculture since the beginning of agricultural education (Phipps, Osborne, Dyer, & Ball, 2008), and their professional identity was being formed during this training (Simonneous, 2000). However, recent technological growth in agriculture has resulted in teachers that are no longer trained in the discipline they teach, leaving them feeling inept in the field about which they previously felt so strongly. Now that the learning of agriculture centers around the science of agriculture rather than the process of production, teachers are experiencing an identity crisis "due to the gap between their disciplinary culture and new social demands" (Simonneaus, 2000, p. 28). In light of the new demands on agricultural education, teachers are having trouble altering their professional identities accordingly – an understandable dilemma, as research shows that central beliefs are difficult to change and are connected to other belief systems (Raths, 2001; Richardson, 1996).

The Influence of Teaching Practices

The traditions of agricultural education not only lead teachers to identify with production–

based agriculture, but also with specific teaching practices. Agricultural education prides itself on teaching through an experiential, hands–on approach (Phipps et al., 2008), and therefore shares associated values and characteristics with other tactile subjects, such as physical education and other career and technical education. Research has shown that being proficient and able to demonstrate specific skills is integrated into professional identity (Paechter & Head, 1996). As other subjects have moved from less skill–based learning (similarly to agricultural education reform), teachers actually experienced a loss of some of their identity associated with their confidence in teaching skills and their identity as a teacher in that subject area (Paechter & Head, 1996). These studied skills–based teachers were hesitant to teach topics in their subjects about which they did not feel personally proficient. It has already been shown that traditionally–productivist teachers now required to teach through the new world of biotechnology are hesitant to do so based on their former productivist–based training and subsequent beliefs and views of teaching (Simonneaus, 2000). If the same relationship between a reduction of teaching skills–based topics and a loss of professional identity exists in agriculture teachers, professional development that focuses on reformed teaching material without addressing the hesitance of agriculture teachers trained to teach production–based skills may limit learning potential.

The Influence of Societal Beliefs

The distinguishing characteristics potentially influencing agriculture teacher professional identity are not limited to teacher–produced views. Folk pedagogy, consisting of deeply rooted societal beliefs, also shapes the professional identity of teachers (Raths, 2001). Currently, research on folk pedagogical characteristics affecting agriculture teachers is nonexistent; however, studies in physical education have identified societal beliefs running through schools that affect teachers' professional identity (Paechter & Head, 1996). We posit that some of these folk pedagogical beliefs are similar for teachers of both disciplines, and may hold similar impacts on agriculture teachers' professional identities.

Physical education is both marginal and required in schools, giving it a different set of folk pedagogical beliefs than other disciplines (Paechter & Head, 1996). While not required in all schools, agricultural education can be viewed similarly because of its necessity in order for the school to have an FFA chapter. Many communities demand that their children have the opportunity to participate in the FFA, which is the largest student–run organization in the nation (National FFA Organization, 2001). However, the National FFA Organization requires that FFA chapters only be recognized through school–based agricultural education programs. Therefore, schools that wish to offer an FFA chapter to their students are required to maintain agricultural education programs, although agriculture is not a core subject. Physical education teachers commonly have a degree of informal power in their schools (Paechter & Head, 1996) due to societal views of maintaining "unusually close relationships with students" that are typically lower–performing and non–college track males attracted to the subject because of its more hands–on, informal teaching practices (Paechter & Head, 1996, p. 23). Agricultural education also maintains this folk pedagogy, as this same group of students is typically attracted to agriculture classes and their teachers pride themselves in having close, impacting relationships with students (Marshall, Herring, & Briers, 1992). In fact, a study conducted by Marshall, Herring, and Briers concluded that Texas agriculture students enroll in secondary agricultural education programs because of the class characteristics (which consisted of what students perceived they would be doing in class) and because of identity enhancement (which included relationships with the teacher and the development of a sense of belonging). The informal power physical education teachers experience in schools also stems from the role they play in the school and community relations, often being spotlighted for a school's athletic success (Peachter & Head, 1996). According to Paechter and Head, consumer science departments also experience some of this school fame when being the spotlight through crafts displays and catering. Similarly, agricultural education departments are often asked to cook for school–wide events, including professional development, as is noted in the National Association of Agricultural Educator's Communities of Practice, wherein an online discussion board includes a national

discussion thread regarding *BBQ Grills* (Bax, 2010). Additionally, custodians and administrators also look to agriculture teachers and their equipment for maintenance and repair of school facilities. A study conducted by Gliem and Miller (1993) regarding the safety of agricultural equipment and facilities asked whether administrators felt that they personally use the agricultural facilities in an unsafe manner. Eleven percent of the administrators indicated that they were either unsure or that they did use the agricultural facilities in an unsafe manner. Regardless of the safety hazards implied by this result, the fact that the item was included on the questionnaire without an option to indicate that the administrator does not use agricultural equipment at all indicates the prevalence of the assumption that school personnel are using the agricultural facilities for purposes other than agricultural education. It is because of meeting these school–wide demands that agriculture teachers, much like physical education and consumer science teachers, can experience a sort of informal power among a school that can lead to alternate professional identities among these teachers. The connections made here between physical education and agricultural education, again, are not researched or proven, but obviously provide a need for research to be conducted.

The folk pedagogies that affect professional identities of different teachers must be taken into consideration by teacher educators when examining the practice of classroom instruction (Raths, 2001). Differences of physical education teachers, created by their roles in the school, can cause them to have unique professional identities that may require unique professional development. Agricultural education has the potential to experience many of these differences as well, but has not been examined to address these possible differences in any aspect of their professions, including professional development. We posit that these two disciplines have enough in common to at least merit research in agricultural education that mirrors the existing research in physical education to determine the similarities and differences between the professional identities of these two groups of teachers.

The Influence of Teacher Education

Lastly, the professional identities of agriculture teachers are impacted in a unique manner by a distinctive characteristic of their teacher preparation programs. Beginning teachers' identity of self–as–teacher is highly influential in the development of professional identity (Beijaard et al., 2004). This implies that, although already determined to be less influential than personal experiences (Richardson, 1996; Simonneaus, 2000), teacher education programs have considerable influence over a beginning teacher's view of self–as–teacher. The vast majority of agricultural teacher preparation programs across the nation are actually housed in colleges of agriculture, separated and apart from all other teacher preparation programs, which are housed in colleges of education (R.K. Barrick, personal communication, April 15 2010). While this separation is often justified through the very different course requirements for the agriculture teacher preparation students, the effects of this unspoken "us and them" mentality on agriculture teachers' views of self–as–teacher have not been examined.

Agriculture Teacher Education's Role

As explained earlier, research indicates that teacher beliefs influence classrooms practices; however, as beliefs are not static, they also affect the teacher change process (Richardson, 1996). While teachers have their own views about the purpose of education, student performance, and classroom ethics (Raths, 2001), teacher educators often provide these teachers with knowledge in an effort to help them alter their system of beliefs, thereby also affecting classroom behavior (Richardson, Anders, Tidwell, & Lloyd, 1991). However, multiple studies have shown that the acquisition of knowledge through formal pedagogical situations is the least effective factor affecting beliefs about teaching (Richardson, 1996; Simonneaus, 2000). Even knowledge that cannot be disputed, such as mandated instructional policy, is subject to interpretation through the filter of a teacher's beliefs and previously established practices, both extending from professional identity (Cohen & Ball, 1990). Currently, researched, proven methods of instruction are often disseminated to teachers

through formal development sessions, and when these methods conflict with what teachers believe is right for their students based on their professional identity, learning and behavioral change is severely diminished (Beijaard et al., 2004; Desimone, 2009; Raths, 2001; Richardson, Anders, Tidwell, & Lloyd, 1991). In order to address this gap between beliefs and new knowledge, teacher educators must understand and address the dissonance between the introduced knowledge and already established beliefs characteristic of agricultural education teachers (Raths, 2001).

The title of *teacher educator*, however, belongs to several groups. When examining agriculture teacher professional development programs, six separate teacher educator entities have been identified as having responsibilities, among them being teacher education programs (Anderson, Barrick, & Hughes, 1992). Best practices in professional development claim that school–wide professional development holds the greatest potential benefit for teachers; however, this same literature also states that professional development must have a content–related vehicle to relay pedagogical knowledge (Desimone, 2009). In secondary education, these two best practices can actually be conflicting, as teachers are each responsible for separate content areas. Further, the distinctive professional identity of agriculture teachers may indicate that school–wide professional development may not always be the most beneficial method of teacher education. For this unique group of teachers, the involvement of agriculture teacher educators in teacher professional development is crucial in order to maximize the level of experienced success (Anderson et al., 1992). Research by Anderson et al. indicated that agricultural teacher education was perceived to have primary coordination and delivery responsibilities in the area of pedagogy update, as well as for all components of state–wide comprehensive professional development programs. While many partners are needed to maximize teacher learning in professional development, the role of teacher education programs in providing development for inservice agricultural education programs should not be overlooked.

The Need for Future Study

Great funds are spent on professional development annually (Desimone, 2009). Professional development for career and technical education teachers, including agriculture teachers, has been reexamined due to these increasing funding requirements clashing with decreasing budgets (Anderson et al., 1992). While professional development entities, including teacher education programs, can enhance the success of their teacher development opportunities by following previously researched and proven best practices, professional identity remains an unexplored area that holds potential solutions to increasing changes in teacher behavior (Desimone, 2009). Delivering professional development in a method that assumes all teacher groups identify with their profession in the same way ignores differences crucial to the learning of unique groups, such as agriculture teachers. Professional identity can be addressed in professional development through teacher beliefs, once the beliefs of these shared professional identities among specific groups are recognized. Introductory research that explores professional identity in professional development suggests that long–term, sustained teacher behavioral change may result from the focusing on teacher beliefs and life histories (Richardson, 1996), as well as on the individual teacher and the teacher's community (Desimone, 2009). The community with which teachers share a professional identity are crucial to their learning tendencies because "teachers in different disciplines are not a uniform group, [and] do not share the same social representations" (Simonneaus, 2000, p. 46). Ignoring these unique community characteristics can create gaps in teacher learning and result in large amounts of funding being wasted on minimal teacher change. By focusing on professional identity characteristics of distinct groups of teachers as an area of research, the professional learning of agriculture teachers, as well as other unique groups of teachers, can be enhanced, encouraging the greatest professional development effectiveness.

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