

New York Agricultural Science Teacher Professional Growth: Empowering Teachers to Improve their Practice and the Profession

*Travis D. Park
Donna M. Moore
Cornell University*

*Jennifer E. Rivera
Michigan State University*

Abstract

Direct comments, drawn from more than five and a half hours of interviews with 26 high school agriculture science education teachers, speak to the frustrations felt towards ongoing professional development. Conducted in the fall of 2005, the interviews divided teachers into four focus groups and included a broad sampling of experience levels, from beginners to established to professional to mature, ranging from four years or less experience up to 20 years and more. Teachers considered and discussed professional development, what worked and what did not. The “what worked” comments highlighted a preference for informal support networks that developed naturally and a more individual-based approach to professional development. The “what did not work” comments identified skepticism for the effectiveness of institutional initiatives, programs mandated by schools or states. Outside influences played a role, with comments on how having a family helped in the classroom. The reflective aspects of the interviews also proved beneficial. The challenge becomes integrating these individual and reflective aspects into future professional development opportunities.

Introduction and Theoretical Framework

Highly qualified teachers in all content areas are the most important component of a child's education (National Commission on Teaching & America's Future, 1996; Stroup, 2002). The profession must provide ongoing professional development in order to help teachers maintain their highly qualified teacher status. While Anderson, Barrick, & Hughes (1992) investigated the perceived role and responsibilities of agriculture teacher educators for professional development activities and Edwards, McLucas, Briers, & Rohs (2004) studied the use of distance delivery of of educational program there has been limited work done to investigate the delivery methods and activities associated with professional development experiences in agricultural education. A number of researchers have investigated the inservice needs of practicing teachers (Kotrlik, Redmann, Harrison, & Handley, 2000; Layfield & Dobbins, 2002; McCaslin & Torres, 1992; Newman & Johnson, 1994) and new agriculture teachers (Birkenholz & Harbstreit, 1986; Edwards & Briers, 1999; Edwards, McLucas, Briers, & Rohs; Garton & Chung, 1996, 1997; Joerger, 2002; Mundt & Connors, 1999). These efforts have produced findings that assist in the planning of inservice program topics, yet the delivery methods and design of the professional development activities in agricultural education have not been well documented. What aspects of professional development are important to teachers?

Questions about professional development must be addressed to ensure positive returns on the investment of faculty and state resources. Outside of formal professional development, how do teachers grow professionally? What methods of professional development empower teachers to make significant changes in their teaching practices? Little evidence has been provided about New York teachers' professional development activities and preferred delivery models. A lack of relevant data contributes to difficulty in designing and implementing professional development activities that address teachers' technical content needs and preferred program formats.

This research will help identify the professional development context or program formats preferred by secondary agricultural science teachers in New York State and allow for the initial stages of developing an implementation plan to meet those preferences. By identifying the professional development activities of teachers, this research will help in designing appropriate professional development for teachers of agriculture.

Teacher professional development is a part of a larger area of practice referred to as "continuing professional education" (Houle, 1980, p.7), which began to appear in the 1960s as a response to the general public's criticism of professionals in assorted practices including law, medicine, and teaching. Houle's early studies of continuing professional education practices challenged the professions to rethink their traditional system of continuing education. Houle recommended that continuing education practices emphasize self-directed learning within three models: inquiry, instruction, and performance. Houle's work recognized continuing professional education as an area of practice and research and emphasized the importance of recognizing individual professional's needs in continuing education program design.

The study of continuing professional education learning models was examined by Nowlen (1988), who posed challenges to the limitations of both the traditional short course model and competency model of continued professional development with his proposed performance model which "is structured by a double helix in which there are two complex interactive strands, each bearing only part of the performance code. One carries cultural influences, the other the individual's characteristics," (p.73). Within this performance model concept Nowlen argued

The conversation must be widened to include the possibility of long-term teaching / learning relationships between educators...in the context of their cultures. Guided self-reflection and the development of complex learning agendas by individuals and groups may be more important to such relationships than programs of instruction (p. xi).

This did not mean an end to the update or competency models; instead Nowlen (1988) proposed that continuing professional education providers consider the social and physical contexts in which professionals will be applying the knowledge shared in the traditional program models as well as the individual characteristics of the professionals. Ultimately Nowlen's performance model recommended that individual professionals engage in professional development experiences that meet the needs and demands of their individual practices, rather than assume a one-size-fits-all update program. Nowlen suggested that professionals be engaged in long-term experiences provided by a partnership of individual professionals, the organizations in which they practice, the professional associations in which they are members, and the

universities engaged in research and preservice education for the profession. Cervero (1988) not only supported partnership development between organizations, but also called on continuing education professionals to utilize knowledge of their field and expand their practice to include the theory and practices of “adult education and learning, human resource development, the structure and content of preservice preparation, and the context of professional practice” (p. 17).

Houle (1980) recognized that the professionals he identified as optimal learners were “constantly observing, reflecting, reading, discussing, and taking part in organized programs of instruction, incorporating into their performance what they learn by all such means” (p. 304). The concern was that only a few individuals within a profession are engaged in this level of professional learning while the remainder is either completely disengaged with professional learning or is simply satisfied with participation in what Nowlen (1988) refers to as *update models of continuing education activities*. While professional practice and professional development literature offers a critical analysis of the update model, it also indicates evidence that this continues to be the most common form of professional development.

Research in teacher professional development has indicated that the identification of program content and planning activities have been carried out primarily by local administrators, with limited inclusion and input teachers (Choy, Chen, & Bugarin, 2006; USDE, 1998). Additional studies indicate that the lack of teacher engagement in professional development planning jeopardizes the program’s ability to address the needs of students and teachers, influence educational change, or encourage collaboration within the local education system (Hawley & Valli, 2001 in Choy, Chen, & Bugarin). Sparks & Loucks-Horsley (1989) proposed that rather than focusing on traditional update models teacher professional development should include individually guided experiences, observation with feedback, involvement in a curriculum or program improvement project, training sessions, and inquiry based activities.

Purpose and Objectives

The research objective was to ascertain perceptions of teacher professional development from beginning, established, professional, and mature agricultural science education teachers in New York. The study employed the following research questions:

1. Where do you find professional growth?
2. What are the experiences that you’ve had as a teacher that have helped you grow and become the teacher that you are today?
3. What experiences have contributed to your becoming a more effective teacher?

Methods and Procedures

Much of agricultural teacher professional development analysis has been conducted primarily through survey methodology about the topical needs of professional development (Edwards & Briers, 1999; Edwards, McLucas, Briers, & Rohs, 2004; Joerger, 2002; Kotrlik, Redmann, Harrison, & Handley, 2000; Layfield & Dobbins, 2002; Mundt & Connors, 1999; Roberts & Dyer, 2004). Focus group interviews provided an opportunity for deeper

understanding of teachers' professional development activities. Further, this methodology enabled deeper understanding of the preferred delivery and empowerment methods for teachers.

Focus group methodology was chosen for the in-depth, qualitative exploration of the phenomenon of professional experiences that provide growth in teaching. The focus groups allowed for a rich conversation about professional development experiences where individuals could build upon one another's ideas (Lindlof & Taylor, 1995; Morgan, 1997). Five focus groups were chosen to align with Morgan's suggestion that three to five focus groups are ideal for providing meaningful information.

The focus group interviews were conducted in the summer and fall of 2005. They included *beginning* teachers having less than four years experience, *established* teachers with four to 10 years experience, *professional* teachers with 11 to 20 years experience, and *mature* teachers with over 20 years of teaching experience. The focus groups were organized in homogeneous groups based on years of experience for the purpose of analysis and to increase the participants' comfort since they would be sharing with other teachers of similar levels of experience (Krueger & Casey, 2000). We conducted four of the focus groups during the state leadership camp and one with the beginning teachers at the *New Teachers' Workshop* to provide comfort and familiarity for the participants. Two focus groups were conducted with teachers having more than 20 years of experience. All focus groups were both audio- and video-recorded to complement the field notes and observations gathered during the interviews. Recordings were transcribed by an outside firm and analyzed using the inductive method (Hatch, 2002).

Prior to initiating the focus groups, all participants completed a short questionnaire to provide demographic data. Upon completion of the demographic instrument and explanation of the informed consent process, the discussion of professional growth began. Researcher then used a question guide to prompt discussion about professional growth activities. Questions were generated from literature about agricultural science teacher professional development.

Inductive analysis was conducted by: 1) reading data and identifying frames of analysis, 2) creating domains based on semantic relationships discovered within frames of analysis, 3) identifying salient domains and assign them a code, 4) refining salient domains and keeping record of emerging relationships, 5) deciding if domains are supported by data, 6) completing analysis within domains, 7) searching for themes across domains, 8) outlining relationships within and among domains, and 9) selecting data excerpts to support the relationships (Hatch, 2002). The two researchers analyzed all transcribed data via the above methods. The research team then discussed emergent themes, cited supporting evidence from the transcriptions, and identified dominant themes originating from the data. This systematic and sequential process of analysis was employed to strengthen the verifiability of the focus group results (Krueger & Casey, 2000) and rule out the threat of alternative explanations for the results (Maxwell, 2005).

Findings

Four focus group sessions with 26 teachers were conducted during summer and fall 2005 (see Table 1). Over 335 minutes of audio, 110 pages, and over 55,500 words of text were generated from the focus groups. Two groups were gender-balanced. The *beginning* group had

more females than males by a margin of five to two. In the *mature* group, the gender margin reversed with one female to five males. Most participants had earned a master's degree and taught in single-teacher departments. Three participants were from the same nine-agriculture-teacher high school. Nineteen participants were former FFA members and high school agricultural education students. Teacher names have been replaced with pseudonyms.

Individual versus institutional orientation toward professional development

Professional development tended to take on one of two dimensions: 1) an individually initiated effort, or 2) a school- or state-mandated requirement. This orientation seemed to effect teachers' motivation to participate in professional development and implement the ideas generated from the professional development activities. Teachers used the inclusive language of *peers*, *self*, and *mentor* referring to individually initiated professional development opportunities, whereas they used the exclusive language of *they*, *state*, and *school* when speaking of school- or state-initiated efforts. When discussing *professional development*, teachers framed professional development as either self-engaged or forced upon them. When *they* engaged in professional development activities, such as reading, networking, mentoring, and/or learning, then the teachers' language reflected a self-initiated activity and intrinsic motivation.

Table 1.

Descriptive data for agricultural science education teachers participating in focus group interviews about professional development activities.

Group	n	Gender		Mean Years Teaching*	Highest Degree		Number of Teachers				Number of Students	FFA/HS AgEd
		M	F		BS	MS	1	2	3	9		
Beginning:												
< 4 years	7	2	5	1.71	1	6	3	2	0	2	229	6
Established:												
4-10 years	6	3	3	4.67	1	5	2	2	1	1	194	5
Professional:												
11-20 years	3	2	1	16.67	0	3	2	1	0	0	122	2
Mature:												
> 20 years	10	8	2	25.20	2	8	8	0	2	0	88	6
Total	26	15	11	13.15	4	22	15	5	3	3	154	19

*This calculation includes the current year as a full year.

Teachers realized the personal investment in professional development. Carrie, a *beginning* teacher, thought of professional development as “a personal thing...Every person is different, so it just depends what you think...professional growth is for you. Like someone might laugh at the idea of it and think it's totally crazy, but it works for you.” According to Mike, a *mature* teacher, professional development was about the teachers' mindset and motivation.

I think for me professional growth is almost like a, I don't know, it's an attitude. You've got to want to learn things... It's a multilevel component and there're peaks and valleys in it. It seems like with myself some days, I just want to know more, and then other days my brain is full and I'm done, and I'm not going to grow anymore, thank you very much.

Individually initiated professional development offered teachers unique benefits, including expectations for development, interest in content, and motivation to implement changes in teaching practices. For example, teachers were empowered when setting their own goals as typified by Bill, “For me the growth has also been in being able to set my own expectations.” Self-expectations facilitated the quest for knowledge and an interest in the topic. Again, Bill stated, “I want to do something that I am kind of interested in myself and that’s kind of a key to it, because you’re not going to do anything with it if you’re not interested yourself.” This intrinsic motivation helped teachers assert themselves as agents of change in their teaching practices. As a change agent Emily realized that one must

Be willing to change, like when you hear of a new project that might fit into the unit, you read up, you learn more about it, you try something new and your curriculum changes, but maybe your methods change...you could sit and do the same thing you’ve done every year, but that’s not exciting for the kids, and you start to lose it, too.

As a *mature* teacher with many obligations, Chip felt a little more strongly about the importance of interest and quality when it came to professional development activities.

The professional development comes in a lot of different ways, talking with people and different things, but I think it’s in different stages. I mean I’m at that stage now where to get me to come to a professional improvement, and no offense, it’s going to have to be pretty darn good to get me out.

Professional development with peers and in agricultural science seemed less intimidating for teachers. Samantha, a *beginning* teacher, noted that the new teachers’ conference was “much more applicable aspect of professional growth than some of the ones that our schools give us because I think sometimes the ones that our schools give us, we sometimes get the impression that they are stunting our growth.” Teachers tended to seek out professional development through peers for inspiration. John was one example.

I went to a few other ag teachers and visited with them, and they had to explain to me, you know, ‘what are you doing for preparation, what are you doing for the hands-on, look at these ideas,’ and sharing and learning these ideas as a first year teacher, it got me inspired to come up with new activities every year.

In a more personal example of individually initiated professional development, the most experienced group of teachers cited that they gained professional insights by observing their own children grow and develop. Bill reflected on his own children and found,

Reflecting on my own children, how would I want my children treated?...I’m much more likely to call a parent on something that’s not such a big deal early on and say, ‘Hey, listen, we’re going down this road, I want to let you know what’s happening, it’s no big deal right now, but if it goes on, this is what I’m going to have to do and I don’t want to get into that,’ and this kind of stuff, whereas 20 years ago I’d be much less likely to do that, you know much quicker on the phone today.

Teachers realized that their own children helped temper their reactions to discipline problems in the classroom. The *mature* teachers reflected that their own children often opened their eyes to the development of other students. Robbie commented,

When you’re first teaching and it’s just you, you have different reaction than when you’re married, you’ve got a couple of kids, and they’re maybe elementary school age, and you

start to see, 'Well, gee, the same sort of thing my kid is doing...,' ...I think that maybe we don't see when we don't have our own kids.

Professional growth occurring as a school- or state-mandated effort took the forms of formal mentorship programs, conferences, and school workshops. These were perceived as less effective than individually initiated activities. With mentorship programs less experienced teachers realized how informal networks could be more effective than formal appointments because formal mentor networks occasionally failed teachers. As Samantha noted to her department chair, sometimes formal mentor relationships work poorly: "I don't need a mentor, I need a margarita!" Then [the department chair] got me a new mentor who is much better." Larry, a *beginning* teacher, appreciated the informal mentoring: "It's just amazing how much you just take away from more of a casual setting than somebody speaking to you all the time."

School- or state-mandated professional development involved extrinsic motivators such as money, grants, supplies, or other incentives, often as an outgrowth of New York Ag Tech Prep. Miranda appreciated the incentives.

At the beginning, 17 years ago when I first started teaching... I had no materials, you know, brand new, and Tech Prep offered money, grants and supplies and materials, and that is a huge motivation for a new teacher with no supplies, no materials and then they started offering workshops and, as a new teacher I went to these workshops and got to know other teachers and shared lesson plans and shared all sorts of stuff...The excitement when I came back after an ag teachers conference with a trunk full of stuff, and that was kind of the driving force that got me to stay up to date and try new things and bringing materials into a program that had nothing. You start from scratch and I think that was kind of exciting. That kept me enthusiastic and trying new things.

Professional networking with peers and mentoring young teachers was perceived as individually initiated. In discussing networking, collectively this group of teachers noted 23 fellow teachers by name. Miranda realized that as a senior teacher she had the opportunity of "going back and working with more of the newer teachers, it's exciting, it's fun, you know, you're now kind of their mentor and it's a fun position to be in. But it definitely rejuvenates me."

Description of and reasons for networking

Because networking was often mentioned as an area of professional development, we explored this area further within each focus group. Teachers suggested many descriptions of and reasons for networking. In essence, they defined networking as "stealing ideas" and even "swapping war stories." Bill, a *mature* teacher, defined professional networking

I think sometimes to grow as a teacher it's more seeing what your friend teachers are doing and what you pick up from the people. You're, 'Well, how do you handle that' or 'What do you from that,' [What] has been very valuable to me, is anytime I can, you know, steal an idea from a friend that's doing something over at such and such a school. I go, 'Oh, man, there's something I could do.'

Matthew, a *mature* teacher, reflected on his program and "[saw] just a conglomerate of stolen ideas." Robbie continued, "Yeah. If any of us attempted to come up with all of this stuff on our own, well, we'd have gone stark raving mad years ago. And ag teachers are probably the best

borrowers and stealers of the world.” Bill concluded, “Don’t reinvent the wheel—steal, steal.” As a less experienced *established* teacher, John posited, “You know, it’s kind of beg, borrow and steal, but we’re all sharing different ideas and that’s important.”

Nearly all teachers realized the beneficial nature of networking. *Beginning* teacher Larry noted, “Being able to talk to other ag teachers is amazing what it can do. The conferences. Just giving time to ask questions and see how other teachers do things and things like that is very helpful.” Wyatt, a *professional* teacher, suggested, “I agree with getting involved in activities and to see what other people are doing and say, ‘I can do that,’ and, you know, just to try to keep current on what successful programs are doing, successful teachers.”

Less experienced teachers seemed to network outside of agricultural education with more frequency than experienced teachers. Samantha, a *beginning* teacher, realized the commonalities of teaching and the benefits of exploring the pedagogy of teachers in other content areas.

No matter what subject area you are, you're still a teacher and to gain all these different skills and tricks from other educators, because sometimes what works in that second grade classroom may also work in your ag classroom depending on the topic.

While less experienced teachers networked with teachers outside of agricultural science education, teachers with more experience tended to cite examples of networking outside of New York. Wyatt, a *professional* teacher, explained how these out-of-state networks worked.

We visit other programs. ...A group of [us] in our subdistrict and district...will travel every summer to visit neighboring states, and we try to throw in a college or a trade school or something like that and just see what other people are doing. And that’s been a big help, and again it also gives us other people to network with and not just stay within New York.

Mary realized that some of the best lessons learned were from out-of-state conferences and “talking to teachers from other states and what works in their state and how things go about and just that exchange of ideas and experiences.” Laura also valued her out-of-state networking,

I went to college in Virginia so for me one of the best things is that I’ll talk to the friends that I have that are teaching in other states, too, so that I can talk to people who are in Virginia or North Carolina, and how some things that might not affect them or that [are] affecting them would affect me or we can bounce ideas off each other, which helps, too

Less experienced teachers tended to use their networks for encouragement and to survive tough times in teaching. Networking allowed them to manage and share rough days, troubles, mistakes, war stories, and the realization of “Wow, all my troubles aren’t as bad” (John). As a more experienced teacher, Miranda noted that, “Even to share maybe some of the mistakes they do, we’ve also done, even as a veteran teacher and I’ve made that same mistake, and then as a new teacher they don’t feel quite so bad. I think it’s important.”

Further, many teachers appreciated the social networks within their schools or among fellow agricultural science teachers. As a *beginning* teacher, Carrie realized the social aspects of networking: “I think if I have breakfast or go for drinks with local ag teachers, so it’s a social thing but the ideas and stuff, I mean it’s professional growth.” Miranda one of the *professional* teachers referred to conferences as she said, “It’s nice to go some place nice. It’s nice to do fun

things with other people, and you come back, it's definitely a rejuvenator." Anne, a *mature* teacher, noted the social support for female agricultural science teachers;

Being a woman teacher is very different than being a male teacher sometimes, and whatever support you can get...I think is important and it's a message to new teachers that are coming out, you know, to find those people, seek out those people that will support you and have a good network of people around you that will help you become more successful.

Networking was beneficial for less experienced teachers when it included peer networking and judicious implementation of advice. Samantha thought that the new teachers' workshop was "great because we get to have a free exchange of ideas and it's not structured, it's not scripted, and we get to really have a feel for what else is going on in people in our own situation." Charlotte, a *beginning* teacher, continued, "We're all at the same level, even yesterday when we were writing up all the ideas and stuff to see that, like other people are the same level and the same, similar things as we are in similar situations." Still, Luke, an *established* teacher, noted,

One thing that I've learned in the last few years is that though there are a lot of people that you can go to for advice: former teachers, co-teachers, critics of the program for advice, the most important thing that I've found and that I've learned is that it's still my program and I need to be the one to decide where it goes from there and to use what I'd like to see the program develop into.

Experienced teachers realized the value of networking with and learning from a less experienced teacher, especially student teachers. Working with student teachers was perceived as both energizing and enlightening. Miranda appreciated a new teacher nearby because

They've done things that I haven't done. You know the new teacher next door that happened to be a student of mine has gone to some great inservice, real high science inservice, that she shared with me, so she comes back and shares things, and a new job going through files she's pulled stuff out for me and that's pretty neat because they've done things that we haven't done that they share.

Mark, a *mature* teacher, realized the energizing nature of working with a beginning teacher: "Rooming with [Tony] at convention, bringing him up to camp, it has kind of energized me to work with a young person..., [and] just having that contact which I actually tried to get him—I'm still not brave enough I guess to go to professional development on my own—but I tried to get [him] and maybe next year together we'll go to the NYAAE conference. I'm a member, but I just don't manage to make it to that conference. But working with young people can bring you new ideas and get you energized.

In essence, the networks among agricultural science teachers build a camaraderie that benefited most teachers and provided a level of professional development. Mary, one of the *established* teachers summarized the idea of networking effectively. She said,

What's so funny is how long, like even though I've only been teaching for six years, how long some of us feel like we've been involved with [agricultural science education]. There're a lot of people who are teaching that we've known each other since high school, and we grew up kind of together, and it already feels like we've been teaching a lot longer than we have. We've all kind of, yeah, grown up together and as teachers.

Reflective practice as professional development

Reflective practice may be a forgotten aspect of professional development. Yet, the teachers in these focus groups cited many examples of reflective practice in their comments. Carrie, a beginning teacher, exemplified this idea.

I think it's essential to reflect on what you do, like an activity or something... Think about what was successful... your experiences of what really works and what doesn't. To keep that in mind as you plan out your next weeks... Think about what works and what doesn't.

Teachers reflected on the impact and efficacy of their teaching practice in several ways, including the impact on student attitudes, student performance, and upon relatively short- and long-term effects of their instruction on students' lifelong success. When Miranda commented, "Everything you do has an effect," her reflection indicated a deep level of professional reflective practice. She was aware that all her actions and comments impact students.

More experienced teachers seemed to reflect on their deeper understanding of students in general as compared to less experienced teachers' reflections on their own practice and classroom management. Bob, one of the *professional* teachers, commented,

What I like about our job is that you can see growth, because we have kids like from seventh grade to twelfth grade,... so we can see that growth... We're just one little phase in that person's life, and they may be a jerk today, but five years from now they could be that brain surgeon that you're talking about, because they'll finally get their act in gear.

Bob, like other teachers with additional years of experience, reflected on general developmental aspects of students. Teachers' statements demonstrated deeper reflections on students' actions. A *mature* teacher, Bill realized that repeated experiences shed light on reflective practice:

You get the same experience over a number of times, you start to realize there's nothing personal; that's how a 12-year-old or 14-year-old or 15-year-old acts. That's part of their action, so I find myself saying, 'I've seen this before, just your face and name is different.'

Teachers commented that working with student teachers tended to cause them to pause and reflect on their own teaching practices to a greater extent than during their normal daily routine. For example, Wyatt realized that in working with student teachers, you have

The opportunity to, I mean, you kind of have to step back and look at what you're doing there... It really makes you think through a lot of the things that kind of become automatic after a few years, but when you're working with a student teacher, you really have to, I think, almost take a step back and look at what you are.

Bill continued, "I had this student teacher this year, and the thing I reflected on was trying to put myself at their stage, and 'was I like that?' 'Did I do that?' Is this a weakness or is this a thing of the age and where the person's at?" These questions and reflections were triggered by observations of the student teacher. Mike further added,

A single student teacher can empower you and can get you so excited, and that student teacher can help you grow professionally and get you excited about topics... It is a whole different ballgame to try to help a student teacher because, of course, any of your current weaknesses you have to somehow mask... I have found that having a student teacher

brings me up a little bit to make sure, well, if you're going to talk the talk, you better walk the walk, and you better have lesson plans, assessments, and good activities for the kids.

More experienced teachers commented about reflecting on the practice of working with children in general. For example, *mature* teacher Bill realized that observing and reflecting on his own children enlightened his responses to his students and even generated deep questions.

Am I fair? Am I logical? Could I ever stand in front of a parent who says, 'Why has my kid got this kind of a grade?' and give them something that I would accept...Over time when you see little injustices here and there and say, 'What am I doing'?

Time and experience allowed the teacher the ability and willingness to question and reflect upon more global ideas of justice and fairness.

Teachers with more experience realized that their teaching practice had changed over the years, as had their ideas about how to become a successful teacher. Emily, a *mature* teacher, reflected on her first few years of teaching and realized that

You might think you have to mold that child into such a way because that's the only way they're going to succeed, but then now you look back and say, 'Every kid is not going to go the same path and even though they might have had those little problems in school, they still turn out okay,' and so you realize that you know it's just growing up for them.

In the end, the more experienced teachers in these focus groups took a moment to pause and reflect upon teaching and their careers. Mike commented,

Yeah, but it is interesting. I just personally can't imagine doing anything else. You know, what would you do to be as happy and get that variety? You are living on the ultimate edge. Everyday, you don't know what's going to happen one minute from now, and you've got to love that 'what's going to happen next?' approach in your life. You know the bell's going to ring, but you don't know what's going to happen between now and then, and boy, if you enjoy that, then your day goes fast and so does your career.

Conclusions-Implications-Recommendations

Teachers described professional development as a complex phenomenon. Professional development occurred in individual, peer, mentor, and team relationships. It was driven from the individual, school, and state levels. It was content specific as well as related to general pedagogy, and even sometimes involved moral support and encouragement, even socializing. This manuscript focused on the individual versus institutional perspectives of professional development, the meaning of networking as it relates to professional development, and the reflective practice involved in the professional development of a teacher.

Our teachers realized the individual nature of professional development. When it was most meaningful, professional development was "a personal thing" and an "attitude" that included the "want to learn things." When teachers felt this individual engagement, they tended to set their own expectations, become interested, and assert themselves as agents of change in teaching practices. This individualistic orientation to professional development supports Nowlen's (1988) notions that professional development activities meet the needs and demands of

individual practices. Teacher educators must find ways to generate a level of individual expectation, interest, and change empowerment among participants for improved effectiveness of professional development activities.

Teachers, especially those with additional years of experience, cited life lessons, particularly the experience of raising their own children, for contributing to their professional development. One would easily imagine that raising one's own family would contribute to a deeper understanding of students. Teachers in these focus groups reinforced that notion. Raising children caused teachers to reflect about how they interacted with and taught their students at school. How can life experiences contribute to a teacher's professional development?

Teachers noted that formal professional development failed to meet their needs. Why? Is formal professional development too narrowly focused? Is the mode of delivery ineffective? These questions should be addressed with quality and multifaceted research. When formal professional development was effective, it was laden with incentives and included peer interactions, especially for beginning teachers. What is the saturation point for these incentives? How can professional development that includes incentives also develop the individual orientation to empower changes in teaching practice?

Teachers mentioned networking as a form of professional development. Their definition of networking was "stealing ideas." Teachers also noted that this definition was promoted through their collegiate coursework. Yet, teachers also realized the benefit of networking for support, encouragement, and social interactions. Teachers networked with other teachers in the school and with other agricultural science teachers outside the state. Experienced teachers appreciated the opportunity to network with younger and student teachers. Through these interactions, they gained new ideas, energy for teaching, and reengagement with the profession.

One conclusion drawn from the discussions of networking is that professional development activities may serve as much as a vehicle for teachers to network with *each other* as to learn content and pedagogy from *experts*. If so, then means should be explored for encouraging the networking among teachers during conferences and inservices. For example, our teacher educators and state staff included a semi-structured means for teachers to network and share ideas as a major portion of the 2006 summer NYAAE professional development conference. We created teams of teachers, communicated with them prior to the conference, gathered ideas, coordinated a teacher sharing session at the conference, and then provided all of the ideas on jump drives to all participants. In doing so, we provided multiple opportunities for networking within the context of the summer conference. What are other means that can encourage or allow networking and more social aspects of professional development?

While the current professional development for agricultural education in New York has continued to reflect the update or short course models, teachers demonstrated that they found within these experiences opportunities to engage in collaborative or networking activities as a by-product of the planned program. This phenomenon must not be ignored by the state staff, university faculty, and professional organization leaders responsible for planning state-wide agricultural education professional development experiences.

The heavy emphasis on reflective activities within practice as a form of professional development for a number of agricultural educators indicates that agricultural education practitioners are already self-engaging in reflection-in-action and reflection-on-action (Schön, 1983). Future professional development programs should be planned to allow space and opportunity for these reflective activities for all members of the professional community. These types of reflective processes may not be provided in current planning models; instead other models proposed in the professional development literature may be adopted by program planners in agricultural education. In these models planners may also find opportunity to empower teachers to deliberately take ownership of their professional development practices rather than conform to the top-down update model in current practice.

References

- Anderson, T. J., Barrick, R. K., & Hughes, M. (1992). Responsibilities of teacher education for vocational teacher professional development programs. *Journal of Agricultural Education*, 33 (2), 43 – 50.
- Birkenholz, R. J., & Harbstreet, S. R. (1986). Analysis of the inservice needs of beginning vocational agriculture teachers. *Journal of Agricultural Education*, 27 (3), 41 – 49.
- Choy, S. P., Chen, X., & Bugarin, R. (2006). *Teacher Professional Development in 1999-2000: What teachers, principals, and district staff report (NCES 2006-305)*. U.S. Department of Education, Washington, DC: National Center for Education Statistics.
- Edwards, M. C., & Briers, G. E. (1999). Assessing the inservice needs of entry-phase agriculture teachers in Texas: A discrepancy model versus direct assessment. *Journal of Agricultural Education*, 40(3), 40-49.
- Edwards, M. C., McLucas, B., Briers, G. E., & Rohs, F. R. (2004). Educational interests of secondary agricultural education teachers in Georgia: Implications for the delivery of educational programming at a distance. *Journal of Agricultural Education*, 45(3), 75-85.
- Garton, B. L., & Chung, N. (1997). An assessment of the inservice needs of beginning teachers of agriculture using two assessment models. *Journal of Agricultural Education*, 38 (3), 51 – 58.
- Garton, B. L., & Chung, N. (1996). The inservice needs of beginning teachers of agriculture as perceived by beginning teachers, teacher educators, and state supervisors. *Journal of Agricultural Education*, 37 (3), 52 – 58.
- Hatch, J. A. (2002). *Doing qualitative research in education settings*. Albany, NY. State University of New York Press.
- Hawley, W.D. & Valli, L. (2001). The essentials of effective professional development: A new consensus. In D. Boesel (Ed.), *Continuing Professional Development* (pp 1- 17). Washington, DC: U.S. Department of Education, National Library of Education.

- Houle, C. O. (1980). *Continuing learning in the professions*. San Francisco, CA: Jossey-Bass.
- Joerger, R. M. (2002). A comparison of the inservice education needs of two cohorts of beginning Minnesota agricultural education teachers. *Journal of Agricultural Education*, 43(3), 11-24.
- Kotrlik, J. W., Redmann, D. H., Harrison, B. C., & Handley, C. S. (2000). Information technology related professional growth needs of Louisiana agriscience teachers. *Journal of Agricultural Education*, 41(1), 18-29.
- Krueger, R. A. & Casey, M. A. (2000). *Focus groups: A practical guide for applied research*. Thousand Oaks, CA: Sage Publications.
- Layfield, K. D., & Dobbins, T. R. (2002). Inservice needs and perceived competencies of South Carolina agricultural educators. *Journal of Agricultural Education*, 43(4), 46-55.
- Maxwell, J. A. (2005). *Qualitative research design: An interactive approach*. In Applied Social Research Methods Series. v. 41. Thousand Oaks, CA: Sage Publications.
- McCaslin, N. L., & Torres, R. M. (1992). Factors underlying agriculture teachers' attitude toward using microcomputers for in-service education. *Journal of Agricultural Education*, 33 (3), 47 – 52.
- Mundt, J. P., & Connors, J. J. (1999). Problems and challenges associated with the first years of teaching agriculture: A framework for preservice and inservice education. *Journal of Agricultural Education*, 40(1), 38-48.
- National Commission on Teaching & America's Future. (1996). *What matters most: Teaching for America's future*. New York, NY: Author.
- Newman, M. E., & Johnson, D. M. (1994). Inservice education needs of teachers of pilot agriscience courses in Mississippi. *Journal of Agricultural Education*, 35 (1), 54 - 60
- Nowlen, P. M. (1988). *A new approach to continuing education for business and the professions*. New York: Macmillan Publishing Company.
- Roberts, T. G., & Dyer, J. E. (2004). Inservice needs of traditionally and alternatively certified agriculture teachers. *Journal of Agricultural Education*, 45(4), 57-70.
- Schön, D. A. (1983). *The reflective practitioner: How professionals think in action*. USA: Basic Books, Inc.
- Sparks, D. & Loucks-Horsley, S. (1989). Five models of staff development. *Journal of Staff Development*, 10 (4).

Stroup, S. (2002). *Capitol Hill hearing testimony: Sally Stroup, assistant secretary for postsecondary education on teacher recruitment, preparation, and development*. Retrieved October 16, 2002, from <http://web.lexis-nexis.com>.

U.S. Department of Education. National Center for Education Statistics. *Toward Better Teaching: Professional Development in 1993-94*, NCES 98-230, by Susan P. Choy and Xianglei Chen. Project Officer: Michael Ross. Washington DC: 1998.