CHAPTER IV

DATA ANALYSIS AND FINDINGS

The Study

This chapter describes the case study based upon the methodology discussed in Chapter III. The purposes of the case study were (1) to identify some of the major problems confronting first-year science teachers, (2) to list supportive practices supplied by the school-based administration and district-wide programs for first-year science teachers, and (3) to describe problems of socialization confronting first-year secondary science teachers.

The findings of this study are presented in this chapter. The data presented here were collected to answer five research questions. The research questions explored were;

1. What are the perceived problems and issues faced during the

first year and what differences exist between expectations and realities?

2. How does acculturation of first-year secondary science teachers promote better teaching skills?

- 3. What kind of assistance do first-year secondary science teachers feel they need from school-based administration?
- 4. What kind of system-wide in-service programs exist for these teachers?
- 5. What are the problems of first-year teachers observed by the administration, department chairpersons and lead teachers directly responsible for the first-year secondary science teacher? How do department chairpersons, etc. offer support for these teachers ?

Description of Case Study

The case study was conducted in various locations throughout North Carolina. The geographical regions vary socially and economically; some are highly populated, some are not. The demographic statistics from the Department of Public Instruction were supplemented by information gained through site visits and interviews.

The eight participants involved in this research were high school science teachers beginning their second year of teaching. Three of the participants were males and the remaining five were female. Only one participant was from a minority ethnic culture. Seven of the participants were initially certified as science teachers; one was initially certified as a history teacher. This participant completed all requirements for science certification after teaching science classes half time and history classes half time

. These participants were selected because they met all of the selection criteria discussed in Chapter III: they represented a cross-section of the state's teachers; at least one participant was employed in each of North Carolina's six Regional Technical Centers and all were willing to participate in this study. Hereinafter, to assure anonymity, the individual participants will be referred to by a letter of the alphabet. Demographic characteristics of the eight participants are summarized in Table 2.

Table 2

Demographic Characteristics of Participants

Category	n	%
Gender		
Female	5	75%
Male	3	25%
Ethnic/cultural group		
Caucasian/white	7	85%
African-American/black	1	15%
Certification		
Initially science	7	85%
Other subjects	1	15%
Family Status		
Married	4	50%
Single	4	50%
N.C. Teaching Fellow		
Yes	0	0%
No	8	100%

Scenarios of the Participants

Teacher A

The first teacher interviewed was newly married (a little over a month). During the interview he often mentioned that he and his wife hoped to start a family. He spoke of the difficulty of supporting a family on a teacher's pay and the unpleasant prospect of getting an additional job or a possible coaching position to earn more money.

He explained how he truly loved the idea of teaching, and believed student teaching was a wonderful way to help students. He also said that after teaching for one year he had lost a little of his love for the profession.

He and his wife were both teachers, and their relationship had started during their college years. He explained that his wife taught at the elementary level and had fewer than he did. He spoke of how they compared and shared their daily experiences at the end of the day over dinner. He stated that he faced many more school problems every day than his wife did, and added that she frequently offered suggestions for dealing with problem students and discipline issues. He explained how he tried many strategies and how many times these strategies failed. He stated how realization finally set in and when he knew he had to start over with more structure.

Teacher B

This teacher sounded anxious to be a part of the research when she was contacted by telephone. As the interview began, she spoke of her children and how glad they were that all of her vacations and holidays coincided theirs. She talked about her previous career as a Health Professional with the Health Department. She explained how she had felt torn between her family and her job and that this was the reason she decided to become certified to teach science. She explained that teaching was not her first career choice but rather was selected out of necessity.

During the interview she reflected on how she became a substitute teacher to see if she could handle teaching. She explained that the only problem with substituting was how to get the students truly involved in learning and how to keep them focused, so discipline problems would not arise.

She spoke of the first principal she served under and how she respected and admired him. She explained that many other teachers and parents felt he was too easy on the students and too lenient in terms of discipline. This principal left before the year was over. The new principal, she explained, operated differently. The assistant principal remained at the school, however, he was the person that she felt she could talk with, without being perceived as weak.

She also mentioned that the home situations of many of her students were less than ideal. She spoke of many students whose parents believed that an education was not important and that there was no need for their child continue in school after age sixteen. This appeared to disturb her and cause her worry that these students not be able to achieve their full potential.

Teacher C

Teacher C was an older female who had married before finishing college. After her children had left home she decided to enter school and finish her certification for teaching. She explained that her life had not been easy during the time she raised her children: she has been turned out of her father's house when she graduated from high school and had married her husband at a very young age because she really had no place else to go. She told how her children had arrived possibly too soon in her life, thus straining a new marriage. She explained, however, that she and her husband survived life's ups and downs and were able to send each of their three children to college.

Upon graduation from college the only job she could find was in a rural part of North Carolina where the primary employer was a wood mill that processed trees for furniture making. Many of the people who worked there did not have a high school education. She spoke how poor the area was in comparison to many other areas in the state. She talked how neither her students nor their parents knew what was best for them in terms of a good education.

During the interview, she frequently expressed concern about how the administration used grades achieved by students on the End-of-Course Test to evaluate teachers' abilities. She expressed how the entire system relied on these tests to evaluate how well the principal ran the school and how the principal used the results to determine how well the teacher taught.

Teacher D

This participant was a young, white male who had been married about a year. Both he and his wife taught in a rural community in which everybody knew everybody else. Neither of them was originally from this community; they had came to this part of North Carolina after graduating from college. Both of them had graduated with a teaching certification and always wanted to teach school.

He explained how difficult it was to come to a strange place and become established as a good teacher and recalled several incidents that occurred when he first came to the area. One dealt with parents of some of his students who went to the principal and complained that he lacked the knowledge to teach their children. Another dealt with parents who did not want him to be a part of the coaching staff. A third dealt with the fact that some parents believed that because he was not married he could not be trusted. He explained that once he began to date his wife, he was more freely accepted.

He spoke about how his first year of teaching proved more interesting than frustrating and about how he never considered quitting. He explained that he did not receive a permanent room assignment during his first year, a situation that made it difficult for his students to work in laboratory groups or do extended experiments. He explained how the veteran teachers did not want to give up their classes for the labs and how the only way he secured use of the labs when he needed them was by appealing to the principal. He expressed how he was determined to continue to prove that he was a good teacher and fully intended to pursue his career.

<u>Teacher E</u>

This teacher was a single white female who had dreamed of teaching history. She expressed that her content knowledge was very limited in science when the principal told her that she had to teach Physical Science. She explained to the principal, that her knowledge of science was limited and she would have difficulty in the classroom. She said the principal explained that her contract was continuing mid-year when she replaced an ill teacher at the middle school. She questioned how the contract would be the same because she was now at the high school.

She said, that she was listed on the payroll at the high school even though she worked next door at the middle school, the principal replied that she was one of his faculty members and that the classes she would teach were over at the high school. He also said she would have to become completely certified by the end of the school year. She then determined what classes she needed to complete her certification by the end of the year, found local colleges that offered those courses, enrolled, and paid for the classes out of her own pocket. By the end of the year she had received her certification in science and was assigned history and science during her second year.

<u>Teacher F</u>

During the interview this teacher related many stories about situations that caused him to wonder why he had chosen to teach science. He was a single, young, white male who had changed schools after the first year. His first year of teaching had been stressful; he wanted to move a school that had fewer discipline problems and a more supportive administration. He said that when he took the original position (1) he was in dire need of a job and (2) that his family background in missionary work had caused him to determine that teaching was a good way to give back to society.

He said he was raised in upstate New York and had traveled extensively as a child. He explained that he had received great satisfaction from working with children in undeveloped countries and had decided that working with children was what he want to do for the rest of his life. He also noted, however, how quickly his attitude changed after he began teaching school.

He explained that he entered teaching in the public school setting near the beginning of the year when a veteran teacher quit. He explained how difficult it was for him to teach students who had been exposed to a number of substitute teachers. He soon discovered that the principal blamed him for his inability to control his class. He mentioned that he threatened to resign on several occasions. The principal warned that if he did so he would not receive a recommendation for any other teaching position in North Carolina. The teacher explained that he felt he had no other choice but to stay until June.

Teacher G

This participant said immediately that she was not planning to continue teaching after this year. She explained that the first year had not gone as she had expected and that she believed she could better serve students who wanted to learn.

She had been hired in a transitional junior high/middle school to teach Physical Science. As the newest member of the staff she was given the class composed mainly of students who were repeating the course or had discipline or attendance problems. She explained that her principal expressed to her that she should not have great difficulties with this class because most of the students were of her own race (African-American). She explained that she felt that she was hired to teach only minority students.

She said she could not wait until the end of the year to move to another school, and so began inquiring about other positions in other schools early in the first year.

She also said that during her first-year she was given a number of extra duties: to advice clubs, work during games, and tutoring after school. She expressed how she enjoyed these activities more than her regular teaching duties because they brought her in contact with students other than those in her regular classroom. things than actually daily routines in the classroom.

She expressed her desire to continue her education and earn a Masters in Biology, but not in teaching. Near the close of the interview she inquired about the researcher's knowledge concerning programs and colleges that offered this type of degree.

<u>Teacher H</u>

The final participant was a young first-year teacher with a family background of teaching and military service. She expressed that both her life and classes were structured to certain standards and that all aspects of her life followed a set pattern. She explained she wanted to teach for a time, then get married and stay at home to raise a family. She stated that she had set these standards and was not going to deviate from the plan.

She explained that she used patterns and strategies that allowed students to be involved in and at the same time learn the concepts being taught. She said she had little difficulty establishing this format. She said the students in her classes understood her expectations and she made sure they lived up to the standards. She said her mother's experience as a teacher helped her understand the students she was teaching and how to cope with discipline problems.

She explained that she was very comfortable teaching and that she devoted additional time to make sure that each student understood all of the aspects of the concepts she taught. She told the researcher that she was truly happy with her students and the support she received from the administration and parents.

QUESTION 1: WHAT ARE THE PERCEIVED PROBLEMS AND ISSUES FACED DURING THE FIRST YEAR AND WHAT DIFFERENCES EXIST BETWEEN EXPECTATIONS AND REALITIES?

Synopsis of Participants A-H

Participant A was a white male entering his second full year of teaching biology. He had completed college with hopes of coaching and teaching science. The participant was very anxious for someone to listen to his story.

Participant A felt that his first year was a "learning process for both me and the students." His answers to the interview questions revealed that he was nervous at the beginning of the year, but after awhile, began to develop valuable relationships with the students, teachers, and the administration. Because there was little difference in age between him and his students, he quickly established rules and policies. The main problem in his initial year was discipline. He quickly informed the students about rules he expected them to follow (e.g. being in class when the bell sounded, turning in their homework on time, and bringing appropriate books to class).

During the second semester the discipline problems continued, adding to his inability to motivate students. He reflected that many students felt that, because of the way the year had begun, there was no possible way to pass the class. He said, "I had to find a way to initiate them to do work and give them a hope of passing."

A field note described his attitude as follows:

His discussion continued with accounts he recalled of various strategies of having extra books in class, giving reminders of due dates, and phone calls to parents for incomplete assignments that were successful to give all of the students hope at the end of the year.

Participant A spoke of another problem: contacting parents. This was something he tried to do in to develop better relationships with his students and parents. "When parents appear to care, there are less discipline problems and altercations or the students do not talk back as much," he responded.

Participant B also cited discipline as the main problem she encountered during the year. Participant B was a female who had entered teaching after a career in Environmental Health. After the birth of her daughter she went back to school to become certified to teach science.

After graduation she became an interim teacher in March. She assumed

responsibility for a class whose teacher had many personal problems.

A field note describes a middle age female with a sincere interest in the welfare of all children.

Participant B continued the interview by explaining. "When I first got there, the students had become accustomed to doing nothing and there was no discipline at all." She described difficult it was to persuade the students that they had to do work. By the end of the year, she said, "I really hated coming to school, but I refused to give up."

A field note:

The researcher sat directly opposite of the teacher, looking firmly in her eyes. She was excited and concern as she reflected back to those days which had cause her great discomfort. She was the one of the oldest participants and spoke from experiences from the business world, as well as the teaching world.

Participant C differed in her opinion of the main problem faced in that first year of teaching. She was a female who had entered college late in life. She felt that preparing for class was the greatest problem she faced. A field note:

The school system was one of the less fortunate and less funded in the state. The alternative school was housed in an old abandoned bank building, equipped with a vault, and safety deposit boxes. The classrooms were not state regulation size. The tables and chairs were crowed together with several fish aquariums throughout the room. There were no storage cabinets, gas outlets or sinks with running water.

During the interview, Participant C explained, "[During] my first year, I was teaching physical science and biology. Both courses require an End-of-Course Test mandated by the North Carolina State Department of Public Instruction. Trying to get all of the information in and learning what to emphasize and what not to emphasize was very difficult." She explained that miscommunication with parents compounded the problem and created many ill feelings.

Participant C explained how vocal she had been in regard to the absence of parental involvement at school. She constantly questioned funding priorities and expenditures for equipment, causing parents to resent her. She explained how administrators and other department heads hated to hear her speak on these issues. She believed that she should at least she should have the proper equipment.

A field note:

The lack of equipment and the passion that she had to do a good job caused a constant turmoil for being a good teacher. Many pieces of science equipment were purchased from her own funds, only to insure that her students would have an opportunity to do their best of the State Test.

Participant D answered the research question by explaining that

teaching two subjects was more than a new teacher could handle.

A field note:

The State of North Carolina certifies science teachers, regardless of the area of content. Any teacher may teach Earth Science, Physical Science, Chemistry, Biology or Physics without having complete knowledge in these content areas. Participant D did not have knowledge in this content field. He explained how he spent the night before class reading in advance of the students in order to teach them adequately.

Participant D was a male who had much of what was necessary to teach science well. He felt, however, that problems with discipline result from the fact that many students do not live with their parents. "This compounds many things when you try to reach students with so many problems at home, while trying to reach them academically. Try teaching them things that they really need out in the world, things they can use and then still try to score high on the End-of-Course Test."

Participant E's main problem during the first year was the same as that of Participant A and B. "I had some severe discipline problems and the principal was very up front with me. He told me before I ever took the position that these were a rough group of kids and that five percent of the entire school's discipline problems came from this group. The first year was a very difficult year, but it was a great foundation for teaching because everything seems to have gotten easier since the first semester."

A field note:

Participant E was a social studies major while in college. She received a job mid-year in a middle school where she taught social studies and science. In addition, she was noted on the faculty list at the high school for purposes of payroll and staff number. The following year she was asked to go to the high school (first full year) to teach History and Biology. She explained that she was not certified in science. Her principal explained that she had been counted on his staff roll and as long as she did not teach more than three classes out of her certification area she could teach science. During that first full year she became certified to teach science.

Participant E summed up her response by saying that the curriculum

nearly defeated her. She did not understand it and did not understand how any of the books related to what needed to be taught. "I was confused and I had to have someone walk me through the entire process. You had to almost learn by experience. I could not understand why they could not put the entire curriculum in layman's terms."

Participant F mused about the first year, during which discipline problems abounded and in which she was required to teach four different science classes. "I ended up wanting to leave in the Spring of that year, but the administration persuaded me to continue through the end of the year, because I wanted to possibly look into teaching elsewhere and so I finished that year."

> Yes, the main problem was student discipline. I could speculate on the reasons, but it was a combination of them having gotten that far out of hand earlier and also my coming in as a new teacher. I did not know how to keep the students in line and how to set standards. I was a little shy, and I had a less of a directive personality.

There were many days when I felt like I spent the whole class fighting to get students' attention. I remember coming in under

the promise that the students had an ultimatum to improve behavior or to improve grades in order to receive a certain reward of some type. By the time for the reward came, it was unclear as to what the original setup had been. I think it was more put in place to help the situation look more under control by the administration, or at least a promise of help in the future and I do not think it was kept in mind.

Participant G echoed several of the other participants.

My main problem I would say was discipline and my main concern was lack of parental support and the lack of administrative support. I was told and have been told that it is my responsibility to maintain classroom discipline. But if I do a great job then I will not have kids going to the administrators. So, it was basically my job to do whatever I had to call parents and use whatever means I had to deal with this. But, the shock is that parents have no control over their children either. Children tend to believe that they are in power and are in control.

Participant G continued to explain that many of her students had

police records and some had probation officers. There were 17 boys and only three girls in the 9th grade class. It was very hard to teach a lesson, she said, when there was always a problem of "Suzy trying to think while Johnny was cutting up. I did what I had to do. Manipulating the children was how I controlled the class." Participant H had a better idea of what to expect in the classroom because her mother had been a teacher and her father had been in the military. She had a true interest in biology and had always wished to share her knowledge and interest with others.

> My first year was very exciting. It was frustrating because I am the type of person that wanted to read the book and outline the book and have all of my notes for everything that I was doing. I also wanted to gather the best ideas for the labs. I did not really have any problems. I had a lot of different classes. I had a College Placement level and a General level biology class. I also had a Physical Science class. The main problem for me was that I did not have enough time for planning being that it was my first year. Planning was hard and trying to figure out everything that I needed to do for school. With my low level classes, I had some discipline problems. During my student teaching I did not have to deal with any of that, so it was a little difficult.

A field note:

Participant H was a young lady with ideas of using the science teaching certification when she finally had a family and all of her children were grown up enough to go to school. She felt that she still had a need to go into research and work for a few years before marrying. She saw teaching as an opportunity to have something to fall back on.

In summary, the data from the eight participants identified three

main problems during their first year of teaching science: discipline of

students, classroom /time management difficulties, and an inability to involve parents. The most frequent problem mentioned was discipline. To establish and maintain legitimate classroom authority while helping students make academic progress places stress on any classroom teacher. There were three dimensions to the problem of discipline for these participants: (1) where to "draw the line"; (2) authority in the classroom; (3) acceptance by students, parents, teachers and administrators.

Table 3 indicates the participants' main problems and their degree of agreement about how this problem affected their teaching skills. The first column identifies the teacher participant. The second column lists the main problem as identified by that teacher. The third column indicates whether the teacher felt discipline problems in the classroom affected his/her ability to do a good job teaching. The final column identified those teachers that felt that the main problem of discipline did not affect their abilities to teach and motivate students. These teachers identified with having great self-confidence along with an honest concern for their students and the quality of education that they provide.

ANALYSIS OF PARTICIPANTS MAIN PROBLEMS AND WHETHER IT AFFECTED TEACHING SKILLS

TEAC AFFE(MAIN PROBLEM AF	FECTED NO	
	"A"	DISCIPLINE		NO
	"В"	ADMINISTRATIVE SUPPORT		NO
	"C"	TIME MANAGEMENT		NO
	"D"	DISCIPLINE	AFFECTED	
	"Е"	DISCIPLINE	AFFECTED	
	"F"	DISCIPLINE	AFFECTED	
	"G"	DISCIPLINE	AFFECTED	
	"H"	TIME MANAGEMENT		NO

QUESTION 2: HOW DOES ACCULTURATION OF FIRST-YEAR SCIENCE TEACHERS PROMOTE BETTER TEACHING SKILLS?

The framing question for the interview was, "Did you receive any

assistance during the year?"

Participant A responded in the following way:

I had a mentor teacher who kept on giving me advice on different situations and how to handle it. She certainly helped a great deal. My mentor and I talked and she advised me to make more contacts with parents. Our administrator definitely asked us to call parents and make references to

parents and so we did have a lot of contact with the administrators and parents. If there was a problem, we did ask the parents to come in with an administrator and discuss and talk it over. The relationship with the teachers around here is excellent. I feel like all teachers are friends and peers in that I can go to any of them and discuss any situation with them, and they will be honest and fair with me. I have a really good relationship with other teachers. The administrators have been wonderful in backing up the teachers. They have given us a lot of support and they encouraged us. The situation has been very positive. The problems have gotten better as the year progressed. Once the students realized where I stood, they seemed to definitely get a lot better.

A field note:

The rural mountain region displayed many farm houses. There were many pieces of farm machinery throughout the fields. The distance between the farms grew wider and wider. Indicating how small the population appeared with a limited amount of businesses. Participant B recalled her first year as a time that affected her teaching skills. Morale among teachers and students appeared to have been better under the old principal, she said. Replacing a teacher who had a lot of personal problems presented special challenges.

Morale seems to be lower now because of the administration that we have now. I remember a particular day when my keys disappeared and the principal came down to my classroom and had a good talk with the students about the keys. I had a very good principal which was a tremendous help. He was very supportive. He would stand behind you 100 percent and try to help you out. The principal we have now is under the impression that knowledge is power, so everything I know, I am going to keep to myself until it is absolutely necessary that you know it. You can not get him to answer a question. He will always say that he will get back with you. We have staff development every first Tuesday. Most of the time we have no idea what staff development was going on until an hour before the time. Therefore, communication is not what it should be.

The mentor assigned was a keyboarding teacher and I think it would have been a lot more helpful if it had been someone who had some information about my subject area. No one ever said how things were handled (such as paperwork, etc.) I would say that lack of communication was on of the biggest problems. We have suggested several times to put together some type of handbook for first-year teachers so that it could explain any tasks that needed to be taken care of.

A field note:

During the interview the participant recalled times of frustration and fear. Listening to the explanations and seeing her eyes gave the researcher a better understanding that the first year of teaching science was very bad. She often referred to the fact that she received very little support or guidance.

Participant C explained how her principal expected all teachers to be professional in the classroom. The principal encouraged all of the teachers to engage in extracurricular activities. The principal was not overbearing and allowed the teachers to do their jobs. The principal had high expectations and often conveyed these expectations in many ways.

I think overall, the faculty gets along well. Of course, you have personality conflicts amongst people, but as far as the science department is concerned, we have a very good department and especially a good open relationship with everyone. It is not like, this is my stuff, or these are my labs, but we share with each other. If we find something interesting, we make copies and share with everybody in the department. We all go to the State Science Teacher's Conference together. We will split up and go to different workshops and get enough copies for everybody to bring back. It is a very good team atmosphere.

The chairperson of our department was my mentor. If I have a bad day in class, I would go to her. She was very supportive. It has gotten to the point now where she will come to me and ask, "How did you do this?" She always treats me as an equal. If she has a question about something or does not understand something, she will come to a first year teacher to ask for their advice. As far as self-esteem for a first-year teacher, this is an excellent boost and it gives a lot of confidence, and I think this was my positive resource.

A field note:

The participant spoke with excitement and assurance. She assured the researcher that the first year of teaching had provided him with professional multi-faceted growth process.

Participant C spoke of a very open relationship with the principal.

Many suggestions came from other teachers, however, not the principal.

Teaching two subjects at the same time caused her much anxiety, as well

as time management problems.

A field note:

Entering the building the front entrance to an old abandoned bank building was apparent. There was a safety deposit vault, which all of the drawers in use stored instructional supplies. The secretary was seated in a small office with see-through glass. The folding cafeteria tables were in the lobby area, with no signs of students in the outer area. When the researcher entered the classroom, it was cramped with all of the chairs, tables, and fish tanks placed in this small area. There was really very little room to walk around from one side to the other.

Participant D provided further insight as he spoke about his various

first-year progress from intern to novice through on-the-job-training.

The principal was also a first-year principal with very little experience. She was pretty open in letting us make suggestions for discipline for a student and most of the time she would back us up. We have a full-time principal and an assistant principal. The school climate has improved since the first two weeks at the beginning of school. I think we worked together well most of the time. We have conflicts, but we always try to work them out. Most of the disagreements that we have had have been over discipline of the students. It has been a long hard road to get to this point.

I had a mentor teacher. Actually, if there is a supervisor for science for the county. I have called other high schools and ask for the science department chairperson and often referred to a certain science teacher, who was receptive to helping and others have been very helpful in getting me supplies or giving me information.

Participant E felt lucky to have supportive teachers in the school.

I had a mentor teacher that worked half a year in seventh grade and then a full year in the high school. I am the only female in the department and sometime this is challenging because we think totally different. I personally wish that we were a little bit closer. You have teachers that have been teaching for 30 years that do not understand the mood of the present generation. They refuse to let their guard down in front of these students, which make it difficult for the students to have any type of relationship outside of the home. At our school there are about 20-30 percent of the teachers that are really interested in children.

We have a new principal and a new assistant principal. Both are very open and willing to listen if there are complaints. The principal has bent over backwards for too many kids and they know that she cares. However, they have a severe problem with authority. As long as the teacher does what they think is okay, they are cool. The second that a teacher disciplines them (bad and good students), there is that spark of rebellion. They do not like authority, they do not enjoy it and they do not want it.

A field note;

a first-year science teacher, the participant discussed the impact

of efforts that it took to promote good instruction. The lack of experience was a challenge for the participant. The hardest adjustment recalled by the participant, was the encounter of working with students who did not value their education and the development of skills for the future.

Participant F responded to the framing question dealing with

assistance during the first year.

I did not have many strategies. The preparation work and grading work seemed sufficient as far as things to keep me busy and I had very little other time to brainstorm or develop new ideas. I did share some with my department mentor who was also the department head and she was quite a good teacher next door to me. She taught biology and she was amazingly encouraging by making me aware of up and coming workshops that would assist me with becoming a better teacher. I think she is probably one of the few reasons that I finished the year. I think my expectations were so far from what actually happened that I could not bring the two together by the end of the year.

I did share this also with some administrators, mostly I discussed discipline problems with them and they were helpful. I remember the administrators did get a video camera and we put it in the back of the room and we videotaped classes to identify students that were causing problems. This worked to some extent. Our principal had been in the military and was very directive. He did not match the style of one of our assistant principals. He did not have much of a backbone. He often would discuss something more than take action. He wanted to sort of smooth things over now and then.

I did not see myself as a good teacher. I did not expect to continue in that school. I was a little shy as a teacher so I did not know a lot of other teachers. I would mostly speak to my mentor or another teacher that I might see in the lounge during lunch time. There were some difficulties with new teachers. Keeping up with the students was the main task. Generally, I would say that my relationship with most people deteriorated and it was mostly due to my lack of commitment to the situation. I was interested in leaving and most people would not want to invest in a relationship that they knew would end.

A field note;

The researcher listened to the situations for Participant F, as he told of a very terrible experience. He explained to the researcher that he would not have finished the year if he was not coerced. He mentioned that he was often reminded that he may want to work at another school someday.

Participant G mentioned that she used a number of strategies. "You

name it, from candy to if you did something, I cracked the whip."

When I first started teaching, I felt that I needed a secretary because there was so much paperwork. There is so much that you have to do to prepare for your lesson. I do not think not even with all of the books that are out about classroom management, anything can prepare you for what you need when you walk into that room.

Discipline wise, nothing was happening. There was no support in discipline and to get the problems met, you basically rely on one another. They say that they were going to do something about a particular problem, but nothing happened.

Yes, I had a mentor and a four man team. At the beginning my mentor was a lot of help, but at times there were things that I needed and she was not as forthcoming as she had been in the past. I am not really sure why.

We would meet and talk about the kids during the day. We also talked about what was going on in each class. We would make suggestions to one another. I made suggestions and gave ideas, but it was not a good one. You could sense that there was a pull there as well as hostility.

A field note:

Participant G spoke to the researcher about having achieved much in a short period of time. She spoke about the fact that each child has a personality and a certain learning style. She discussed how building a relationship with her students was a very important part of overcoming the problems of discipline.

Participant H was supported and accepted. "I had a mentor teacher

assigned to me. But, I did not really use her. We taught different subjects.

I used older teachers and received advice from them."

People seemed to work together well. I had a lot of different types of children, so I was able to see both sides of the school's culture. I was impressed by our department because we really pulled together to help one another. Not only was I given advice concerning discipline, but also I was given advice as to which route to go concerning the classes. I also went to my department chairperson quite often and was given advice. I definitely received advice from administration.

In summary, the interview data reveal the following: (1) the first-

year science teacher enjoys better acceptance if he/she develops close

relationships with other teachers, students and administrators by

participating in extracurricular activities (e.g., by acting as a club advisor

or coach and (2) increased acculturation produces better teaching skills,

which provide reflective strategies for effective student learning.

The data also suggest that the first-year secondary science teacher has difficulty managing routine parts of the normal day. First-year teachers need detailed curriculum guides and proven teaching strategies when managing discipline problems. Personalities and environmental factors do not readily assure socialization with the school.

<u>QUESTION 3: WHAT KIND OF SUPPORT ASSISTANCE</u> <u>FIRST-YEAR SCIENCE TEACHERS FEEL THEY NEED FROM</u> <u>SCHOOL ADMINISTRATION?</u>

The administrator guides the first-year teacher in considering alternatives and encouragement to take risk in the classroom. Concerns regarding guidance and definitions of roles dominate science teachers' perceptions of their first year. It is the personal need that determines judgment and plans that evolve into strategies for skillful teaching. The accountability of roles may be viewed as articulation of structure and established position. During guided teaching, the first-year teacher often enter the classroom with different perspectives to create new solutions for students' achievement. Participant A

What I needed when I first started was help with setting up lab activities, because I wanted to do so much hands-on activities as possible. I feel like this is one way that students learn the best. I needed help on what particular materials we had at school. I think I could have had more formal education on how to set up a lab for an education classroom and for a high school classroom.

My mentor teacher was very effective. She was always available after school to show me the materials that we had and show me how to set up the lab. One would think that having more formal education on actually teaching in a classroom would help. I know that we did three months of practice teaching while in college and I do not think that's enough and I feel like there needs to be more.

The first post-observation only suggested that I move several students around and away from a general area. Maybe making more of a path around or making myself more accessible to students as I teach the lesson would be better. This was a general comment and did not give directions for improving teaching. More strategies for organization in the classroom is something I feel I needed to be encouraged in.

A field note:

The most frequent subject during this question was the concern for the students. However, the participant told of the her concerns for the job itself.

Participant's B commented about the need for administration to

realize that guidance begins with key resources and key people.

I think having a mentor teacher that has science background would be helpful. Having a personnel manual that goes into detail as to how to handle certain situations within the school would be helpful. Some things you do not get without experience and some things you have to learn how to do yourself. My mentor teacher was not effective and provided no assistance. It was not because she did not try. But, much of the help I receive would be available at workshops that dealt with peer tutoring.

In our school, I know that beginning teachers do not need to meet regularly. I know this year they met more regularly than ever before. I think that probably it would be more helpful for them to get together maybe sometime with the mentor teachers, and sometimes without the mentor teachers, so that on occasion, they would have a chance to discuss and get feedback. Then the other times when they want to talk without someone else there observing them, they could get things off of their chests.

A field note:

The researcher was told by the participant of how she tried to put teaching, motherhood, marriage and the concerns for all things into one neat packaged bundle. "But all of these are separate issues and at no point are they equal", said the participant.

Participant C's comments paralleled those of Participant B

concerning the need for each individual to be allowed to sound off.

I like the mentor system and it would be nice if they could expand that mentor system and not just involve one on one but maybe two teachers and maybe not necessarily in the same school, but maybe from different schools in the system. Getting perspectives from another teacher would be very nice and also it would be nice if we could have had the new teachers in the system, especially first-year teachers to meet once in a while together to sort of sound off on each other and find out what is going on. We did do that with the student teaching group that was student teaching at that time in the area and that was very helpful.

In addition, I would say more exposure to the classroom setting. I felt like I was ready, but I think being a student teacher, I really did not feel like I was a full fledged teacher until I got into the classroom and was on my own.

A field note:

The participant spoke of building rapport with the students which required being an advocate. The participant explained how many students will never really known how many people like them, respect them or really appreciate them.

Participant D thought in terms of things that were school-based and

things that others teachers could do on their own, but,

I think it is a problem for first-year science teachers to come into a classroom with mostly discipline problems. I think that first-year teachers should be given middle of the road classes that are not filled with discipline problems so they can focus more on learning the subject and just dealing with all of the paper work and everything and not having to deal with all of the discipline problems like they have to many times. I think the main thing is just to back up teachers, especially on discipline. I think that if we could get the discipline straight, we could teach.

There were times that I was a little discouraged because I would ask certain teachers certain things and they were not really willing to help. It would be nice to have a list of teachers that would be willing to help first-year teachers with information or to find supplies. I did have a mentor teacher at my school that helped me. She was an science teacher and she just helped me with regular paperwork and I think that resource was nice.

A field note.

The participant reflected on many experiences associated with the novice actions of the principal. Initially global statements about responsibility and needs are intertwined causing frustration and concerns for job security.

Participant E explained that teaching is something that she enjoys and would continue as a life long career. Toward the end of the first year, however, she struggled. There were no workdays to provide a break for the teachers and students, she said. The only assistance she was offered was to be allowed to go to other schools to observe and talk with other teachers.

But, as a first-year teacher, you just feel awkward and strange just asking for a day off because I thought I was suppose to be at work all of the time. It would have been nice if I could have talked to some other teachers that were enthusiastic about teaching science, especially those who had some good ideas and those who wanted to go to workshops. Even though my mentor was effective in guiding and assisting me, I had to go to her. I was kind of scared to ask, but she waited on me to ask and a lot of times I did not ask. A field note;

Being a history teacher first and a science teacher second, the participant spoke of a true interest in teaching children.

"Sometime being a professional abuses the links that propel all

teachers not to seek the support needed."

Participant F felt that establishing friendships with either teachers or people within the community help a first year teacher succeed. He described how such involvement may have solved many problems he encountered with students and the administration.

I think I could have been trained as far as to live activities or demonstrate them. Actually at this point I would say that I would want sufficient equipment and resources. I believe that more equipment would always be nice. I think I still need to be more organized in sorting out and separating into labs the equipment that is available here.

A field note:

The researcher was told that the only reason for Participant F's continuation in teaching science deals with the equation of paying rent, paying car payments and eating.

Participant G

Everything was there, the materials and the books, but the reality check was not there. Things are not really like what I thought it would be. I would love to teach first and have less paperwork. Safety

programs and information on what equipment is and what it does.

A field note:

Participant G has been involved in several school activities and has made a name for herself. She stated how she has done too much too fast. She explained how she was suffering from premature "burn out." She continued by saying how she will not be in science teaching within the next two years.

Participant H was very positive about the support that she received

from administrators and other teachers.

I really got everything I needed. The mentor assigned to me was not a guide, however, the person that I bonded with was. I just feel as though I am burned out. I still like to do my work. I like my students. I feel like something needs to happen for me to continue to be a teacher, something to re-motivate me.

The principal would on occasions inquire about how things were going. Of course she was just making small talk. Deep down I knew that she cared, but I knew that it would take more than conversation to change my mind about staying in field for the rest of her life.

Participant H recounted how all of the fears of teaching had

vanished and gone away. She said she had a good administrator, a good

school to teach in, and good veteran teachers to assist her with any

problems.

In summary, the participating secondary science teachers indicated that during their first year they never felt accepted by the principal, other teachers, and students. For the most part, the first-year secondary science teachers explained that their students, administrators, and colleagues accepted them as "real" teachers only after the end of the first year. When the first-year secondary science teacher is not fully accepted by others, problems can occur.

The data also reflect that success is affected by the way a first-year secondary science teacher thinks about the problems of support when dealing with discipline issues or classroom management. When these participants were provided use of classroom research, management strategies, and resources, their difficulties became learning situations. Professional guidance, especially regarding classroom organization and curriculum planning can help first-year secondary science teachers understand their responsibilities as viewed by the administration and their fellow teachers.

<u>QUESTION 4: WHAT KIND OF SYSTEM-WIDE IN-</u> SERVICE PROGRAMS EXIST FOR THESE TEACHERS?

Orientation procedures varied widely across the state. Some districts provided bus tours of the town and social gatherings with staff members. The principal's role was the key for first-year secondary science teachers. First-year secondary science teachers were made to feel special when the principal introduced them to the staff, took them on a tour of the school, or appointed to a special committee.

On the other hand, when the principal was not available or helpful, the first-year secondary science teacher felt abandoned. When first-year secondary science teachers were not properly welcomed by the principal, it became the science supervisor's's responsibility to take the initiative and support the first-year secondary science teacher.

Participant A said that incoming teachers need more training before entering either the profession or the classroom. The school in which she worked did not promote training for new teachers. "Having experience to influence and direct students positively benefits every part of society. Once a new teacher has information specific to the school, curriculum and the system, they are able to follow directions and learn the ropes. There were too many details and too many daily interactions to remember."

Participant B thought the problem of funding hampered programs for first-year science teachers. Current staff development practices were inadequate to establish meaningful teaching strategies. Staff development, she said, must be grounded in real details of first-year science teachers' daily work and provide intellectual stimulation.

I think that we should have more programs that are offered on a secondary level as extension courses would be helpful for everybody in the area. I am not the only teacher that has said, "sure I would like to do it, but I just do not have the time to drive the great distance to the nearest college.

A field note:

Participant B fully explained how one skill of a first-year science teacher must be to know when to bear down, when to draw out a student's ideas, and when to ease up, to keep everyone on track.

Participant C liked the mentor program that the system provided.

Mentors provided on-the-job guidance, she said, helped ease the first year

teacher's emotional adjustment to teaching. Expansion of the program to

include more than one teacher, she added, would promote better teaching

skills.

The only thing I would suggest is lab equipment and kinds of

resources which I know is asking a whole lot. I was not given enough materials to properly teach the lab that I thought should be done. I did not have the money to buy them, so my students did not do as many labs as the other science teachers' students. I have been vocal from time to time especially in talking with other science teachers about the biology curriculum and just how broad it is and how specific questions are on the EOC test. You do not have time to explore and you do not have time for many hands-on labs. In order to effectively teach science, you need the proper equipment to do science and unfortunately it is very expensive.

Participant D felt that funds for mentors and workshops prevented assistance. Many things came by word-of-mouth and knowledge about programs for helping new teachers were haphazardly done. There was little collaboration, she said, between veteran teachers and first-year science teachers.

We are often left to fend for ourselves without support from other teachers in the same system. It would be nice to have someone in the system that made sure that all of this kind of information was given to everybody at the same time.

A field note:

The participant expressed concern with the expectations of how well his students performed on the EOC (End-of Course) Test, rather than his teaching skills.

Participant E explained how the system did not have any centralized

location where first-year science teachers could go to receive information

about workshops and courses.

A support system amongst all science teachers in the system would be nice. If the state department would go around to find out what the state universities are offering, this would be nice. If this person could mail the information to every science teacher in the state so that we would know when these classes are being offered, this would be very helpful. I just wish that the state department would come to the schools and just see what really goes on. This would be helpful so that they could relate to what students need.

Participant F recalled that the only formal program or support came from the mentor teacher. "I do not think there was a program for what I needed when I was a beginning science teacher. I think it would seem odd to start one, something that would encourage the science teacher to be involved in things. The majority of what I need is to increase the priority of my approach to teaching."

Participant G enrolled in educational classes at the college to get additional information and support. "The Science courses in methods gave me more strategies to teach. I do not like them and made complaints about how these courses were need back in college. I complained that none of the courses in college showed specific strategies when dealing with discipline or multi-level ability instruction."

According to Participant G, the only way she learned how to adapt

to teaching students with exceptional abilities was to review the children's homework to discover what they were not getting. "I did not learn it anywhere, I just came up with different ways to teach the lesson."

Participant H recalled that the system had done everything for her that she needed. She had participated in workshops, state-wide conferences, a mentor teacher program and A. P. Biology training. Her training also included an important class in teaching students to read. "To me, most of these classes were common sense."

In summary, first-year secondary science teachers must learn about what resources are available to them and specifics about parent conferences, classroom management, school climate, and their school's curriculum. When first-year secondary science teachers were not given information specific to the school and district, they were reluctant to seek assistance and often made on-the-spot decisions with imprecise knowledge, and without the benefit of experience.

Table 4 indicates the levels of system-wide assistance provided to the participants. Column one identifies the teacher. Column two denotes agreement by the teacher whether or not the individual teacher participated in any type of system-wide planned workshop or program. The final column indicates the type of program or support given to the first-year

secondary science teacher during the year.

Table 4

Teacher	System-wide	Туре
"A"	Yes	Mentor teacher
"В"	Yes	Mentor teacher
"С"	No	Mentor teacher
"D"	No	Mentor teacher
"Е"	Yes	Mentor teacher
"F"	Yes	Mentor teacher
"G"	Yes	Mentor teacher
"Н"	Yes	Mentor teacher Staff development Workshops

Analysis of System-Wide Programs

QUESTION 5: WHAT ARE THE OBSERVED PROBLEMS OF FIRST YEAR SCIENCE TEACHERS BY THE ADMINISTRATION, DEPARTMENT CHAIRPERSON, AND LEAD TEACHERS RESPONSIBLE FOR EVALUATION? WHAT SUPPORT IS OFFERED FOR THESE PROBLEMS TEACHERS' EXPERIENCE?

The administrator, department chairperson or lead teacher of each of the teachers who participated in this study were asked to write a brief statement in reply to the following framing questions.

Table 5 represents their responses. Column one identifies the participant. Column two correlates directly to the support programs available to the first-year secondary science teachers, either in their schools or outside their schools (e.g. sponsored by the school district). Column three correlates directly to the most important problem that administrators, lead teachers, etc., of first-year secondary science teachers observed. Column four responds to the question of assistance from the administration or other teachers given to first year teachers upon request. The final column identifies the type or kind of support provided by the administration to these first-year secondary science teachers. The columns represent the questions and the rows denote the corresponding responses.

- 1. What is your current position?
- 2. What supportive programs are in place in your school for beginning teachers? School-based? System-wide?
- 3. What are the most important problems first-year secondary science teachers experience, from your observations? Prioritize
- 4. How do they react to those problems? Have they come to you or someone on the faculty for assistance?
- 5. What kinds of in-service and support does the administration provide first-year secondary science teachers?

Table 5

Column 1	Column 2	Column 3	Column 4	Column 5	Column 6
Participant	Question # 1	Question # 2	Question # 3	Question # 4	Question # 5
A-1	Principal	Mentor Program	Discipline Curriculum	Workshops Feedback on evaluations	Supportive sessions Expectations outlined
B-1	Principal	-Orientation/ school -Orientation/ County -Department Mentor assignment	-Familiar- ization with curriculum for lesson design -Discipline	-Seek advice from Mentor first, then Administration-	-Workshops on testing and curriculum -Department meetings
C-1	NR	NR	NR	NR	NR
D-1	Principal	-Week-long program with Mentors	-Adjusting to being in charge -Getting all the work done	-Work much harder -Ask for assistance	-Open door policy -Frequent classroom visit -Support teams for evaluations
E-1	Principal	-Mentor -Periodical meetings -3 day workshop	-Lack of resources and materials -Concrete experiences -Not enough time with other science teachers	-Ask other teachers and administration for assistance	-Buddy system -Mentor teacher
F-1	Principal	-Mentor Program -New Teachers Seminar	-Time Management -Record Keeping -Science Labs	-Use Mentor, Colleagues, or Department Chairs for assistance	-New Teachers Seminar on-site -District-wide 3 day workshop in August
G-1	NR	NR	NR	NR	NR
H-1	Principal	-Mentor Program -Department Leadership	-Classroom Management -Planning curriculum to cover Standard Course of Study	-Dependence on Assistant Principal -Other teachers in the department	-Mentor -Meetings with first- year teachers -Feedback on concerns

Analysis of Administrative Survey

NR - no response

DATA ANALYSIS

Conceptional Matrix

In this research study, the formal conceptual analysis describes the perceptions of the participants regarding their first year of teaching and the response of their administrators to questionnaires. The rows and columns of Table 6 were arranged to bring together those themes or ideas derived from answers of the framing questions with similar responses. The result is a conceptual matrix showing the major problems and issues faced by, and the means of support available to the first-year science teacher.

The thematic conceptual matrix did not organize the data according to any person, position or role. The themes were ordered by principles and factors clustered together to define the specific problems of first year science teachers. The outcomes displayed relevant responses, which allowed comparisons, and provided standardization of the analytic themes of the research.

The conceptual matrix analyzed blending inferences drawn directly from the display of the collected data (Miles & Huberman, 1994). What are viewed as consequences of inferences were realistically selfconceptualization or identity of the first-year secondary science teacher in the role of a teacher in need of guidance. The data of the administrators denoted the observed characteristics of the first-year secondary science teachers and the programs offered to assist in the problem.

The identification of characteristics were noted as the conditions of change and the process of change. The final outcomes were viewed as consequences of the conditions and phases of the process. Table 6 is a visual thematic conceptual matrix of the context and programs that comprise the process of acculturation and assistance for skilled teaching of first-year secondary science teachers. Table 6 also denotes agreement and disagreement of problems and issues faced by and the type of support available to the first-year science teacher. Column one identifies the teacher and the principal for the first-year secondary science teacher. Column two denotes the problem identified by the teacher and the administrator. Column three lists the issues identified by the teacher and observed by the administrator of the teacher during the first year experience. Column four provides the type of program or type of support provided to the first-year secondary science teacher by the administration and system. Finally, the last column indicates agreement of the first-year

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secondary science teacher and the principal about the types of support programs available to the first-year secondary science teacher.

The consistent result of the matrix shows that the first-year secondary science teacher and the principal basically agree that some form of support was given. The amount or level of support varied with the individual teacher and principal. In order to determine what personality and environmental factors are likely to produce greater support by administrators or systems depends on the realities of their school situations.

Table 6

THEMATIC CONCEPTUAL MATRIX: PROBLEMS, ISSUES AND SUPPORT PROGRAMS

Column 1	Column 2	Column 3	Column 4	Column 5
TEACHER	PROBLEMS	ISSUES	SUPPORT	Agreement
"A"	DISCIPLINE **	PARENTAL SUPPORT	MENTOR **	Problem and Support
Principal - A-1	DISCIPLINE **	CURRICULUM	MENTOR SUPPORT **	
"В"	ADMINISTRATIVE SUPPORT	CLERICAL PAPERWORK	MENTOR **	Support only
Principal - B-1	DISCIPLINE	CURRICULUM	WORKSHOPS DEPARTMENT MEETINGS	
"C"	DISCIPLINE	CURRICULUM	None	No agreement
Principal - C-1	NR	NR	NR	

"D"	Time Management	Mis- Communication	Mentor **	Support only
Principal -	Acculturation	Time Management	Support Team **	
D-1	-			
"Е"	DISCIPLINE	EQUIPMENT	MENTOR **	Support only
Principal -	RESOURCE	LIMITED EXPERIENCE	WORKSHOPS **	
E-1	-			
"F"	DISCIPLINE	ADMINISTRATIVE SUPPORT	MENTOR **	Support only
Principal -	TIME MANAGEMENT	RECORD KEEPING	WORKSHOPS **	
F-1	-			
"G"	DISCIPLINE	RESOURCE EQUIPMENT	MENTOR	No
				agreement

Principal -	NR	NR	NR	
G-1				
"Н"	TIME MANAGEMENT	CLERICAL PAPERWORK	MENTOR **	Support only
Principal -	CLASSROOM MANAGEMENT	CURRICULUM	MEETINGS ** FEEDBACK EXCHANGE	
H-1				
	-			

** denotes agreed theme NR denotes no response

Summary

Chapter four presented a description of the case study of eight firstyear secondary science teachers and written responses by their administrators. The research presented background information about the settings and the eight participants. The information of each participant showed a degree of sharing, adjustment to teaching and concerns for inability to find immediate solutions.

The case study revealed that none of the eight participants

experienced many opportunities to converse with other professionals about teaching problems and possible remedial actions. The first-year secondary science teachers felt that they should have been warned by experienced teachers and administrators that their authority would be tested in unique ways.

As a group, the participants indicated the number one problem they faced during the first year was discipline. It was apparent that their inability to control their students became a daily trial. Their administrators rated discipline or difficulty with time/class management as the most critical problem.

Overall, participants who experienced great deal of assistance from fellow teachers and administration, along with greater acceptance during acculturation increased their teaching skills. Participants who were more informed and accepted into the school culture experienced fewer discipline problems in the classroom and received greater support from their administrators.