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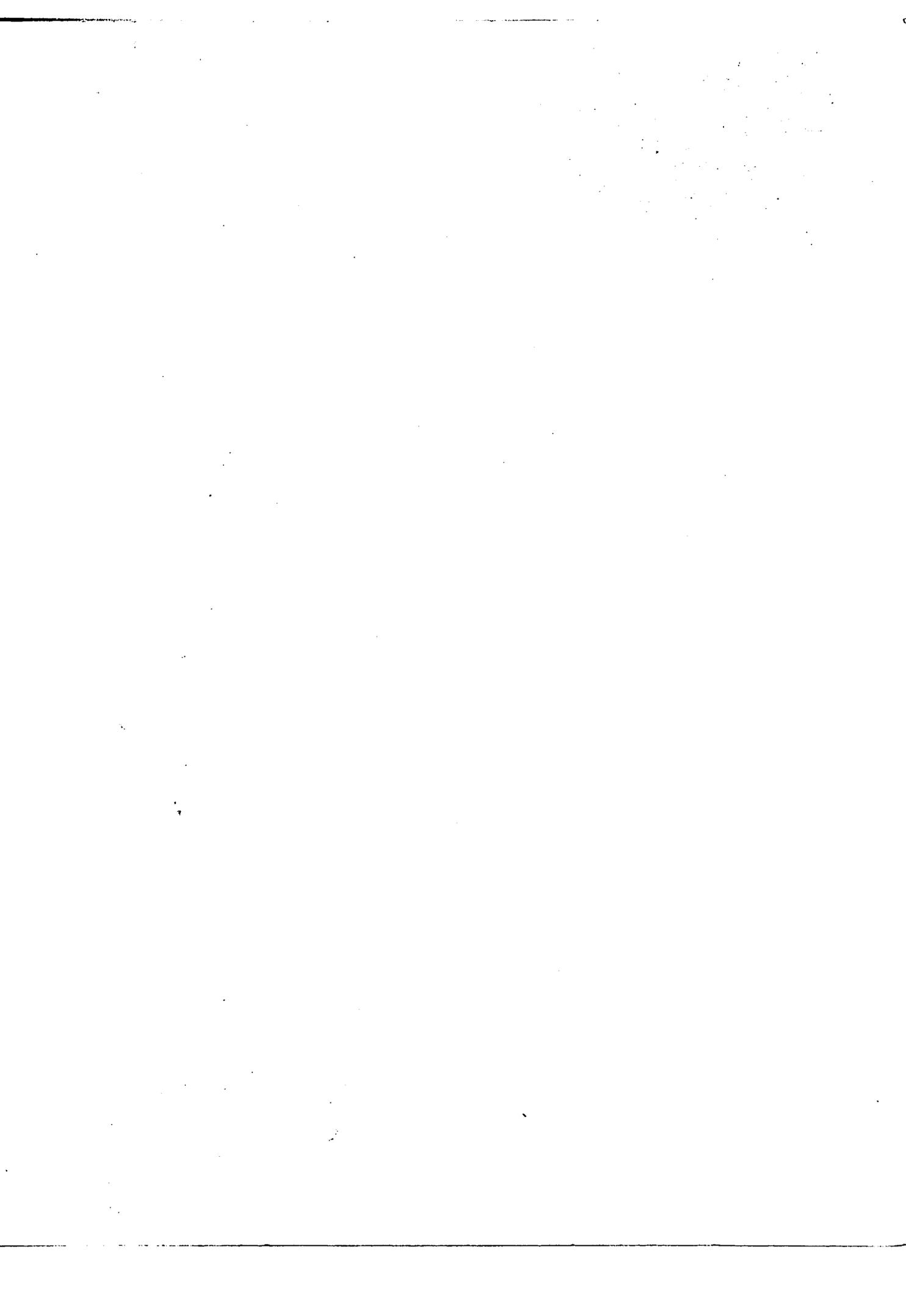
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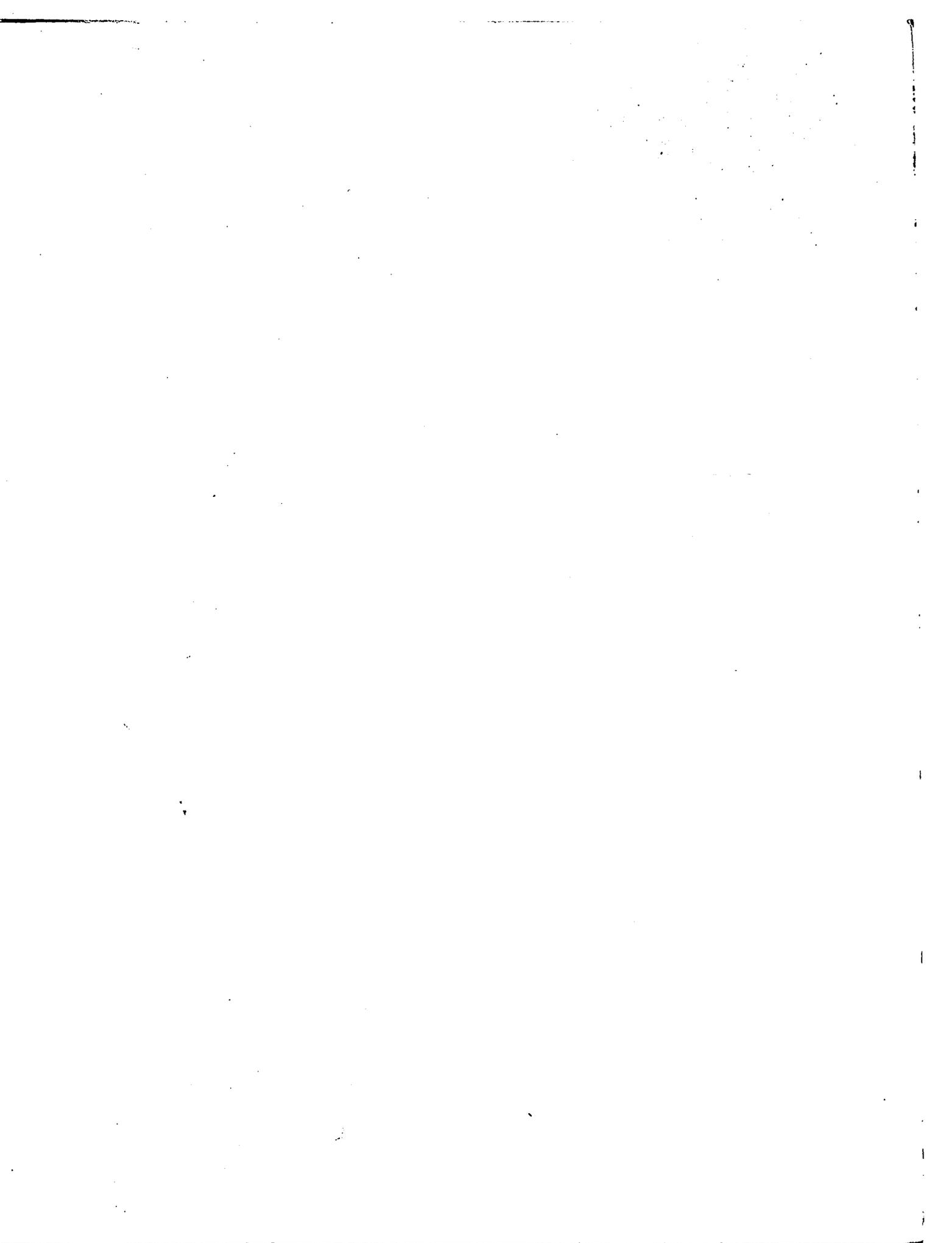
**Secondary teachers' attitudes and beliefs toward staff
development**

Hawke, Laurie McEdwards, Ph.D.

The University of Arizona, 1989

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**SECONDARY TEACHERS' ATTITUDES AND BELIEFS
TOWARD STAFF DEVELOPMENT**

by

Laurie McEdwards Hawke

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A Dissertation Submitted to the Faculty of
THE DIVISION OF TEACHING AND TEACHER EDUCATION
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GRADUATE COLLEGE

As members of the Final Examination Committee, we certify that we have read
the dissertation prepared by Laurie M. Hawke
entitled Secondary Teachers' Attitudes and Beliefs Toward Staff Development

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ABSTRACT

This descriptive study was undertaken for the primary purpose of identifying attitudes and beliefs of secondary teachers toward staff development. Participants in the study included the total population of teachers in two high schools in a southwestern school district. The objectives of the study were to identify the attitudes and beliefs of teachers toward staff development as an important part of their professional growth, and toward the organization, processes, and personnel involved in staff development. Also to be identified were the level of knowledge and interest teachers have of specific topics for staff development programs, and similarities/differences in teachers' attitudes based on school, department, number of years teaching experience, education level, participation in a career ladder program, and gender.

The data was collected using a two-part, modified Likert scale questionnaire.

The findings of the study suggest that the teachers from the school itself should plan staff development, including the content which should be based on the teachers' needs as determined from an open-ended questionnaire, and that the instructors should be teachers from the school or the school's administrators. Staff development programs should incorporate a variety of teaching methods, although lecture was rated as the least desirable single

method by the teachers. Staff development should be regular and on-going, with quarterly sessions receiving the most agreement from the teachers. It should be held at the school itself, during released time, and job-related. The teachers agreed that staff development should be evaluated throughout the school year, by the teachers, assessing whether its objectives had been met. Participation should not be mandatory, but depend upon the content of the program and the needs of the individual. Incentives to participate should include the intrinsic value of improved teaching ability, salary increases, university credit, and increased student achievement. Finally, over seventy percent of the teachers agreed that staff development is an important part of their professional growth.

CHAPTER 1

THE PROBLEM

Introduction

The publication of "A Nation at Risk" in 1983 heralded a new era of educational reform. Many authors and researchers have contributed their ideas to and based their studies on the processes and products of reform.

One common thread throughout the literature on educational reform is a call for more effective teaching. Any number of possibilities about how to improve teaching have been suggested: raise the standards of entry into colleges of education (National Commission on Excellence in Education, 1983; Boyer, 1983; Carnegie Forum on Education and the Economy, 1986; Alexander, Clinton, & Kean, 1986); eliminate education as an undergraduate major, require undergraduates to major in an academic subject area, and require teaching credentials to be earned in a fifth and/or sixth year program (Alexander, 1986; Carnegie Forum on Education and the Economy, 1986; Goodlad, 1984; The Holmes Group, 1986); alter the present structure of teacher certification either by replacing state certification with professional certification by "A National Board for Professional Teaching Standards" and allowing the state to license the teacher (Carnegie Forum on Education and

the Economy, 1986), or by creating a three-tiered certification for instructors, professional teachers, and career professionals with each level having more rigorous requirements than the one before (The Holmes Group, 1986). Others have advocated the concept of a hierarchy within the profession, such as "alternative career structures" (Alexander, 1986; Boyer, 1983); with salary increases enhancing the promotions. Teaching may also be improved by ameliorating the conditions of teaching; by raising teachers' salaries (Boyer, 1983; Carnegie Forum on Education and the Economy, 1986); by increasing teacher participation in decision-making (Goodlad, 1984; Sizer, 1984); by reducing teacher isolation (Sizer, 1984; Carnegie Forum on Education and the Economy, 1986); and by providing for staff development (Carnegie Forum on Education and the Economy, 1986; Goodlad, 1984; Boyer, 1983).

Although the educational reform literature as a whole does not prescribe the detail of staff development as much as it does pre-service teacher preparation, many researchers believe that staff development is the crux of improving teaching (Schiffer, 1978). One reason for this emphasis is that the amount of research about what constitutes effective teaching has skyrocketed in the past ten to fifteen years. Teachers who have been teaching since before the research explosion arguably need access to this information in order to update their knowledge and upgrade their teaching skills (Johnson, 1980; Morant, 1981; Joyce and Showers, 1988). Secondly, because of the tremendous increase in knowledge about effective teaching, one can no longer assume that

a beginning teacher can learn all there is to know about effective teaching and become proficient in those skills during pre-service preparation. New teachers need to continue to grow and gain skill in teaching (Roth, 1980; Fenstermacher and Berliner, 1985; Elam, Cramer, and Brodinsky, 1986). These two factors lead into a third, which is that veteran teachers also express a desire to update their knowledge and upgrade their skills (Rush and Wood, 1982; Boyer, 1983). Even more fundamental than the above is the shift in focus regarding learning. Because of the continuing dramatic increase in the amount of information and in information processing, learning is no longer considered a finite activity, but rather a lifelong process. Teachers, as well as students, should be "learning to learn" (Drucker, 1985; National Commission on Excellence in Education, 1983). Finally, the generally accepted purpose of staff development is to improve the effectiveness of the teacher in the classroom, which in turn improves student learning (Joyce and Showers, 1988; Cook, 1985).

Although the concept of staff development is undoubtedly important, researchers find that most staff development programs have not been highly successful in meeting their own objectives, nor in satisfying the needs of educators (Joyce, McNair, Diaz, McKibbin, Waterman, Baker, 1976b). However, no easy solutions exist because of many interdependent influences on staff development, such as the climate of the organization (Dillon-Peterson, 1981; Roark and Davis, 1981); the level of support given by district and school administration (Joyce & Showers, 1988); the credibility of the instructors (Joyce,

1981); the voluntary/required nature of participation (Lynch & Burns, 1984); the incentives for teacher participation (Yarger, Howey, & Joyce, 1980); and the methods of delivery (Johnson, 1980).

In addition to these interdependent factors the strongest influence on the success of a staff development program, however, is the attitude of the teachers themselves. Schiffer comments,

Although hopes for school renewal often centered on aspects of schooling other than teacher training, ... it soon became apparent that teachers were the bottom line in any change that might take place. If teachers were unwilling or unable to implement an innovation ... [it] ... was doomed to failure (1978, p. 4).

Teachers almost universally have an aversion to staff development, an aversion derived from the teacher perceptions that most staff development isn't relevant, and that most trainers have low credibility (Joyce, 1981, Leiter & Cooper, 1978).

Researchers have created a few staff development models designed to meet teachers' needs, to increase the credibility of the trainers, and to directly help the teachers in their classroom situations. Although studies have been done to determine the effectiveness of the staff development models, rarely have these studies elicited teacher perceptions about the value of changing the staff development programs.

Statement of the Problem

This descriptive study is designed to ascertain the attitudes and beliefs of secondary teachers, from two schools in a southwestern school district, toward staff development in the following three areas:

1. teachers' attitudes and beliefs toward staff development as an important part of their professional growth
2. teachers' attitudes and beliefs toward selected aspects of a staff development program
3. teachers' attitudes and beliefs of their level of knowledge and level of interest in topics which are appropriate for inclusion in a staff development program.

These three areas evoke interrelated questions. First, what are teachers' attitudes and beliefs toward staff development? Do teachers believe staff development is important for their professional growth? For the purpose of this study, are there similarities and differences in teachers' attitudes between two sites (schools) within one district? Are there similarities and differences in teachers' attitudes toward staff development reflected in years of teaching experience, level of education, teaching department, recent participation in a staff development program, level of participation in staff development, gender, and career ladder participation?

Secondly, what are teachers' attitudes and beliefs toward selected aspects of staff development and their involvement in them? These aspects include the processes of staff development, such as planning, delivery, evaluation, and the involvement of various personnel (private consultants, university professors, district central office administrators, school administrators, school faculty, etc.) in a staff development program from its inception to its conclusion. Do teachers believe they need to be involved in any, part, or all of these processes?

Other aspects of staff development are more concrete: when and where do teachers believe staff development best occurs? Should attendance/participation be mandatory or depend upon the topic and the individual teacher? Do teachers believe that incentives such as released time, monetary remuneration, additional credentials, advanced degrees, recognition, awards, and/or career advancement enhance their participation in staff development? Further, are teachers' attitudes towards these aspects similar between the two schools in the district, or are there differences?

Finally, what, if any, knowledge do teachers believe they have of various teaching methods, models, and competencies? Have they studied the theory to support them, have they used them in their classrooms, and do they consider themselves experts of various teaching methods, models, and competencies? Are teachers interested in increasing their knowledge of various teaching methods, models, and competencies? Is there a relationship between teachers'

knowledge level and interest level? Are there similarities or differences in knowledge and interest levels between the teachers in the two schools?

Objectives of the Study

The following objectives provided direction for this study:

1. To identify the attitudes and beliefs of teachers toward staff development as an important part of their professional growth.
2. To identify the level of involvement teachers believe they and other educational support personnel should have in the planning and organization of staff development programs.
3. To identify who teachers believe should determine the content of the staff development program, and by what process it should be determined.
4. To identify who teachers believe should be the instructor(s)/trainer(s) for the staff development program.
5. To identify the delivery method and format teachers believe staff development programs should take.

6. To identify where, when, and how often teachers believe staff development should occur, and if participation should be mandatory or dependent upon the individual and the program.
7. To identify the incentives teachers believe encourage participation in staff development.
8. To identify how and when teachers believe evaluation of staff development programs should occur.
9. To identify the level of knowledge teachers believe they have of specific teaching methods, models, and competencies which are appropriate topics for a staff development program.
10. To identify the level of interest teachers believe they have in learning more about specific topics appropriate for staff development.
11. To identify similarities/differences in beliefs and attitudes of teachers based on school, department, number of years of teaching experience, level of education, participation in a career ladder program, and gender.

Assumptions Underlying the Study

For the purpose of this study the following assumptions were made:

1. A Likert scale is an accurate measurement of teacher attitudes and beliefs.
2. The respondents of the self-reporting survey used for this study reliably, truthfully, and accurately reported their attitudes and beliefs.
3. The items on the instruments for this study are representative of the attitudes and beliefs of teachers.
4. Staff development is a viable component of school district professional growth.

Limitations of the Study

For the purpose of this study the following limitations were made:

- 1. The findings of this study will be limited to two southern Arizona high schools.**
- 2. The findings of this study will be limited to the teachers participating in this study.**

Definitions of Terms

For the purpose of this study, the following definitions have been established:

Incentives:

Motivations for teachers to become involved in a staff development program (Yarger, Howey, & Joyce, 1980).

Instructors/trainers:

Individuals who have delivered staff development programs in the past, or who should deliver staff development programs (Yarger, Howey, & Joyce, 1980).

Staff Development:

Any activity that has as its purpose the staff member's improved performance in current or future positions (Elam, Cramer, & Brodinsky, 1986).

Staff Development Content:

The information, practice, and/or materials necessary to achieve the goals and objectives of the staff development program (Wood, Thompson, & Russell, 1981).

Staff Development Program Development and Implementation:

The process of planning, organizing, and overseeing the staff development program (Yarger, Howey, & Joyce, 1980).

Staff Development Format or Delivery Modes:

Five forms of staff development include:

1. *Job-Embedded*: Takes place while teaching is going on.
2. *Job-Related*: Closely related to the job, but does not take place while teaching is going on. Workshops are common examples of job-related staff development.
3. *General Professional*: While it may improve competence, it is not related to specific teaching needs of the individual.
4. *Career/Credential*: Specifically designed to help the individual obtain a new credential or prepare for career advancement.
5. *Personal*: For the development of the individual as a person and may not be at all related to teaching (Yarger, Howey, & Joyce, 1980).

Organization of Remaining Chapters

Chapter 2 presents a review of the literature related to staff development. It includes literature on research in staff development: its purpose, history, place in current educational reform, models of staff development, teacher attitudes toward staff development, opinions and discussions about staff development, and suggestions for improvement of staff development.

The research procedures are discussed in Chapter 3. Included are a description of the sampling methods, the procedures used in developing and administering the questionnaires, and the procedures for analyzing the data.

Chapter 4 presents and analyzes the data and Chapter 5 presents a summary of the data and discusses possible recommendations and implications for the future.

CHAPTER 2

REVIEW OF THE LITERATURE

Introduction

This review of the related literature is divided into two sections; a history of staff development, and current problems identified in staff development with recommendations from the literature for improvement.

In general, the literature that deals with staff development is limited. There have been, as Griffin states, "very few studies of staff development which can meet conventional research standards of conceptual rigor and methodological precision" (1982a, p. 33). There have been even fewer studies of teachers' attitudes toward staff development. Thus, most of the literature is descriptive, discussional, and/or expresses opinions.

This chapter will present a review of germane articles, studies, and reports as background information for the following study.

History of Staff Development

Staff development began in the mid-1800's out of a need to eliminate deficiencies caused by two factors, 1) a shortage of teachers and 2) a lack of

teacher preparation programs. During this period there was an "acute shortage of even partially trained teachers" (Edelfelt & Lawrence, 1975; Henderson, 1978, p. 16). Thus, to "enable teachers to bridge the gap between what they were expected to know and do, and what were in fact their level of knowledge and their teaching competencies", teacher institutes were held. Generally, these institutes were a series of lectures held over a period of two or three days (Henderson, 1978; Tyler, 1971).

Tyler continues, "From the 1880's until the First World War, the summer courses in the normal schools were strategically the most important agencies of in-service education in America" (1971, p. 8). These courses were residential and the content was of a practical nature (Henderson, 1978). During this time there was a tremendous influx of immigrants to the United States, which increased the responsibilities of the schools. Also, there was a wave of new ideas in modern science and in the science of teaching. The summer courses in the normal schools enabled teachers to manage the changes that were occurring (Tyler, 1971).

The next important period in staff development occurred between the First World War and the Great Depression. During this time quantitative standards for teaching certificates were established, and the majority of teachers were required to attend colleges and/or universities to obtain Bachelor's degrees in order to retain their certification (Tyler, 1971).

The two concepts of 1) remediation to improve subject matter knowledge and 2) filling in gaps to gain teaching credentials continued to be the focus of staff development programs following the Great Depression. The baby boom that followed the Second World War also created a teacher shortage, which meant that teachers were hired who were not fully qualified; they needed to learn teaching skills and to earn teaching credentials (Tyler, 1971).

To summarize, staff development has been, as Morant states, almost invariably offered by agencies and institutions at a distance from the school and mounted off the school premises, tended to be supplementary in character to initial forms of training. Moreover, it had two main purposes, one of which was to provide short courses of the 'tips for teachers' type and the other to provide long courses usually leading to diplomas of marketable value that would enhance promotion prospects (1981, p. ix).

Also, Edelfelt & Lawrence state that, "[staff development] is training that is designed, planned, and conducted for the teacher by persons in authority" (1975, p. 11).

Thus, in the past staff development was mandated for teachers to remediate perceived deficiencies, and staff development programs were typically held away from the school site.

Staff Development and the
Reform Literature of the 1980's

Calls for reform in education are certainly not a new phenomenon, but the publication of A Nation at Risk (National Commission on Excellence in Education, 1983) brought to the public's attention the inadequacies of American education. It also presented recommendations for improvement. Other books and reports were published within a few years of A Nation at Risk, and all scrutinized various aspects of education and made recommendations for improvement.

One common thread throughout the literature on educational reform is a call for more effective teaching. However, training current teachers to be more effective through staff development is not given much attention. There are only general recommendations for what the content of the professional development should be. What staff development should consist of is given scant attention and how staff development should be conducted is given even less; only that teachers should be involved. For example, "A Nation at Risk" recommends " ... an 11-month contract for teachers. This would ensure time for ... professional development" (National Commission on Excellence in Education, 1983, p. 11).

In A Place Called School (1984) Goodlad states that, "teachers must be provided ample opportunity to see and use techniques designed to elicit such things as problem-solving behavior, imaginative essays, and a clear grasp of how

our government functions and compares with others" (p. 299). To do this, Goodlad recommends reducing "the instructional time of teachers to approximately 15 hours per week ... while simultaneously initiating school-based programs of ... instructional improvement shared by the entire staff." This would, Goodlad adds, build staff development into the work week (p. 194).

In High School (1983) Boyer states that, "The time has come to recognize that continuing education must be an essential part of the professional life of every teacher" (p. 179). To accomplish this, he proposes "that a two-week Teacher Professional Development Term be added to the school year ... This would be a time for study, a period to improve instruction, and an opportunity to expand knowledge" (p. 170). Also, "We recommend that every five years teachers be eligible to receive a special contract with extra pay to match to support a Summer Study Term" (p. 171).

In Horace's Compromise (1984)Sizer states that, "after teacher candidates have gained a solid mastery of their subjects, **their training must be almost wholly school-based**. One learns to teach by coaching; one needs to be teaching in order to be coached" (p. 194).

The Holmes Group in Tomorrow's Teachers (1986), in its plan to create a hierarchy of teachers, recommends that teachers may only receive a higher credential/license after completing an advanced degree in teaching.

In A Nation Prepared: Teachers for the 21st Century, The Carnegie Forum on Education and the Economy (1986),

sees no reason to perpetuate a system of continuing education that determines teacher compensation on the basis of credits earned after becoming a teacher ... The need for relevant continuing education nevertheless remains strong. Teachers need staff development opportunities in order to design and implement local programs and to keep up with their fields. They need advanced education in order to reach the highest levels of their profession (p. 77).

Thus it can be seen that there are few detailed and outlined recommendations made for staff development in the reform literature, and the recommendations do not differ significantly from the historical perspective. The reform literature recommends that staff development be mandated for teachers. The bulk of the reform literature still places staff development off the school site with university/college course work and advanced degrees figuring predominantly as staff development.

However, the literature is indicating a shift in the purpose of staff development. The shift is from remediation of perceived deficiencies to continued growth in order to "seek greater fulfillment as a practitioner of the art" (Jackson, 1971, p. 26).

Current Literature on Staff Development

The amount of new information is growing at ever increasing rates (Naisbitt, 1982). Teachers are doubly affected by the explosion of knowledge; they must keep up not only with the new information in their fields, (Johnson, 1980) but also with the current research about effective teaching (Griffin, 1983). Fenstermacher and Berliner agree, "Teachers do need help, but this need is not necessarily because of lack of skill or commitment. Rather, it is because of the need to understand and keep pace with the manifold and rapid changes that impinge on schooling" (1985, p. 282).

Because of the rapid increase in knowledge, teachers need to be learning to learn. As "A Nation at Risk" states, "without lifelong learning, one's skills will become rapidly dated" (National Commission on Excellence in Education, 1983, p. 6). Day also states that, "we can no longer consider an individual's education complete after 12 to 14 years of formal schooling. Learning and growth take place throughout an individual's lifetime and must continually be a renewing process" (1981, p. vii). Roth agrees:

One's repertoire of teaching techniques can never really be said to be complete. There is a need to continually expand upon one's professional base.... Teacher education is in a constant state of flux, with old ideas being cast aside and replaced, in addition to expanding and building upon current ideas with new information (1980, p. 2).

Griffin states,

One of the requirements of a profession is that its members somehow continue to learn, to grow, to renew themselves, so that their interactions with ideas and with clients are reflective of the best knowledge and skill available to them (1978, p. 127).

Teachers themselves see the need for continuing growth and desire staff development as " ... nearly all teachers ... see in-service education as crucial to improved school programs and practice" (Wood & Thompson, 1980, p. 375). In their report, Joyce et al. found that two-thirds of all the teachers interviewed "stated directly that inservice education is needed, and most stated that it is needed badly ... The majority of people ... felt strongly about the importance of ISTE [In-Service Teacher Education] to the improvement of education" (1976b, p. 14). Yarger, Howey, & Joyce report that, "less than half of the teachers view the current inservice effort as sufficient in quantity" and "overwhelmingly teachers cite the desire to improve their teaching as the primary reason for their involvement in inservice" (1980, p. 20). Guskey concurs, "most teachers engage in staff development because they want to become better teachers" (Guskey, 1986, p. 6).

Teachers' Attitudes Towards Staff Development

However, teachers, while recognizing a need for continuing growth, are dissatisfied with current staff development programs. Yarger, Howey, & Joyce found in their study that "between 20 and 30 percent of the teachers ... believe that inservice is in either 'poor' or 'bad' condition. Additionally, about 40 percent ... expressed the belief that inservice is only in 'fair' condition" (1980, p. 14). "About two-thirds of the people interviewed answered unequivocally 'not satisfied'" with staff development in Joyce et al.'s study (1976b, p. 13).

In sum, staff development is regarded in the reform literature as important to improve the quality of American education. Researchers and practitioners regard staff development as important for continuing growth; that is, to stay abreast of the knowledge explosion in teaching fields and in effective teaching skills. Yet teachers are dissatisfied with staff development, and perceive it as being "ineffective and a waste of time" (McLaughlin & Marsh, 1978, p. 70). The next section will identify some of the factors discussed in the literature which contribute to teacher dissatisfaction with staff development.

Problems in Staff Development

Lack of Empirical Research

A major problem in the study of staff development is the rarity of empirical research.

... [B]aseline data about what is actually happening in practice is sparse. Information about what is both desired and needed by teachers is limited, and much of the literature which does not exist [sic] is speculative. Too often the literature reflects an advocacy or public relations posture, while rigorous research of any kind is rare. Large scale studies of inservice education are almost non-existent (Yarger, Howey, & Joyce, 1980, p. 2).

Stevenson states, "To date, neither the literature on effective schools nor on staff development seems to have examined how staff development can be structured to serve as a lever for secondary school improvement" (1987, p. 234).

Because so much of the literature is speculative, it is difficult to infer or predict from it with a high degree of confidence. Nonetheless, a large number of factors are identified in the related literature as contributing to teacher dissatisfaction with staff development. It follows that for every perceived problem there are also a variety of educated guesses as to what might ameliorate that problem.

The next section will identify what the literature indicates are the major factors of dissatisfaction with staff development, and the improvements that are suggested to improve teachers' satisfaction with staff development.

Factors of Dissatisfaction

One major theme throughout the literature is that staff development is irrelevant and unrelated to teachers' needs. Further, teachers' needs are many and interrelated.

The most common defects reported are poor planning and organization, activities that are impersonal and unrelated to the day-to-day problems of participants, lack of participant involvement in the planning and implementation of their inservice, inadequate needs assessment, and unclear objectives. The lack of follow-up in the classroom or job setting after training takes place is almost universal ... inservice education has had a **districtwide focus**, distant from the needs of teachers ... in their own schools (Wood & Thompson, 1980, p. 375).

Guskey states, "what [teachers] hope to gain through staff development programs are specific, concrete, and practical ideas that directly relate to the day-to-day operation of their classrooms" (1986, p. 6). This is not often what teachers get. "The inservice that has typically been experienced by teachers ... has not been directly or even closely related to their teaching jobs" (Yarger,

Howey, & Joyce, 1980, p. 15). Wood and Thompson (1980) indicate that staff development activities are often "impersonal and unrelated to the day-to-day problems of the participants" (p. 375) and "disjointed workshops and courses [that] focus on information dissemination rather than stressing the use of information or appropriate practice in the classroom" (p. 374).

Adult Learning Theory and Individualization

The literature suggests that staff development taught in this way does not take into account what is now known about adult learning theory. Wood & Thompson state,

Another weakness is that most inservice education has focused upon what James Coleman calls **information assimilation**. That is, someone presents ideas, principles, an/or skills for use back on the job (information presented); then the participants explore the full meaning of these ideas and discuss applications for the work setting; finally, the inservice ends, and the person goes back to his/her job to implement what was understood. This doesn't fit what we know about adults and adult learning. In fact, the major flaw in staff development appears to be that we have ignored what is known about the adult learner and adult learning, just as we have accused teachers of ignoring the individual child and how he or she learns (1980, p. 375).

Wood & Thompson continue, "It appears that a higher proportion of adults than formerly thought may be operating at what Piaget calls the concrete operational stage rather than formal operations stage of intellectual development" (1980, p. 376).

Leiter & Cooper, writing from the teacher unionists' point of view, disagree.

Many negative assumptions are made about the capacity and inclination of adult learners. Staff-development programs appear to regard adult learners as below average in intelligence, requiring that they be talked down to and that they be asked to handle only the most oversimplified, predigested, and flimsy ideas and concepts. They are thought to prefer "hands-on" activities, and the glossy or "turn-on" approach rather than the analytic and serious ... Most adult learning situations presuppose that adults ought to want to learn because they are adults and, in teacher-learning, this assumption is then coupled with a low estimate of their capacity. The result is the species of superficial instruction that constitutes most professional-development work. What we respect about children--variety, individuality--we fail to apply to teachers (1978, p. 121).

Nevertheless, the preponderance of the literature favors the attention to adult learning theory when planning staff development programs. "The use of adult developmental theory (e.g. conceptual levels) to guide the selection of development activities is a result of the growing legitimacy of this field of

inquiry" (Griffin, 1983, p. 421). Wood & Thompson detail important considerations of adult learning:

To plan and conduct effective inservice education, we need to be aware of a number of facts related to adult learning:

-Adults will commit to learning something when the goals and objectives of the inservice are considered realistic and important to the learner.

-Adults will learn, retain, and use what they perceive is relevant to their personal and professional needs.

-Adult learning is ego-involved.

-Adults come to any learning experience with a wide range of previous experiences, knowledge, skills, self-direction, interests, and competence.

Individualization, therefore, is appropriate.

-Adults want to be the origins of their own learning.

-Adults will resist learning situations which they believe are an attack on their competence.

-Adults reject prescriptions by others for their learning.

-Adult motivation for learning and doing one's job has two levels. One is to participate and do an adequate job. The second level is to become deeply involved, going beyond the minimum or norm.

-Motivation is produced by the learner.

-Adult learning is enhanced by behaviors and inservice that demonstrate respect, trust, and concern for the learner (1980, p. 376).

Guskey suggests other ways adult learning theory can be applied to a staff development program:

Changes required of teachers should be organized and presented in small, incremental steps, and they should be described clearly and explicitly with emphasis on efficiency and practicality. Furthermore, it is best to begin with changes that are relatively modest but that can result in demonstrable student improvements in a fairly short period of time (1985, p. 59).

Thompson & Cooley state that involving teachers in hands-on type activities in staff development programs increases the interface between how adults learn and the relevancy of the program. "Activity-oriented sessions compatible with adult learning theory must be used if staff development is to have an impact on teacher effectiveness. Providing teachers with hands-on experiences or workshops is motivational and instructional" (1986, p. 97).

Thus, another recommendation to improve the relevancy of staff development programs to teachers' needs is that the activities should provide teachers with information and materials that they can take back to their classrooms and use. "When participants complete training, they should have a set of materials for reference and review" (Elam, Cramer, & Brodinsky, 1986, p. 16). Merenbloom concurs, "The staff development curriculum should feature a number of hands-on activities that actively involve the participants" (1984, p. 27).

In addition to adult learning theory, McLaughlin & Marsh suggest that the planners of staff development programs consider the age and years of teaching experience of the participants when planning for staff development.

The number of years of teacher experience was negatively related to all of the dependent variables ... in other words, the more experienced the teacher, the less likely was the project to achieve its goals, and the less likely was the project to improve student performance. These relationships in large part are attributable to the fact that the more experienced teachers also were less likely to change their practices as a result of project participation ... teachers seem to 'peak out' after five to seven years of teaching--either maintaining their level of effectiveness (in the best cases) or actually becoming less effective.... the professional-development needs of experienced teachers are different from those of new teachers. For example, the workshop approach that may be useful for teachers still mastering the classroom craft is not sufficiently relevant or challenging to more experienced teachers. After several years in the classroom, teachers want to explore new areas and take more responsibility for their professional growth (1978, p. 84).

McLaughlin & Marsh suggest, "A more personal approach to professional growth may be important for more experienced teachers. This personal approach should emphasize new cognitive frameworks for looking at teaching practice and at their effectiveness as teachers" (1978, p. 92).

Teacher Involvement in the Planning and Process of Staff Development

Teachers need individualized professional growth depending upon the individual's cognitive learning stage and years of experience. They also express a desire to be involved in the planning and process of staff development, ostensibly so that the teachers might have control over the program's relevancy to their jobs. The literature suggests that the involvement of teachers in the planning process will also cause the teachers to buy into the program, thus increasing the program's success. Griffin states, "staff development programs should depend less upon outsiders and more upon insiders for substantive and procedural guidance" (1982a, p. 35). In agreement are Thompson & Cooley. "[An] important factor in the success of staff development programs is teacher involvement in the planning process" (1986, p. 96). Elam, Cramer, & Brodinsky, in their report state:

Staff development works best when participants take part in planning objectives and activities ... staff taking part in training should know what is expected of them during the activities, what they should be able to accomplish once the training is over, and how they will be evaluated (1986, p. 16).

Thompson & Cooley state, "The development of objectives is especially important if staff development is to increase teacher ... effectiveness" (1986, p. 96).

In his review of the literature, Stevenson connects involvement of teachers in planning to organizational development factors.

A number of research studies have identified collaborative planning and collegial relationships (which in turn can lead to a sense of community among a school staff who develop a shared language and reciprocally supportive relationship) as important features of successful staff development programs (1987, p. 238).

In 1976, Joyce et al. conducted one of the few empirical studies of staff development. Its purpose was to contribute to the conceptual structure of staff development and identify areas requiring further study. This was done through loosely structured interviews with educational personnel in all regions of the United States. They found that,

About a quarter of the respondents nominated teachers as the group to assume organizational responsibility for ISTE [In-Service Teacher Education]. Another quarter suggested teachers in collaboration with school district officials.... A third felt teachers should be responsible for initiating inservice teacher education activities ... (1976b, p. 18).

With respect to the determination of content and process of inservice teacher education, one-fourth of those interviewed favored giving this responsibility to the teachers, one-fourth preferred the decisions to be made by the teachers working collaboratively with the school administration, while smaller numbers preferred a highly varied

cooperative arrangement., and a collaboration between the local education agency and a higher education agency (1976b, p. 20).

And,

One of the most important aspects of the organizational question involves decision-making at the local level; that is, who shall decide how frequently individual teachers will participate, what they will study, and how much they will study it. Thirty-seven percent of the respondents would place most of that power in the hands of teachers ... a cooperative arrangement between teachers and school administrators was favored by over 32 percent of the respondents ... it is worthy of note that very few persons felt the school principal or other direct supervisor should determine individual teachers' inservice needs (1976b, p. 22).

However, the literature does recognize that teachers do not have the experiential background to be able to function as fully capable program organizers.

Teachers typically have had little experience in the organizational role. Thus, with the trend toward using teachers more as trainers and organizers, it will be necessary to learn just how much experience they have had and the kinds of skills they will need to develop in order to assume the training role (Joyce, Howey, Yarger, Hill, Waterman, Vance, Parker, and Baker, 1976a, p. 26).

Organization

In the literature there is an interface between how a staff development program is organized and the meeting of teachers' needs beyond their involvement in the process. The time of day, location, incentives for participation, and the assessment of teachers' needs to determine the content of the staff development program are identified in the literature as important.

Elam, Cramer, & Brodinsky indicate that staff development can occur at any time. "During school hours and after school hours, on released time and on paid time, Saturdays and during summer sessions--staff development ideas and programs are at work" (1986, p. 14). But to be relevant and meet teachers' needs, when should staff development programs be held?

There is considerable emphasis in the literature that staff development should occur during the normal working hours of teachers.

Surveys of teacher attitudes and comparative studies of inservice alternatives indicate a strong preference on the part of teachers for types of inservice that can be completed at school during school hours (Joyce et al., 1976a, p. 15).

"Many teachers obviously would prefer to have teacher training during the ordinary school day" (Joyce et al., 1976b, p. 34). Griffin states that,

released time (time away from typical school duties) is also associated with effective staff development ... teachers were initially reluctant to be

away from their classrooms, even though they believed that the reasons for their absence were important ones (1983, p. 421).

Elam, Cramer, & Brodinsky indicate that teacher fatigue is factor to be considered when planning for staff development. "Staff development that takes place at the end of the school day has less chance of being successful than if it is offered when staff is fresh" (1986, p. 16). Finally, Auton, Deck, & Edgemon recommend that staff development, "Should be on regular duty time (released time, inservice days, or other such arrangements)" (1982, p. 118).

Closely aligned with when staff development programs should be held is where they should be held. "The most commonly used off-school site for staff development is, of course, the college campus" (Elam, Cramer, & Brodinsky, 1986, p. 14). Again, the literature indicates that this isn't necessarily the teachers' preference. "Many inservice courses and workshops are inconvenient because they require teachers to travel great distances, are held after school hours or on weekends" (Joyce et al., 1976a, p. 20). Auton, Deck, & Edgemon concur that staff development programs, "should be located at their own work sites" (1982, p. 118).

Another concern in the organization of staff development programs is that of motivating teachers to take part. This has typically been done through the use of incentives.

Incentives provide the climate and conditions that permit in-service education to be effective. Given the stresses and demands of teaching,

given the fact that the rewards for teachers in salary and status are exceeded by other professional pursuits, to suggest that one can achieve willing and eager teacher involvement in in-service programs without a range of positive incentives suitable to each situation is naive. Making in-service education relevant and attractive costs money and that, of course, is what really accounts for many of the pieties about what teachers should be willing to do--for free--to improve their professional effectiveness. Nobody wants to pay the freight (Leiter & Cooper, 1978, pp. 113-114).

The important point, however, is that incentives should be positive and suitable to the situation and the individual. In other words, "incentives should be positive inducements to participation in the activity, adjusted to account for the fact that what is an incentive to one teacher may not function that way for another. There should be a range of incentives from which recipients may choose" (Fenstermacher & Berliner, p. 292).

Historically, "obtaining post-baccalaureate credits and degrees for the purpose of gaining salary increments was seen as the primary incentive for inservice education, and the control of courses and structure of inservice education was in the hands of colleges and universities" (Joyce et al., 1976b, p. 17).

However, these forms of incentives may be decreasing in their ability to motivate teachers. Swenson states, "Extrinsic rewards such as salary schedule

advancement, stipends, and compensatory time are generally perceived by teachers as less motivating than are the intrinsic rewards associated with learning something of value for their teaching" (1981, p. 5).

Joyce et al. concur, "When the interviewees speculated on the kinds of things that would persuade them to take part in a ISTE program, almost 60 percent of them mentioned a desire for professional growth as a prime motivator" (1976b, p. 32).

Overwhelmingly teachers cite the desire to improve their teaching as the primary reason for their involvement in inservice. Other time-honored inducements such as credits toward degrees, salary increments, or fulfillment of certification requirements are not mentioned as frequently as one might expect (Yarger, Howey, & Joyce, 1980, p. 20).

Auton, Deck, & Edgemon agree while McLaughlin & Marsh found that intrinsic professional rewards--such as those implicit in the proposed scope of change--are far more important in motivating teachers. To this point, a number of project directors commented that although the teachers appreciated the extra pay, the pay alone did not induce teachers to work hard to learn new skills if professional motivation was absent (1978, p. 75).

One last perspective on incentives is stated by Joyce et al., "money is not as important as time" (1976a, p. 20).

Teacher Participation

Some teachers are unwilling to participate in staff development regardless of the incentives. Should participation be mandatory, or should it be voluntary? The literature reflects viewpoints across the continuum. Griffin states, "voluntary participation is related to positive outcomes of specific programs" (1983, p. 421).

Joyce et al. attempted to look at participation from several points of view,

Considering that a quarter of these teachers were required to participate in the inservice enterprise, more data is needed to determine what the effects would be if involvement was voluntary. Conceivably, attitudes might improve greatly. On the other hand, the number of teachers participating might be greatly reduced. It is also possible that involuntary participation may result in little or negative transfer to classroom performance (1976b, p. 32).

However, "two-thirds of all the interviewees agreed ... positively ... on the topic of requiring teachers to participate in programs of inservice education" (Joyce et al., 1976b p. 33). In a separate study, Joyce et al. state, "a portion of inservice training should be optional according to personal feelings, part should be determined by diagnosis of a teacher's particular competence in the roles

played, and a portion should be determined by system needs or thrusts" (Joyce et al., 1976a, p. 13).

Another factor in planning a staff development program is in determining what will be taught, or what the content of the program should be. As has been mentioned previously, teachers desire information and activities that are relevant to their needs. As Griffin states, "staff development programs should be participatory and designed as a consequence of systematic problem identification by those persons most directly related to the problems" (1982a, p. 34). Problem identification, in this instance, is called needs assessment, and the literature on staff development considers it important for increasing the relevancy of the program. However, needs assessments are fraught with difficulties.

The most common needs assessment methodology is a topical survey in which respondents indicate their preferred inservice topics, usually in the spring for the forthcoming school year. While these surveys can provide some useful information, they often have the shortcomings of measuring interests rather than needs and ignoring the question of how respondents learn best (Swenson, 1981, p. 4).

Elam, Cramer, & Brodinsky state that, "Staff development should be based on a continuous assessment of staff needs. As needs change, so will the activities offered to meet those requirements" (1986, p. 16). This also presumes that staff development is itself a continuous process.

Jones & Hayes and Cook suggest that there is a difference between what teachers are interested in and what they need. "Planners of staff development programs and persons conducting research on staff development may wrongly assume that statements of needs made by teachers are their needs rather than symptoms of needs that must be diagnosed more completely" (Jones & Hayes, 1980, p. 390). "Teachers may not have sufficient knowledge of a topic to identify clearly their real needs in that area, and frequently the expressed need is only a symptom of an underlying real need" (Cook, 1985, p. 21).

To overcome the above, Cook suggests that, "teachers should be trained to analyze their own teaching so that they can learn to identify genuine needs and interest. And then the mechanism for delivery should be flexible enough ... for timely response to teacher-identified needs" (Cook, 1985, p. 22).

Another suggestion for validating teachers' needs is to use more than one method to collect information. "A standard rule of thumb should be to use at least three different methods of data collection. Using a variety of methods is likely to increase the validity of the findings" (Kuh, Hutson, Orbaugh, & Byers, 1980, p. 17). Swenson states,

School districts which do a thorough and effective job of assessing needs tend to conform to the following guidelines:

1. Use of multiple methods
2. Attention to process as well as content
3. Consideration to timing
4. Provision for feedback
5. Use of evaluation as further assessment (1981,p. 4).

Finally, if "professional learning is a long-term, nonlinear process," (McLaughlin & Marsh, 1978, p. 88) then "needs can best be assessed when the process is seen as a continuum of problem identification, negotiation, and resolution" (Kuh, Hutson, Orbaugh, & Byers, 1980, p. 15).

Training/Delivery Models

In the past, "most staff development has been based on a top-down R&D model which assumes that teachers are merely the passive consumers of products and techniques developed by experts" (Stevenson, 1987, pp. 239-240).

Furthermore, Griffin states that, "the most typical staff development activity is a workshop, usually a one-time attempt to alter the behavior, beliefs, and/or thoughts of participants" (1983, pp. 421-422).

Nicholson, Joyce, Parker,& Waterman add,

Traditional inservice teacher education programs have consisted almost entirely of information-gathering activities: attending workshops, taking college courses and institutes, reading professional journals, reading curriculum bulletins, discussing methods with other teachers, attending professional conventions. Programs that stress utilization of that information or practice of techniques with feedback have been distinctly in the minority (1976, literature, p. 20).

However, this model is undergoing considerable change, because of three other factors which have been mentioned previously, the factors of adult learning theory, attempts to make staff development more relevant to the classroom needs of the teachers, and involving teachers in the process of staff development. "A one-time, one-shot, all-district meeting will clearly not serve the needs for learners who are at different ages and stages. Programs must provide flexibility and a wide range of options to suit differing needs and interests" (Cook, 1985, p. 19-20).

A number of recommendations for the preferred mode of delivery for staff development were made in the literature. "It was noted that a variety of delivery modes is considered desirable (e.g., workshops, observations, sabbatical leaves, college courses)" (Griffin, 1982b, p. 12). Elam, Cramer, & Brodinsky state that, "staff development works best when individuals get a chance to take part in demonstrations, supervised tasks, and to receive constructive criticism" (1986, p. 16). Wood & Thompson suggest that staff development programs,

"include opportunities for participants in inservice training to practice what they are to learn in simulated and real work settings as part of their training" (1980, p. 377). McLaughlin & Marsh, in the Rand Study found, "it was important that professional learning be related to ongoing classroom activities. Staff development activities undertaken in isolation from teachers' day-to-day responsibilities seldom had much impact" (1978, p. 88). "A meta-analysis of quantitative studies on the effects of inservice training programs indicted that observations of classroom practice, micro-teaching, audio/video feedback sessions, and practice are significantly more effective than other instructional techniques" (Stevenson, 1987, p. 236).

The teachers in Joyce et al.'s study took staff development one step further.

Teachers feel they need an integrated complex of activities so that, in addition to being introduced to a new approach or idea and seeing it demonstrated, they are given classroom followthrough that permits personal explorations of and provides assistance in trying out the new approach or idea (1976a, p. 22).

Guskey carries the idea even further, "experienced teachers seldom become committed to a new program or innovation until they have seen that the new practices work well in their classrooms with their students" (1985, p. 58). He also states,

it is critically important that change efforts include some procedure for giving teachers regular feedback on learning outcomes ... continued support and follow-up are necessary after initial training ... some time and experimentation are necessary for teachers to fit the new practices to their unique classroom conditions ... is essential for successful implementation ... teachers need continuous guidance and directions in order to make adaptations while maintaining program fidelity.... new programs and innovations have been found to be most successful when teachers have regular opportunities to meet to discuss their experience in an atmosphere of collegiality and experimentation. For most teachers, having a chance to share perspectives and seek solutions to common problems is extremely beneficial (1985, p. 59).

Joyce and Showers have combined all of these recommendations into one listing of the Components of Training.

Components of Training

1. Presentation of theory or description of skill or strategy;
2. Modeling or demonstrate skills or models of teaching;
3. Practice in simulated and classroom settings;
4. Structured and open-ended feedback (provision of information about performance);

5. Coaching for application (hands-on, in-classroom assistance with the transfer of skills and strategies to the classroom) (1980, p. 380).

Also, Brandt reinforces the concept of coaching. "Other things being equal, however, coaching seems to be the most powerful way for some teachers to learn complex new practices" (1982, p. 3).

Trainers/Instructors

Who should deliver the staff development program to the teachers?

One of the factors which has contributed to dissatisfaction with staff development identified in the literature is that the trainers have lacked credibility. The teacher unionists, Leiter and Cooper, state,

The deliverers are not viewed collegially, are considered, often, with suspicion (some may end up rating the teachers they claim to be helping), or, at best, are regarded as people who are in another line of work (administration, higher education) and cannot really understand the needs of teachers (1978, p. 119).

They continue by stating that "teachers feel that college people cannot possibly understand their problems" (1978, p. 121).

Using teachers to train other teachers is another opportunity to involve teachers in the process of staff development. Griffin states, "employing

teachers to train other teachers is a widespread practice related to positive staff development outcomes" (1983, p. 421).

In their study, Joyce et al. asked, "Who should be the trainers in the programs? ... over 20 percent preferred university personnel; about 20 percent preferred teachers; about 15 percent preferred consultants ..." (1976b, p. 35).

But who should be the trainers may depend upon the content of the staff development program. "In staff development activities closely related to classroom performance, teachers express a preference for other teachers as inservice instructors" (Swenson, 1981, p. 6).

Yarger, Howey, & Joyce found in their study that,

Teachers tend to be quite specific about who makes the best inservice instructors. When it comes to job-embedded or job-related inservice training, they clearly feel that their teaching colleagues are the best instructors. Interestingly, however, only a small minority of teachers desire to become involved in inservice as instructors. When it comes to inservice training that is designed to enhance one's general competence related to credentials, or surprisingly even related to personal growth, teachers clearly see professors as the most effective instructors (1980, p. 20).

Good consultants, according the literature, may also continue to be in demand for staff development as long as they follow the recommended guidelines for practicality and relevance. McLaughlin & Marsh state,

Good consultants helped by providing concrete practical advice to project teachers--showing them how to adapt project methods or materials to their own situation. Good consultants assisted teachers in learning how to solve problems for themselves, rather than by solving problems for them (1978, p. 78).

Evaluation

Evaluation of the staff development program is an important part of the program. Thompson & Cooley state,

In order for staff development to be effective, evaluation of activities and staff implementation procedures must be monitored and modifications made to counteract program weaknesses and enhance program strengths. Evaluation falls into two categories; 1) the evaluation of the actual activities or programs, and 2) the evaluation of teachers, based on their use of concepts learned from staff development programs (1986, p. 97).

Who should evaluate the program? Joyce et al., found in their study that "the respondents tended to favor teachers as the primary evaluators of individual teacher performance (32 percent of the total taking that stance)" (1976b, p. 38). They continue, "with respect to the usefulness of evaluation, it tended to be seen as a process designed to improve the classroom performance

of teachers. Evaluation was characteristically interpreted as something separate from incentives of various kinds especially pay-type incentives" (Joyce et al., 1976b, p. 38).

Elam, Cramer, & Brodinsky recommend four levels for evaluation:

level 1: Did participants like the program? Level 2: Did the participants learn the skills? Level 3: Did participants use the skills on the job? Level 4: Did the program affect the bottom line? Education officials often get to the heart of the matter--quickly. After offering a series of workshops or seminars, they begin a followup process in which they train and evaluate, evaluate and train (1986, p. 76).

And Griffin states,

Evaluation should be informed by multiple data sources. Useful procedures for gathering information as a staff-development program moves forward include direct observation by a participant observer who regularly and systematically records events of which her or she is a part or by a nonparticipant observer who does not interact with the other persons in the process but who serves as an observer only.... Another technique that has proved helpful in ongoing evaluation is having participants record on tape their interactions in formal settings such as meetings.... Informal interactions and events that occur outside formal meetings can be captured by self-reports of participants in the forms of logs, diaries, or individual audio recordings (1978, p. 132).

The Role of the University in Staff Development

Throughout the previous sections, the roles of the university and its professors have been both maligned and/or viewed as desirable for staff development. However, McLaughlin & Marsh state that in the future,

In any role that universities are to take in support of school-based staff-development programs, it is clear that they need to be part of the ongoing developmental process at the school. This means that they will need to be a part of the collaborative planning and implementation process at the school site. They would need to provide concrete, timely training that is perceived as useful by the teachers and be willing to help in the classroom follow-up process. University faculty would also need to be credible in the school setting and themselves be willing to undergo an adaptation process as they take on these new roles (McLaughlin & Marsh, 1978, pp. 93-94).

Summary

This chapter has examined the history of staff development. It has also examined the factors which contribute to teacher dissatisfaction with staff development, and recommendations for ameliorating those factors. Because most of the literature reviewed is descriptive, discussional, and/or expresses opinions, it is clear that further research needs to be conducted concerning teacher attitudes toward staff development.

CHAPTER 3

RESEARCH PROCEDURES

Introduction

This study, which is descriptive in nature, is designed to ascertain teacher attitudes and beliefs toward staff development, its processes, and teachers' need for staff development. This study will also examine teachers' knowledge of various topics appropriate for a staff development program. To determine this information, two modified Likert scale questionnaires will be used. This chapter includes a discussion of attitude measurement, a discussion of the Likert Scale Technique, the development of the questionnaires used, a description of the sampling procedures, and the procedures which will be used for analysis of the data.

Attitude Measurement

An attitude is, "(1) affect for or against, (2) evaluation of, (3) like or dislike of, or (4) positiveness or negativeness toward a psychological object" (Mueller, 1986, p. 3).

Knowledge of attitudes can reduce the risks inherent in "product development" by identifying the acceptable characteristics of the product (Remmers, 1954, pp. 256-57). In education, knowledge of teacher attitudes can reduce the risks inherent in a staff development program by identifying the organization, implementation, incentives, and personnel which are acceptable to teachers. Remmers states, [attitudes] "have strengthened training programs. Frequently a program has certain aspects which, in theory, sound fine but in practice are wide of the target. More realistic training is now possible" (1954, p. 319).

Remmers states that before attitudes can be measured three assumptions must be made: "that attitudes are measurable, that they vary along a linear continuum, and that measurable attitudes are common to the group, that they are held by many people" (1954, p. 7). This researcher concurs.

The Likert Scale

The Likert Scale was developed to measure attitudes. In the development of his scaling technique, Likert made the additional assumption "that attitudes are distributed normally" (Remmers, 1954, p. 9).

The Likert Scale technique is categorized as a nondisguised, structured method of attitude measurement, and thus is considered one of "the classic

direct attitude tests" (Remmers, 1954, p. 240). The Likert Scale technique is well-known, accepted, and frequently used (Mueller, 1986).

The Likert Scale technique has limitations, however. Mueller states, If high reliability is of paramount importance and the attitudinal issue or object is clearly defined, a highly structured multi-item scale, such as the Likert ... will be the most efficient measurement technique. Even then, reliability is marginal for use in comparing individuals, and questions of validity (especially socially desirable responding) must be raised. In a group-comparison research situation a single self-report item or a very short scale may be most efficient and can be administered in a questionnaire... (p. 95).

Controlling for Reliability

Reliability is controlled for in the construction of the items on the scale. The more simply and clearly the attitude object is defined, the greater the reliability. Multiple scales can delimit complex objects (Mueller, 1986). Attitude scales should identify "behavioral-tendency" items rather than "actual-behavior" items because " ... actual behaviors are influenced by many things besides attitudes and therefore are not always accurate indices of attitude" (Mueller, 1986, p. 10). Reliability is enhanced when each item on the scale is clearly either positive or negative (Mueller, 1986, p. 10). The purpose of the

scale is to discriminate among respondents, therefore items should be selected which will spread out the responses over the score points (Mueller, 1986, p. 11). Finally, each item should contain only one belief or opinion and be written without ambiguity (Mueller, 1986).

Controlling for Validity

To control validity, the researcher must strive to reduce error. On the scale itself, the number of response categories has an effect on the variance. "Five categories are fairly standard ('strongly agree,' 'agree,' 'uncertain' or 'undecided,' 'disagree,' and 'strongly disagree')" (Mueller, p. 12).

In addition, how the participants respond on the instrument can affect the validity. The first problem is "Acquiescence Response Set" (Mueller, 1986, p. 73). To be agreeable is a desirable trait in this culture, and this carries over into test taking. The inclusion of both positive and negative items controls for acquiescence. The second problem is "Social-Desirability Response Set" (Mueller, 1986, p. 74) in which the respondents fake their answers on the test or do not answer honestly. This can be alleviated by establishing a good rapport with the participants, making the test as non-threatening as possible, and assuring the participants of the confidentiality of their answers.

Also, attitude tests are not good predictors of behavior in that behavior has many causes, only one of which may be attitude.

In summary, attitudes can be measured and attitude tests have value for reducing the risks in the development of a product or program. The Likert Scale technique is a widely used and accepted method of measuring attitudes, and can have a high reliability and validity if it is carefully constructed and administered.

Construction of the Questionnaire

The Likert Scale Technique was used to construct the two instruments for this study.

Teacher Attitudes and Beliefs Toward Staff Development (Part A)

This instrument was developed in order to measure teachers' attitudes and beliefs toward staff development, its processes, and the teachers' perceived need for staff development. The topics covered by the items were chosen from the literature on staff development. In order to control as closely as possible for reliability and validity, it was determined to use the five response category format (strongly agree, agree, uncertain, disagree, and strongly disagree). As was stated earlier, Mueller indicates

Some scale constructors use seven categories, and some prefer four or six response categories (with no middle category). All of these options seem to work satisfactorily ... reducing the number of response categories reduces the spreading out of scores (reduces variance) and thus tends to reduce reliability. Increasing the number of response categories adds variance (p. 12).

Teachers were asked to indicate their level of agreement or disagreement with each item by circling the appropriate number.

A panel of experts reviewed the initial questionnaire and made the following recommendations:

- 1) add a sample question to familiarize the respondents with the format of the questionnaire.
- 2) change the format of the questionnaire to enable the respondents to read it more easily.
- 3) reverse the number order of strongly agree, agree, etc., to correspond with Part B of the questionnaire.
- 4) eliminate one question which does not discriminate between planning for and organization of staff development programs.
- 5) reword two questions to increase discrimination and understanding.

These changes were made.

Level of Knowledge and Level of Interest
(Part B)

This instrument was developed to measure the teachers' knowledge of various topics appropriate for inclusion in a staff development program. It was also used to determine the teachers' level of interest in learning more about the topics. The topics cover a broad range of teaching methodologies, models and competencies and were chosen from Models of Teaching (Joyce and Weil, 1986) and from the questionnaire, "Middle School Staff Development: Determining Competency and Interest" developed by Clark and Clark, 1983.

Each topic was assigned a Likert Scale for Level of Knowledge and Level of Interest. The scale for Level of Knowledge was developed with five response categories (unaware of, aware of, knowledge of, experienced, and expert). The scale for interest level was developed with four response categories, (no interest, low interest, moderate interest, and high interest). Both scales were designed to cover the continuum of possible responses while maintaining validity and reliability.

To determine physical layout, a panel of experts reviewed the topics and recommended that 1) the two scales be included on one instrument to reduce the amount of time required to complete the questionnaire and 2) the topics should be placed randomly on the questionnaire to prevent teachers from assuming knowledge based on context according to category labelling. Thus, a

table of random numbers was used to place the order of topics on the questionnaire.

Teachers were asked to indicate what they believe to be their level of knowledge of each topic by circling the appropriate number. The teachers were also asked to indicate their level of interest in learning more about each topic by circling the appropriate letter.

A panel of experts reviewed the initial questionnaire and made the following recommendations:

- 1) add two sample questions to familiarize the respondents with the format of the questionnaire.
- 2) change the format of the questionnaire so that it is easier to read and easier to complete.
- 3) reword three items to enhance understanding.

These changes were made.

Demographic Information

This instrument was designed to elicit information on teachers' vital statistics: years of teaching experience, level of education, school, department, participation in staff development within the past year and in what capacities if any, and gender.

A panel of experts reviewed the initial questionnaire and made the following recommendations:

- 1) eliminate the question on the demographic questionnaire asking the respondent's school. This would assure the respondent of his/her anonymity in completing the questionnaire. However, to enable the researcher to make comparisons between schools, some inconspicuous mark was made on the questionnaire to discriminate between the two schools in the study. In order to do so, it was determined to place a page number 8 on page 8 of the combined parts of the questionnaire for one school, and leave the page number off page 8 for the other. Page 8 is a blank page between the two parts of the questionnaire.
- 2) have the teachers fill in the number of years teaching experience they have, as opposed to checking off an appropriate category. The information will be more accurate.
- 3) add a question concerning teachers' participation in a career ladder program. Career ladder participants typically are involved in a regular and ongoing staff development program of the sort highly recommended in the literature.

These changes were made.

The Sample

The Paradise School District (the names of the school district and the two secondary schools to be included in the study have been changed upon request) is located in Southern Arizona. There are two secondary schools in the district: River H.S. is located in an urban setting and Mountain H.S. is located in a suburban setting. River H.S. has 141 teachers, Mountain H.S. has 104.

Running this study in the Paradise District was timely as the district had allocated a substantial amount of time and money for significant staff development for all faculty during the summer.

All teachers were asked to complete both parts of the Likert Scale Questionnaire.

Gathering the Data

The teachers of both River H.S. and Mountain H.S. were asked to complete and return the two questionnaires during the third week before the end of the spring semester. For the purpose of this study, the two parts of the questionnaire were coded so that comparisons could be made across schools.

The problem of anonymity was particularly critical in this study, as the researcher is a teacher in the district in which this study was conducted. This

threat to validity was controlled as much as possible by the use of liaison personnel in both schools and by the use of a carefully worded cover letter (see appendix A) indicating that neither the researcher nor the district had interest in, nor would they have access to an individual's responses. Liaisons were asked to distribute and collect the questionnaires.

Analysis of the Data

Before discussion of the analysis of the data, it is appropriate to reiterate the purpose and objectives of this study.

This is a descriptive study of the attitudes and beliefs of secondary teachers towards staff development. It was conducted at two schools within one district. Its purpose is fourfold: to identify attitudes and beliefs of teachers across the district toward staff development, and to identify similarities and differences of teachers' attitudes and beliefs between the two schools.

Further, this study is descriptive of the teachers' perceptions of their level of knowledge of topics appropriate for inclusion in a staff development program, and their level of interest in learning more about the same topics.

The following objectives have provided direction for this study:

1. To identify the attitudes and beliefs of teachers toward staff development as an important part of their professional growth.

2. To identify the level of involvement teachers believe they and other educational support personnel should have in the planning and organization of staff development programs.
3. To identify who teachers believe should determine the content of the staff development program, and by what process it should be determined.
4. To identify who teachers believe should be the instructor(s)/trainer(s) for the staff development program.
5. To identify the delivery method and format teachers believe staff development programs should take.
6. To identify where, when, and how often teachers believe staff development should occur, and if participation should be mandatory or dependent upon the individual and the program.
7. To identify the incentives teachers believe encourage participation in staff development.

8. To identify how and when teachers believe evaluation of staff development programs should occur.
9. To identify the level of knowledge teachers believe they have of specific teaching methods, models, and competencies which are appropriate topics for a staff development program.
10. To identify the level of interest teachers believe they have in learning more about specific topics appropriate for staff development.
11. To identify similarities/differences in beliefs and attitudes of teachers based on school, department, number of years of teaching experience, level of education, participation in a career ladder program, and gender.

Responses to the questionnaires were tabulated and analyzed using the following statistical measures:

1. The frequency of each response for every item on the questionnaire was tabulated. Also, the mean and standard deviation for each item was calculated. This information was

used to identify what teachers' attitudes and beliefs are toward staff development across the district. It also presents a generalized picture of what level of knowledge and level of interest teachers have of topics appropriate for inclusion in a staff development program.

2. A *t*-Test of Significant Differences Between Independent Means and a Chi-Square test were calculated for the teachers' responses to each demographic item and the question, "Staff development is an important part of my professional growth". Both tests were calculated on the total of teachers' responses, and on each school's teachers' responses. This information was used to identify similarities/differences in teachers' attitudes and beliefs based on school, department, number of years of teaching experience, level of education, participation in a career ladder program and gender.
3. A *t*-Test of Significant Differences Between Independent Means and a Chi-Square test were calculated for the teachers' responses from each school to each item on Part A of the questionnaire. This information was used to identify similarities/differences in teachers' attitudes and beliefs about the processes of staff development between the two schools.

4. A Pearson Product Moment Correlation was calculated for the teachers' responses to each item on Part B of the questionnaire to determine what, if any, relationship exists between their responses to Level of Knowledge and Level of Interest.
5. A *t*-Test of Significant Differences Between Independent Means was calculated for the teachers' responses from each school to each item on Part B, Level of Knowledge. This information was used to identify similarities/differences in teachers' knowledge of topics appropriate for inclusion in a staff development program between the two schools.
6. A *t*-Test of Significant Differences Between Independent Means was calculated for the teachers' responses from each school to each item on Part B, Level of Interest. This information was used to identify similarities/differences in teachers' interest in learning more of topics appropriate for inclusion in a staff development program between the two schools.
7. A Chi-Square test was calculated for the teachers' responses for specific demographic information (teaching department) and specific topics on Part B of the questionnaire:

- a. English teachers/all other teachers and question B10
(Synectics)
- b. Social Studies teachers/all other teachers and questions B2
(Social Science Inquiry) and B26 (Jurisprudential Inquiry)
- c. Science teachers/all other teachers and questions B9
(Laboratory Training) and B43 (Scientific Inquiry)

This information was used to identify similarities/differences in knowledge and interest levels of teachers in topics which are subject matter specific.

Where a *t*-Test of Differences Between Two Independent Means (two-tailed) was calculated, the null hypothesis was $H_0: X_1 - X_2 = 0$, and the alpha level = .05.

The *t*-Test is appropriate in that:

- a. there is one independent variable with two groups; for the purpose of this study that is the question itself and responses from the two schools.
- b. a subject may appear in only one of the two groups.
- c. the levels or groups of the independent variable may differ from one another either quantitatively or qualitatively (Shavelson, 1988, p. 331).

Where a Chi-Square test was calculated, the null hypothesis was

Ho: The observed distribution of frequencies between the two schools are equal, and df are greater than 2, and the alpha level is = .05.

The assumptions on which Chi-Square are based are:

- a. each observation must fall in only one cell.
- b. the observations are independent of one another.
- c. the observations are measured as frequencies.
- d. the expected frequency for each cell is no less than 5 when the degrees of freedom are greater than or equal to 2 and no less than 10 when the degrees of freedom are equal to 1 (Shavelson, 1988, p. 440).

Note: The fourth assumption on which Chi Squared is based was violated in this study. The Chi Square test was used in this study to identify differences in the distribution of frequencies between the two schools rather than to identify how observed frequencies differ from expected frequencies. The most common usage of Chi Square is to identify the difference between observed and expected frequencies. However, this usage was not employed because no theoretically derived expected frequencies exist in either the literature or prior research. Chi Square was used to show a different, more accurate picture of the actual data. This may be done since this study is descriptive and because the data are not generalizable beyond the school district being studied.

8. A reliability coefficient would be meaningless for this study because there are no appropriate reliability measurement for this survey. There are five methods of determining reliability: test-retest, alternate-form, split-half, Kuder-Richarson, and Cronbach's coefficient alpha. Test-retest requires the test to be taken again, alternate-form requires that a second similar test be taken, split-half requires that the test be split into comparable halves, Kuder-Richarson requires that items be scored as right or wrong, and Cronbach's coefficient alpha requires summing the variances of each of the item scores (Anastasi, pp.101-119). Split-half, Kuder-Richarson, and Cronbach's are all measures of internal consistency, that is, they measure the extent to which all items measure a single construct. The questionnaire was not designed to measure a single construct but many. Opinions of staff development are multi-faceted, therefore, measures of internal consistency are inappropriate. Test-retest and alternate-form are also inappropriate in that practice would interfere with the results of the test.

However, "doing everything feasible to prevent measurement error from occurring is far better than assessing the effects of measurement error after it has occurred. Measurement error is

reduce by writing items clearly, making test instructions easily understood..." (Nunnally, pp.222-223). The questionnaire was designed specifically to reduce measurement error and to raise reliability. The items for the questionnaire Teacher Attitudes and Beliefs Toward Staff Development were carefully worded to reduce measurement error, and were reviewed by a panel of experts before their inclusion in the questionnaire. (See Chapter Three, Construction of the Questionnaire for a more detailed discussion of the construction of the questionnaire). The instructions for completing the questionnaire were made as easy to understand as possible, and included sample questions. Again, these were reviewed by a panel of experts before they were included in the questionnaire. That the respondents to the questionnaire are all college graduates with degrees in education and the questionnaire was presented in a non-threatening manner increases the probability that the questionnaire is reliable. The teachers may be expected to understand the items on the questionnaire and to respond reliably and accurately to each of the items. Based on the care taken in test construction, the assumption of the ability of the respondents to answer the questionnaire reliably and accurately (See Chapter One, Assumptions), and the meaninglessness of a reliability coefficient

in this instance, it is appropriate to assume that the reliability of the instrument is sufficient to determine differences between groups of teachers.

Summary

This chapter included a discussion of attitude measurement and the Likert Scale Technique, a description of the development and format of the questionnaire, and the sampling methods used for this study. The methods used for analyzing the data were also described.

CHAPTER 4

RESULTS OF THE STUDY

Introduction

This is a descriptive study of the attitudes and beliefs of secondary teachers toward staff development. It was conducted at two schools within one district in southern Arizona. Its purpose is fourfold: to identify attitudes and beliefs of teachers across the district, and to identify similarities and differences of teachers' attitudes and beliefs between the two schools.

Further, this study is descriptive of the teachers' perceptions of their level of knowledge of topics appropriate for inclusion in a staff development program, and their level of interest in learning more about the same topics. A Likert Scale questionnaire was used to gather the data for this study.

This chapter has been organized into five sections to present the findings of this study; the first section presents demographic information about the teachers who participated in the study, the second section presents the findings of the teachers' attitudes and beliefs toward staff development across the district, section three presents the findings of the teachers' self-reported level of knowledge and level of interest in topics appropriate for staff development. Similarities and differences in teachers' attitudes between the two schools are

presented in the fourth section, and similarities and differences in teachers' level of knowledge and level of interest are presented in the fifth section.

Demographic Information

Of the 141 questionnaires sent out to the River High School teachers, 120 were returned for an 85% return; and of the 104 questionnaires sent out to the Mountain High School teachers, 97 were returned for a 93% return. The total for the District secondary teachers is 245 questionnaires were sent, 217 questionnaires were returned, for a total return rate of 88.5%.

Teaching Experience

The number of years of teaching experience ranged from 1 to 38. The mean number of years of teaching experience was 12.33, and the mode was 14.

Education Level

The level of education reported by the teachers ranged from Bachelors Degrees to Doctorates (See Table 1).

Table 1: Level of Education

Degree	RHS	MHS	Total	Percent
Bachelor's	6	4	10	4.7
Bachelor's + units	33	36	69	32.1
Master's	16	8	24	11.2
Master's + units	61	43	104	48.4
Ed. Specialist	0	1	1	.5
PhD/EdD	3	4	7	3.3

Department

All departments of the two schools were represented in the return of the questionnaire (See Table 2).

Table 2: Department

Department	RHS	MHS	Total	Percent
English	24	15	39	18.5
Math	11	11	22	10.4
Social Studies	15	6	21	10.0
Science	11	12	23	10.0
P.E.	10	11	21	10.0
Business	5	4	9	4.3
Home Economics	3	2	5	2.4
Vocational Education	9	3	12	5.7
Fine Arts	5	5	10	4.7
Special Education	9	9	18	8.5
Foreign Languages	7	6	13	6.2
Other	10	8	18	8.5

Gender

Of the questionnaires returned, 119 respondents were female, 91 were male.

Career Ladder Participation

Fifty-two of the teachers, or 24.4% indicated that they were currently participating in the District's career ladder program, and 161 of the teachers, or 75.6% were not.

Participation in Staff Development Within the Past Year

Recent participation in staff development was indicated by 168 of the teachers, or 77.8%. Another 47 teachers, or 21.8% indicated that they had not participated in staff development within the past year.

Capacity of Staff Development Participation

When asked to indicate in what capacity(capacities) they had participated in staff development within the past year, 161 teachers indicated they had been participants; 41 indicated they had taken part in the planning of staff development; 33 indicated they had participated as instructors in staff development; 11 indicated they had overseen the staff development program; and 21 indicated they had evaluated the staff development program.

**Teachers' Attitudes and Beliefs Toward Staff Development
Part A of the Questionnaire**

There were 17 questions on Part A of the Questionnaire, dealing with a number of aspects of staff development (Appendix B). Teachers were asked to indicate their level of agreement or disagreement for each item listed under each question.

This section presents as percentages the teachers responses to each item under each question. Presented first will be the question from the questionnaire, which is followed by the item percentages, followed by the mean. The mean is based on these values: strongly agree = 1, agree = 2, uncertain = 3, disagree = 4, and strongly disagree = 5. As an example for the percentages, SA[10%], A[25%], U[30%], D[25%], and SD[10%] will translate to 10% of the teachers responding to this item strongly agreed with the statement, 25% agreed, 30% were undecided, 25% disagreed with the statement, and 10% strongly disagreed. Numbers in bold indicate the largest percentage of agreement and disagreement for each question group.

Question 1: Staff development should be planned by:

district administrators

SA[5.5%], A[19%], U[20.5%], D[23.5%], SD[31.5%]

mean = 3.56

a committee of teachers from across the district

SA[28.8%], A[39.0%], U[13.2%], D[6.3%], SD[12.7%]

mean = 2.35

the school's administrators

SA[9.7%], A[40.6%], U[23.2%], D[14%], SD[12.6%]

mean = 2.79

a committee of teachers from within the school

SA[49.8%], A[37.0%], U[7.0%], D[2.3%], SD[3.7%]

mean = 1.73

private consultants

SA[3.5%], A[8.0%], U[16.6%], D[15.1%], SD[56.8%]

mean = 4.14

university professors

SA[4.5%], A[10.6%], U[13.6%], D[15.6%], SD[55.8%]

mean = 4.08

The largest percentage of teachers agreed with the item that a committee of teachers from within the school should plan staff development. The largest percentage of teachers disagreed with the item that private consultants should plan staff development.

Question 2: Whether staff development programs should exist should be determined by:

district administrators

SA[7.4%], A[29.7%], U[16.3%], D[21.8%], SD[24.8%]

mean = 3.27

a committee of teachers from across the district

SA[22.5%], A[39.2%], U[17.6%], D[9.8%], SD[10.8%]

mean = 2.47

the school's administrators

SA[12.5%], A[43.8%], U[20.2%], D[12.0%], SD[11.5%]

mean = 2.66

a committee of teachers from within the school

SA[45%], A[38.3%], U[8.1%], D[3.8%], SD[4.8%]

mean = 1.85

private consultants

SA[2.0%], A[6.6%], U[14.6%], D[17.7%], SD[59.1%]

mean = 4.25

Question 2: *Continued***university professors****SA[1.5%], A[9.6%], U[11.7%], D[16.8%], SD[60.4%]****mean = 4.25****the State Legislature****SA[3.6%], A[3.1%], U[8.7%], D[12.2%], SD[72.4%]****mean = 4.47**

The largest percentage of teachers agreed with the item that a committee of teachers from within the school should determine whether or not there should be a staff development program. The largest percentage of teachers disagreed with the item that the State Legislature should determine whether or not there should be a staff development program.

Question 3: The content of the staff development program should be determined by:

district administrators**SA[3.5%], A[24.0%], U[16.0%], D[27.5%], SD[29.0%]****mean = 3.54****a committee of teachers from across the district****SA[23.0%], A[44.1%], U[10.8%], D[8.8%], SD[13.2%]****mean = 2.45**

Question 3: *Continued*

the school's administrators

SA[12.0%], A[42.8%], U[16.8%], D[16.3%], SD[12.0%]

mean = 2.74

a committee of teachers from within the school

SA[47.9%], A[38.5%], U[5.6%], D[4.2%], SD[3.8%]

mean = 1.77

private consultants

SA[4.6%], A[8.6%], U[15.7%], D[19.3%], SD[51.8%]

mean = 4.05

university professors

SA[3.0%], A[12.2%], U[11.7%], D[18.3%], SD[54.8%]

mean = 4.10

the State Legislature

SA[1.5%], A[3.1%], U[7.1%], D[13.8%], SD[74.5%]

mean = 4.57

The largest percentage of teachers agreed that the content of the staff development program should be determined by a committee of teachers from within the school, and disagreed that the content should be determined by the State Legislature.

Question 4: The process by which the content of staff development is determined should be:

mandated by the State Legislature

SA[1.5%], A[3.0%], U[5.5%], D[16.1%], SD[73.9%]

mean = 4.58

a unilateral decision made by administration based on what research indicates is important and effective

SA[1.5%], A[21.5%], U[20.5%], D[22.5%], SD[34.0%]

mean = 3.66

a unilateral decision made by administration based on observation of teachers teaching

SA[3.0%], A[29.2%], U[23.3%], D[21.3%], SD[23.3%]

mean = 3.33

a teacher initiated request

SA[28.2%], A[45.1%], U[14.6%], D[6.3%], SD[5.8%]

mean = 2.17

what teachers perceive as their needs as determined by a needs assessment

SA[44.0%], A[40.7%], U[7.7%], D[2.4%], SD[5.3%]

mean = 1.84

mandated by the State Board of Education

SA[1.5%], A[5.0%], U[13.1], D[23.6%], SD[56.8%]

mean = 4.29

Question 4: *Continued*

a multilateral decision made by a committee of teachers and administrators

SA[37.4%], A[33.2%], U[16.1%], D[3.8%], SD[9.5%]

mean = 2.15

The largest percentage of teachers agreed that the process by which the content for staff development should be determined should be what teachers perceive as their needs as determined by a needs assessment, and disagreed that it should be mandated by the State Legislature.

Question 5: Assuming teacher needs should determine the content of staff development programs, teacher needs should be determined by:

observation of classroom instruction by peers

SA[11.3%], A[40.7%], U[22.5%], D[11.3%], SD[14.2%]

mean = 2.76

observation of classroom instruction by administrators

SA[6.3%], A[40.3%], U[20.9%], D[19.9%], SD[12.6%]

mean = 2.92

last year's teacher evaluation(s)

SA[3.5%], A[29.6%], U[25.6%], D[17.1%], SD[24.1%]

mean = 3.29

Question 5: *Continued*

teacher opinion solicited on an open-ended questionnaire

SA[35.1%], A[44.2%], U[9.1%], D[5.8%], SD[5.8%]

mean = 2.03

a committee review of research for appropriate topics, which are then presented to faculty for approval and prioritizing

SA[24.6%], A[38.2%], U[15.9%], D[13.0%], SD[8.2%]

mean = 2.42

teacher interviews (by peers, or administrators, or consultants)

SA[24.9%], A[38.0%], U[20.5%], D[7.8%], SD[8.8%]

mean = 2.38

Teacher opinion solicited on an open-ended questionnaire received the largest percentage of teachers' agreement. The largest percentage of teachers disagreed that needs assessment should be based on last year's teacher evaluation(s).

Question 6: Instructors/trainers for the staff development program should be:

district administrators

SA[3.6%], A[17.9%], U[17.9%], D[22.4%], SD[38.3%]

mean = 3.74

Question 6: Continued

teachers from across the district

SA[25.9%], A[51.7%], U[12.2%], D[4.4%], SD[5.9%]

mean = 2.13

the school's administrators

SA[29.3%], A[54.6%], U[9.8%], D[2.4%], SD[3.9%]

mean = 3.13

teachers from within the school

SA[29.3%], A[54.6%], U[9.8%], D[2.4%], SD[3.9%]

mean = 1.97

private consultants

SA[10.2%], A[30.7%], U[18.5%], D[17.6%], SD[22.9%]

mean = 3.12

university professors

SA[9.6%], A[26.8%], U[16.2%], D[17.2%], SD[30.3%]

mean = 3.32

teachers from outside the district

SA[12.9%], A[39.3%], U[21.4%], D[10.4%], SD[15.9%]

mean = 2.77

Both teachers and administrators from within the school received the largest percentage of agreement from teachers as desirable for being the instructors or trainers for staff development. The largest percentage of teachers disagreed that district administrators should fulfill that position.

Question 7: The mode of delivery for the staff development program should be:

lecture

SA[8.2%], A[29.9%], U[21.2%], D[18.5%], SD[22.3%]

mean = 3.17

group discussion

SA[19.8%], A[51.3%], U[16.0%], D[5.3%], SD[7.5%]

mean = 2.29

modeling skills and/or content

SA[28.4%], A[44.8%], U[16.9%], D[3.8%], SD[6.0%]

mean = 2.14

practice of skills by teachers with coaching for improvement

SA[30.6%], A[38.2%], U[17.7%], D[5.9%], SD[7.5%]

mean = 2.22

peer observation

SA[16.5%], A[45.1%], U[19.2%], D[7.1%], SD[12.1%]

mean = 2.53

Question 7: *Continued*

a combination of all of the above

SA[47.3%], A[26.6%], U[15.9%], D[3.4%], SD[6.8%]

mean = 1.96

The largest percentage of teachers agreed that staff development should be a combination of all of the listed modes of delivery. However, of these methods, lecture was indicated as the least desirable mode of delivery for staff development.

Question 8: Staff development should be:

regular and ongoing throughout the school year

SA[40.8%], A[35.2%], U[8.0%], D[6.1%], SD[9.9%]

mean = 2.09

short, "one-shot" efforts

SA[9.3%], A[16.1%], U[17.1%], D[26.4%], SD[31.1%]

mean = 3.54

The largest percentage of teachers agreed that staff development should be regular and ongoing throughout the school year.

Question 9: The format of the staff development program should be

Job-Embedded: hands on, to meet specific needs, occurs while teaching is going on.

SA[30.7%], A[38.5%], U[15.6%], D[5.4%], SD[9.8%]

mean = 2.25

Job-Related: meet specific needs, but not while teaching is going on.

SA[24.6%], A[48.3%], U[15.0%], D[5.8%], SD[6.3%]

mean = 2.21

General Professional: not tailored to specific classroom needs.

SA[2.6%], A[21.4%], U[29.1%], D[22.4%], SD[24.5%]

mean = 3.45

Career-Credential: to gain new credentials or train for a new role.

SA[8.5%], A[32.8%], U[22.9%], D[21.4%], SD[14.4%]

mean = 3.00

Personal: personal development, may or may not relate to employment.

SA[7.0%], A[33.0%], U[30.0%], D[19.0%], SD[11.0%]

mean = 2.94

The largest percentage of teachers agreed that the format of staff development should be job-related, while a general professional format received the largest percentage of disagreement.

Question 10: Staff development programs should be located:

at the school

SA[46.4%], A[37.0%], U[9.5%], D[3.3%], SD[3.8%]

mean = 1.81

at the district office

SA[6.6%], A[29.1%], U[17.3%], D[19.4%], SD[27.6%]

mean = 3.32

at the university

SA[5.6%], A[19.0%], U[19.5%], D[20.0%], SD[35.9%]

mean = 3.62

off campus

SA[13.3%], A[16.9%], U[26.2%], D[16.9%], SD[26.7%]

mean = 3.27

in the teacher's classroom

SA[15.1%], A[26.1%], U[29.1%], D[11.1%], SD[18.6%]

mean = 2.92

The largest percentage of teachers agreed that staff development should be located at the school. The largest percentage of teachers disagreed that it should be located at the university.

Question 11: Staff development programs should be held during:

the summer

SA[30.7%], A[29.8%], U[10.2%], D[9.3%], SD[20.0%]

mean = 2.58

release time throughout the school year

SA[27.0%], A[38.9%], U[9.0%], D[7.1%], SD[18.0%]

mean = 2.5

afternoons after school

SA[7.9%], A[29.1%], U[13.8%], D[19.7%], SD[29.6%]

mean = 3.34

weekday evenings

SA[6.5%], A[12.5%], U[10.0%], D[19.5%], SD[51.5%]

mean = 3.97

weekends

SA[5.6%], A[8.6%], U[9.6%], D[18.2%], SD[58.1%]

mean = 4.15

The largest percentage of teachers agreed that staff development programs should be held during release time throughout the school year. The largest percentage of disagreement was for weekend staff development.

Question 12: Staff development programs should be offered:**weekly****SA[4.2%], A[5.2%], U[17.3%], D[25.7%], SD[47.6%]****mean = 4.07****bi-weekly****SA[5.7%], A[9.9%], U[19.8%], D[24.5%], SD[40.1%]****mean = 3.83****monthly****SA[17.7%], A[32.3%], U[16.7%], D[10.1%], SD[23.2%]****mean = 2.89****quarterly****SA[21.5%], A[35.0%], U[22.5%], D[7.5%], SD[13.5%]****mean = 2.56****each semester****SA[19.5%], A[34.4%], U[19.0%], D[12.3%], SD[14.9%]****mean = 2.69****yearly****SA[16.6%], A[22.3%], U[16.6%], D[17.1%], SD[27.5%]****mean = 3.17**

The largest percentage of teachers agreed that staff development programs should be offered quarterly, and disagreed that they should be offered weekly.

Question 13: Faculty participation in staff development programs should be:

mandatory

SA[9.8%], A[12.4%], U[13.4%], D[16.0%], SD[47.9%]

mean = 3.82

dependent upon the program and the individual faculty member

SA[57.8%], A[30.8%], U[5.2%], D[1.4%], SD[4.7%]

mean = 1.64

The largest percentage of teachers agreed that faculty participation in staff development should not be mandatory but be dependent upon the program and the individual faculty member.

Question 14: An incentive for participation in a staff development program should be:

a salary increase

SA[44.6%], A[29.9%], U[9.3%], D[4.9%], SD[11.3%]

mean = 2.08

Question 14: *Continued*

increased student achievement

SA[28.1%], A[39.2%], U[17.6%], D[4.5%], SD[10.6%]

mean = 2.3

recognition/awards

SA[6.7%], A[15.0%], U[22.8%], D[24.4%], SD[31.1%]

mean = 3.58

the intrinsic value of improved teaching ability

SA[30.6%], A[47.6%], U[8.7%], D[4.9%], SD[8.3%]

mean = 2.13

university credit

SA[26.5%], A[43.5%], U[9.0%], D[8.5%], SD[12.5%]

mean = 2.37

promotion within a hierarchy of teaching

SA[17.5%], A[23.5%], U[22.5%], D[10.5%], SD[26.0%]

mean = 3.04

The largest percentage of teachers agreed that the intrinsic value of improved teaching ability should be an incentive for participation in staff development. Four of the above incentives were regarded as desirable by more than 60% of the teachers. In descending order they were: intrinsic value of improved teaching ability, a salary increase, university credit, and increased

student achievement. The largest percentage of teachers disagreed that recognition and awards should be an incentive.

Question 15: Evaluation of a staff development program's effectiveness should be:

teacher assessment of enjoyment of the program

SA[23.1%], A[39.2%], U[14.1%], D[16.6%], SD[7.0%]

mean = 2.45

teacher assessment of objective attainment

SA[34.1%], A[49.5%], U[9.1%], D[2.9%], SD[4.3%]

mean = 1.94

one time administrator observation of teacher utilizing content or skills learned from the program

SA[0%], A[10.2%], U[17.8%], D[26.4%], SD[45.7%]

mean = 4.08

on-going administrator observation of teachers utilizing content or skills learned from the program

SA[4.9%], A[34.0%], U[19.9%], D[18.9%], SD[22.3%]

mean = 3.2

on-going peer observation and coaching of teachers utilizing content or skills learned from the program

SA[20.9%], A[41.3%], U[15.0%], D[6.3%], SD[16.5%]

mean = 2.56

The largest percentage of teachers agreed that evaluation of a staff development program's effectiveness should be teacher assessment of objective attainment. The largest percentage of teachers disagreed that evaluation should be by one time administrator observation of teachers utilizing content or skills learned.

Question 16: Staff development programs should be evaluated

immediately at their conclusion

SA[24.2%], A[34.8%], U[18.2%], D[12.6%], SD[10.1%]

mean = 2.49

within one week of their conclusion

SA[13.3%], A[33.3%], U[22.1%], D[16.9%], SD[14.4%]

mean = 2.86

throughout the year

SA[31.7%], A[35.1%], U[14.4%], D[5.3%], SD[13.5%]

mean = 2.34

The largest percentage of teachers agreed that staff development programs should be evaluated throughout the year, and disagreed that evaluation should occur within one week of the program's conclusion.

Question 17: Staff development is an important part of my professional growth.

SA[35.2%], A[35.6%], U[14.8%], D[5.1%], SD[9.3%]

mean = 2.18

The largest percentage of teachers agreed that staff development is an important part of their professional growth.

Level of Knowledge and Level of Interest Part B of the Questionnaire

There were 48 topics listed on Part B of the Questionnaire. Teachers were asked to indicate their level of knowledge of each topic, and their level of interest in learning more about each topic.

This section presents as percentages the teachers' responses to each question on Part B of the questionnaire (See Appendix B). Presented first will be the topic, followed by teachers' responses to level of knowledge of that topic, followed by the mean, and finally by the teachers' responses to their level of interest in learning more about that particular topic and its mean. For Level of Knowledge, for example, EX[10%], EP[35%], K[35%], A[10%], U[10%] will translate to 10% indicated they were expert or skillful in the use of that topic, 35% indicated they were experienced or had practiced it in their own classroom, 35% indicated they have knowledge of the theoretical base, 25% indicated they are at least aware of the topic, and 10% indicated they

were unaware of or have no knowledge of the topic. The mean is based on these values: expert = 1, experienced = 2, knowledgeable = 3, aware of = 4, and unaware of = 5. For Level of Interest, for example, H[60%], M[10%], L[10%], N[20%] will translate into 60% of the teachers indicated that they have a high interest in learning more about the topic, 10% indicated they have a moderate interest, 10% indicated they have a low interest, and 20% indicated they have no interest. The mean is based on these values: high interest = 1, moderate interest = 2, low interest = 3, no interest = 4. The largest percentages will be denoted in bold numbers.

1. Programed Instruction

EX[4.6%], EP[23.4%], K[34.5%], A[26.9%], U[10.7%]

mean = 3.16

H[14.1%], M[38.2%], L[35.7%], N[12.1%]

mean = 2.46

2. Social Science Inquiry

EX[3.0%], EP[15.0%], K[28.0%], A[17.5%], U[36.5%]

mean = 3.69

H[30.7%], M[32.2%], L[24.1%], N[13.1%]

mean = 2.2

3. Role Playing

EX[10.9%], EP[41.1%], K[34.7%], A[11.9%], U[1.5%]

mean = 2.52

H[15.8%], M[27.1%], L[36.9%], N[20.2%]

mean = 2.62

4. Inquiry Training

EX[3.0%], EP[16.9%], K[24.9%], A[23.9%], U[31.3%]

mean = 3.64

H[14.2%], M[29.9%], L[41.1%], N[14.7%]

mean = 2.56

5. Self-Control Management

EX[5.0%], EP[27.6%], K[27.1%], A[18.6%], U[21.6%]

mean = 3.24

H[11.1%], M[28.1%], L[43.2%], N[17.6%]

mean = 2.67

6. Group Investigation

EX[2.5%], EP[17.7%], K[37.4%], A[20.7%], U[21.7%]

mean = 3.41

H[13.7%], M[29.4%], L[44.7%], N[12.2%]

mean = 2.55

7. Bilingual Education

EX[3.5%], EP[7.5%], K[45.8%], A[31.3%], U[11.9%]

mean = 3.41

H[27.5%], M[31.9%], L[31.4%], N[9.3%]

mean = 2.23

8. Effective Questioning Techniques

EX[12.4%], EP[43.1%], K[29.2%], A[11.9%], U[3.5%]

mean = 2.51

H[5.9%], M[10.7%], L[42.0%], N[41.5%]

mean = 3.19

9. Laboratory Training

EX[6.5%], EP[15.5%], K[17.5%], A[27.5%], U[33.0%]

mean = 3.65

H[35.4%], M[32.8%], L[18.7%], N[13.1%]

mean = 2.1

10. Synectics

EX[0%], EP[3.0%], K[7.6%], A[14.6%], U[74.7%]

mean = 4.61

H[47.8%], M[30.6%], L[18.3%], N[3.3%]

mean = 1.77

11. Student Self-Concept Development

EX[15.5%], EP[41.5%], K[25.5%], A[13.0%], U[4.5%]

mean = 2.5

H[4.4%], M[12.3%], L[36.9%], N[46.3%]

mean = 3.25

12. Effective Lecture Techniques

EX[12.4%], EP[48%], K[24.3%], A[11.9%], U[3.5%]

mean = 2.46

H[8.3%], M[21.1%], L[32.8%], N[37.7%]

mean = 3.0

13. Classroom Management Techniques

EX[23.3%], EP[53.0%], K[18.8%], A[4.0%], U[1.0%]

mean = 2.06

H[6.8%], M[8.8%], L[40.0%], N[44.4%]

mean = 3.22

14. Inductive Thinking (Taba)

EX[6.4%], EP[20.2%], K[31.0%], A[30.0%], U[12.3%]

mean = 3.22

H[11.7%], M[25.4%], L[41.5%], N[21.5%]

mean = 2.73

15. Curriculum Development Process

EX[7.8%], EP[37.7%], K[28.9%], A[18.1%], U[7.4%]

mean = 2.79

H[7.8%], M[26.2%], L[41.3%], N[24.8%]

mean = 2.83

16. Assertive Training (Assertiveness)

EX[8.8%], EP[31.4%], K[38.7%], A[17.2%], U[3.9%]

mean = 2.76

H[15.0%], M[18.4%], L[43.2%], N[23.3%]

mean = 2.75

17. Learning Styles Theory & Practice

EX[8.3%], EP[39.7%], K[38.7%], A[9.3%], U[3.9%]

mean = 2.61

H[9.7%], M[20.3%], L[42.5%], N[27.5%]

mean = 2.88

18. Effective Discussion Techniques

EX[9.3%], EP[42.2%], K[30.4%], A[13.7%], U[4.4%]

mean = 2.62

H[4.8%], M[12.6%], L[46.4%], N[36.2%]

mean = 3.14

19. Direct Instruction

EX[13.4%], EP[37.1%], K[26.2%], A[13.9%], U[9.4%]

mean = 2.69

H[10.8%], M[22.2%], L[46.3%], N[20.7%]

mean = 2.77

20. Advance Organizers

EX[4.5%], EP[25.7%], K[26.7%], A[14.4%], U[28.7%]

mean = 3.37

H[17.4%], M[26.7%], L[37.9%], N[17.9%]

mean = 2.56

21. Awareness Training

EX[2.0%], EP[18.8%], K[19.8%], A[27.2%], U[32.2%]

mean = 3.69

H[22.6%], M[27.2%], L[34.9%], N[15.4%]

mean = 2.43

22. Mainstreaming

EX[7.4%], EP[35.8%], K[32.4%], A[20.6%], U[3.9%]

mean = 2.78

H[16.9%], M[32.9%], L[34.8%], N[15.5%]

mean = 2.49

23. Learning Centers

EX[5.4%], EP[25.0%], K[40.2%], A[21.1%], U[8.3%]

mean = 3.02

H[22.3%], M[28.6%], L[35.0%], N[14.1%]

mean = 2.41

24. Grouping for Instruction

EX[8.9%], EP[35.1%], K[35.6%], A[14.4%], U[5.9%]

mean = 2.73

H[14.1%], M[21.5%], L[42.0%], N[22.4%]

mean = 2.73

25. Discovery/Open-Ended Instruction

EX[5.0%], EP[32.7%], K[36.1%], A[20.3%], U[5.9%]

mean = 2.9

H[9.7%], M[19.4%], L[39.8%], N[31.1%]

mean = 2.92

26. Jurisprudential Inquiry

EX[0.5%], EP[6.0%], K[13.4%], A[11.9%], U[68.2%]

mean = 4.41

H[38.1%], M[32.3%], L[23.3%], N[6.3%]

mean = 1.98

27. Utilizing Community Resources

EX[7.3%], EP[34.1%], K[34.1%], A[20.0%], U[4.4%]

mean = 2.8

H[8.8%], M[22.9%], L[42.4%], N[25.9%]

mean = 2.85

28. Multi-Disciplinary Approach to Instruction

EX[9.3%], EP[34.8%], K[29.9%], A[24.0%], U[2.0%]

mean = 2.75

H[7.8%], M[15.7%], L[41.7%], N[34.8%]

mean = 3.03

29. Wait Time

EX[12.7%], EP[30.9%], K[20.1%], A[10.8%], U[25.5%]

mean = 3.05

H[24.4%], M[22.9%], L[39.3%], N[13.4%]

mean = 2.42

30. Multi-Cultural Education

EX[3.9%], EP[22.1%], K[35.3%], A[26.5%], U[12.3%]

mean = 3.21

H[20.2%], M[27.1%], L[35.0%], N[17.7%]

mean = 2.5

31. Critical Thinking Skills

EX[8.8%], EP[39.5%], K[38.5%], A[10.7%], U[2.4%]

mean = 2.59

H[5.4%], M[13.2%], L[42.4%], N[39.0%]

mean = 3.15

32. Mastery Learning

EX[4.5%], EP[24.3%], K[38.1%], A[22.3%], U[10.9%]

mean = 3.11

H[13.4%], M[22.9%], L[45.3%], N[18.4%]

mean = 2.69

33. Inter-Disciplinary Teaming

EX[6.9%], EP[21.3%], K[39.1%], A[25.2%], U[7.4%]

mean = 3.05

H[12.3%], M[23.2%], L[36.0%], N[28.6%]

mean = 2.81

34. Student Intellectual Development

EX[5.9%], EP[27.2%], K[35.1%], A[21.8%], U[9.9%]

mean = 3.02

H[9.0%], M[17.4%], L[50.2%], N[23.4%]

mean = 2.88

35. Non-Directive Teaching

EX[1.0%], EP[13.4%], K[26.7%], A[28.7%], U[30.2%]

mean = 3.74

H[16.8%], M[33.2%], L[36.7%], N[13.3%]

mean = 2.46

36. Theory-To-Practice

EX[2.0%], EP[16.5%], K[25.0%], A[22.5%], U[34.0%]

mean = 3.7

H[17.2%], M[30.2%], L[43.8%], N[8.9%]

mean = 2.44

37. Higher Order Thinking Skills (Bloom)

EX[8.4%], EP[34.7%], K[37.6%], A[12.9%], U[6.4%]

mean = 2.74

H[11.4%], M[25.2%], L[42.6%], N[20.8%]

mean = 2.73

38. Teacher Expectation Student Achievement (TESA)

EX[5.0%], EP[20.5%], K[30.5%], A[21.5%], U[22.5%]

mean = 3.36

H[14.1%], M[21.1%], L[42.7%], N[22.1%]

mean = 2.73

39. Involving Students in the Community

EX[9.4%], EP[26.6%], K[37.9%], A[21.2%], U[4.9%]

mean = 2.86

H[8.3%], M[23.9%], L[34.6%], N[33.2%]

mean = 2.93

40. Simulations and Games

EX[7.4%], EP[36.5%], K[35.5%], A[16.3%], U[4.4%]

mean = 2.74

H[14.0%], M[19.3%], L[37.7%], N[29.0%]

mean = 2.82

41. Flexible Block Time Scheduling

EX[6.9%], EP[19.1%], K[47.1%], A[21.6%], U[5.4%]

mean = 3.0

H[13.5%], M[19.8%], L[32.9%], N[33.8%]

mean = 2.87

42. Mnemonics

EX[2.5%], EP[15.1%], K[23.6%], A[21.6%], U[37.2%]

mean = 3.76

H[26.6%], M[28.7%], L[31.9%], N[12.8%]

mean = 2.31

43. Scientific Inquiry

EX[7.5%], EP[18.4%], K[30.3%], A[25.9%], U[17.9%]

mean = 3.28

H[18.0%], M[35.5%], L[32.0%], N[14.5%]

mean = 2.43

44. Teaching Styles

EX[7.9%], EP[35.5%], K[43.3%], A[9.9%], U[3.4%]

mean = 2.66

H[6.4%], M[19.2%], L[44.8%], N[29.6%]

mean = 2.98

45. Classroom Meeting

EX[1.5%], EP[15.3%], K[27.6%], A[17.9%], U[37.8%]

mean = 3.75

H[23.0%], M[33.5%], L[37.2%], N[6.3%]

mean = 2.27

46. Cooperative Learning Strategies

EX[8.9%], EP[41.9%], K[31.5%], A[12.3%], U[5.4%]

mean = 2.64

H[10.2%], M[15.5%], L[37.4%], N[36.9%]

mean = 3.01

47. Lesson and Unit Planning

EX[22.1%], EP[51.5%], K[18.1%], A[5.9%], U[2.5%]

mean = 2.15

H[15.0%], M[25.1%], L[32.9%], N[27.1%]

mean = 2.72

48. Concept Attainment

EX[5.9%], EP[26.2%], K[27.7%], A[20.8%], U[19.3%]

mean = 3.21

H[15.2%], M[24.4%], L[42.1%], N[18.3%]

mean = 2.63

To summarize, the largest percentage of the teachers indicated that they are below the expert level on all of the items listed above. Only three items, Laboratory Training, Synectics, and Jurisprudential Inquiry, were indicated as having a **high level of interest** by the largest percentage of teachers. The teachers also indicated that they are **unaware of** these three items. Eight of the items, Inquiry Training, Advance Organizers, Awareness Training, Non-Directive Teaching, Theory-to-Practice, Mnemonics, and Classroom Meeting were indicated as having **no knowledge and low interest** by the largest percentage of the teachers.

Four items received the largest percentage of teachers indicating a **moderate level of interest** in learning more about the topic: Programed

Instruction, Bilingual Education, Scientific Inquiry, and Social Science Inquiry. The largest percentage of teachers indicated they **have knowledge** of the theoretical base of the first three topics, and for the last topic the largest percentage indicated they **have no knowledge**.

On four of the topics the largest percentage of teachers indicated that they **have no interest** in learning more: Student Self-Concept Development, Effective Lecture Techniques, Classroom Management Techniques, and Flexible Block Time Scheduling. The teachers indicated that they are **experienced** in the first three areas, and **have knowledge** of the last topic.

Finally, on thirty of the items, the largest percentage of the teachers indicated that they **have low interest** in learning more about these topics. Of these thirty topics, the largest percentage of teachers indicated they are **experienced** with Role Playing, Self-Control Management, Effective Questioning Techniques, Curriculum Development Process, Learning Styles, Effective Discussion Techniques, Direct Instruction, Mainstreaming, Multi-Disciplinary Approach to Instruction, Wait Time, Critical Thinking Skills, Simulations and Games, Cooperative Learning Strategies, and Lesson and Unit Planning. For the topics of Group Investigation, Inductive Thinking, Assertive Training, Learning Centers, Grouping for Instruction, Discovery/Open-Ended Instruction, Multi-Cultural Education, Mastery Learning, Inter-Disciplinary Teaming, Student Intellectual Development, Higher Order Thinking Skills, Teacher Expectation Student Achievement, Involving Students in the Community, Teaching Styles,

and Concept Attainment the largest percentage of teachers indicated knowledge of the topic. For the final topic, Utilizing Community Resources, the largest percentage was split between knowledge of and experience with the topic.

Perhaps of particular interest to the Paradise School District are the following results:

The largest percentage of teachers indicated they have knowledge of inductive thinking and have low interest in learning more.

The largest percentage of teachers indicated they have experience in learning styles theory and practice and have low interest in learning more.

The largest percentage of teachers indicated they have knowledge of discovery/open-ended instruction and low interest in learning more.

The largest percentage of teachers indicated they have experience with wait time and have low interest in learning more.

The largest percentage of teachers indicated they have experience with critical thinking skills and have low interest in learning more.

The largest percentage of teachers indicated they have knowledge of higher order thinking skills and low interest in learning more.

The largest percentage of teachers indicated they have knowledge of TESA and have low interest in learning more.

The largest percentage of teachers indicated they have knowledge of involving students in the community and have low interest in learning more.

The largest percentage of teachers indicated they have experience with cooperative learning strategies and low interest in learning more.

Similarities and Differences in Teachers' Attitudes Between the Two Schools

For the purpose of this study, the null hypotheses were that there are no differences in the teachers' responses between the schools for each question. **Therefore, this section will present the questions for which the statistical analysis indicates that there were differences in the responses.**

This section has been subdivided into 3 parts; the first part identifies the differences that were found as a result of a Chi Square test comparing teachers' responses to the demographic questions and their responses to question 17, "Staff development is an important part of my professional growth" on Part A of the Questionnaire. The second part identifies the differences between the two schools that were found as a result of a Chi Square test comparing the teachers' responses on all questions from Part A of the Questionnaire. Finally, the third part identifies differences between the two schools that were found as a result of a *t*-Test of Significant Differences Between Independent Means comparing teachers' responses on all questions from Part A of the Questionnaire.

Chi Square Test Comparing Teachers' Responses
to the Demographic Questions and Their Responses
to Question 17 on Part A of the Questionnaire.

The teachers' responses to each of the demographic questions were compared with their responses to Question 17 on Part A of the Questionnaire to see if there was a difference in teachers' responses to "Staff development is an important part of my professional growth" based on the demographic information.

Of the 31 comparisons made, there were two comparisons for which the Chi Square observed was greater than the Chi Square critical. The first comparison was "Have you participated in staff development within the past year?" and question 17, "Staff development is an important part of my professional growth". The Chi Square test found a difference at Mountain High School between the teachers who answered that they had participated in staff development and those who indicated they had not (see Table 3).

Table 3: Chi Square Table for Participation X Question 17 (Mountain H.S.)

Staff Development is an important part of my professional growth.						
Participation	SA	A	U	D	SD	Total
Yes	30	24	11	2	3	70
%	31.25	25.00	11.45	2.08	3.12	72.90
Row %	42.86	34.29	15.71	2.86	4.29	
No	2	12	4	4	4	26
%	2.08	12.50	4.17	4.17	4.17	27.10
Row %	7.69	46.15	15.38	15.38	15.38	
Total	32	36	15	6	7	96
%	33.33	37.50	15.62	6.25	7.29	100.00

Where the Chi Square value is 21.029, df = 4, and p = .007

The second comparison was, "If you have participated in staff development within the past year, please indicate in what capacities...as a participant" and question 17 "Staff development is an important part of my professional growth". The Chi Square test found a difference between teachers at Mountain High School who had indicated they had been a participant in a staff development program within the past year and those who did not so indicate on the responses to question 17 on Part A of the Questionnaire (see Table 4).

Table 4: Chi Square Table for...As A Participant X Question 17
(Mountain H.S.)

Participant	Staff development is an important part of my professional growth.					Total
	SA	A	U	D	SD	
Yes	29	23	9	2	3	66
%	30.21	23.96	9.38	2.08	3.13	68.75
Row %	43.94	34.85	13.64	3.03	4.55	
No	3	13	6	4	4	30
%	3.13	13.54	6.25	4.17	4.17	31.25
Row %	10.00	43.33	20.00	13.33	13.33	
Total	32	36	15	6	7	96
%	33.33	37.50	15.63	6.25	7.29	100

Where the Chi Square value is 13.745, $df = 4$, and $p = .008$.

Chi Square Test Comparing the Teachers' Responses
From Both Schools On Part A of the Questionnaire.

The Chi Square test was used to determine if there were differences in the frequency distributions of teachers' responses between the two schools on each question from Part A of the Questionnaire.

The categories of responses were collapsed for this analysis. Strongly Agree and Agree responses were collapsed into one category, and Strongly Disagree and Disagree responses were collapsed in order to strengthen the comparison of the Chi Square test.

Of the 86 comparisons made, there were 6 comparisons where the Chi Square observed was greater than the Chi Square critical.

The first compared the differences between the teachers' responses from the two schools on Question 3, "The content of the staff development program should be determined by university professors" (see Table 5).

Table 5: The Content of the Staff Development Program Should Be Determined By University Professors

School	SA/A	U	SD/D	Total
River H.S.	10	19	79	108
%	5.08	9.64	40.10	54.82
Row %	9.26	17.59	73.15	
Mountain H.S.	20	4	65	89
%	10.15	2.03	32.99	45.18
Row %	22.47	4.49	73.03	
Total	30	23	144	197
%	15.23	11.68	73.10	100.00

Where the Chi Square value is 12.763, $df = 2$, and $p = .002$.

The next comparison of the differences in teachers' responses between the two schools was on Question 5, "Assuming teacher needs should determine the content of staff development programs, teacher needs should be determined by last year's teacher evaluation(s) (see Table 6).

Table 6: Teacher Needs Should Be Determined By Last Year's Teacher Evaluations

School	SA/A	U	SD/D	Total
River H.S.	29	27	53	109
%	14.57	13.57	26.63	54.77
Row %	26.61	24.77	48.62	
Mountain H.S.	37	24	29	90
%	18.59	12.06	14.57	45.23
Row %	41.11	26.67	32.22	
Total	66	51	82	199
%	33.17	25.63	41.21	100.00

Where the Chi Square value is 6.415, $df = 2$, and $p = .040$.

The next three comparisons between the teachers of the two schools all derive from the same stem: "Staff development programs should be located:

- at the school (see Table 7).
- off campus (see Table 8).
- in the teacher's classroom (see Table 9).

The Chi Square tables follow.

Table 7: Staff Development Programs Should Be Located At The School

School	SA/A	U	SD/D	Total
River H.S.	87	16	12	115
%	41.23	7.58	5.69	54.5
Row %	75.65	13.91	10.43	
Mountain H.S.	89	4	3	96
%	42.18	1.90	1.42	45.50
Row %	92.71	4.17	3.13	
Total	176	20	15	211
%	83.41	9.48	7.11	100.00

Where the Chi Square value is 11.001, $df = 2$, and $p = .004$.

Table 8: Staff Development Programs Should Be Located Off Campus

School	SA/A	U	SD/D	Total
River H.S.	40	29	40	109
%	20.51	14.87	20.51	55.90
Row %	36.70	26.61	36.70	
Mountain H.S.	19	22	45	86
%	9.74	11.28	23.08	44.10
Row %	22.09	25.58	52.33	
Total	59	51	85	195
%	30.26	26.15	43.59	100.00

Where the Chi Square value is 6.102, $df = 2$, and $p = .047$.

Table 9: Staff Development Programs Should Be Located In The Teacher's Classroom

School	SA/A	U	SD/D	Total
River H.S.	32	38	39	109
%	16.08	19.10	19.60	54.77
Row %	29.36	34.86	35.78	
Mountain H.S.	50	20	20	90
%	25.13	10.05	10.05	45.23
Row %	55.56	22.22	22.22	
Total	82	58	59	199
%	41.21	29.15	29.65	100.00

Where the Chi Square value is 13.969, $df = 2$, and $p = .001$.

The remaining comparison for which the Chi Square observed was greater than the Chi Square critical was Question 13, "Faculty participation in staff development programs should be dependent upon the program and the individual faculty member" (see Table 10).

**t-Test of Significant Differences Between Independent Means
Comparing Teachers' Responses Between the Two Schools
on Questions From Part A of the Questionnaire.**

To determine if there was a difference between the means of the teachers' responses between the two schools, a *t*-Test of Significant Differences Between Independent Means was calculated.

Of the 86 comparisons made, there were 7 questions for which the *t* observed was greater than the *t* critical (see Tables 11-17).

Table 10: Faculty Participation In Staff Development Programs Should Be Dependent Upon The Program And The Individual Faculty Member

School	SA/A	U	SD/D	Total
River H.S.	97	8	12	117
%	45.97	3.79	5.69	55.45
Row %	82.91	6.84	10.26	
Mountain H.S.	90	3	1	94
%	42.65	1.42	0.47	44.55
Row %	95.74	3.19	1.06	
Total	187	11	13	211
%	88.63	5.21	6.16	100.00

Where the Chi Square value is 9.448, $df = 2$, and $p = .009$.

Table 11: 1. Staff development should be planned by university professors

School	<u>N</u>	Mean
River H.S.	110	4.3
Mountain H.S.	89	3.7

Where $t = 2.9062$, $df = 197$, and $p = .0041$.

Table 12: 5. Assuming Teacher Needs Should Determine The Content Of Staff Development Programs, Teachers Needs Should Be Determined By Last Year's Teacher Evaluation(s)

School	<u>N</u>	Mean
River H.S.	109	3.458
Mountain H.S.	90	3.077

Where $t = 2.2063$, $df = 197$, and $p = .0285$.

Table 13: 7. The Mode Of Delivery For The Staff Development Program Should Be Modeling Skills And/Or Content

School	<u>N</u>	Mean
River H.S.	98	2.3
Mountain H.S.	85	1.952

Where $t = 2.2633$, $df = 181$, and $p = .0248$.

Table 14: 10.1 Staff Development Programs Should Be Located At The School

School	<u>N</u>	Mean
River H.S.	115	1.956
Mountain H.S.	96	1.635

Where $t = 2.3451$, $df = 209$, and $p = .0200$.

Table 15: 10.4 Staff Development Programs Should Be Located Off Campus

School	<u>N</u>	Mean
River H.S.	109	3.082
Mountain H.S.	86	3.5

Where $t = -2.1317$, $df = 193$, and $p = .0343$.

Table 16: 10.5 Staff Development Programs Should Be Located In The Teacher's Classroom

School	<u>N</u>	Mean
River H.S.	109	3.165
Mountain H.S.	90	2.622

Where $t = 2.9624$, $df = 197$, and $p = .0034$.

Table 17: 13. Faculty Participation In Staff Development Programs Should Be Dependent Upon The Program And The Individual Faculty Member

School	<u>N</u>	Mean
River H.S.	117	1.829
Mountain H.S.	94	1.414

Where $t = 3.0613$, $df = 209$, and $p = .0025$.

The questions for which both the Chi Square and t -Test indicated an observed score greater than the critical score are:

1. Staff development should be planned by university professors.
5. Assuming teacher needs should determine the content of staff development programs, teachers needs should be determined by last year's teacher evaluation(s).
- 10.1 Staff development programs should be located at the school.

- 10.4 Staff development programs should be located off campus.
- 10.5 Staff development programs should be located in the teacher's classroom.
- 13. Faculty participation in staff development programs should be dependent upon the program and the individual faculty member.

Similarities and Differences in Teachers' Level of Knowledge and Level of Interest

This section is divided into 4 parts. The first part presents the results of the Pearson Product Moment Correlation calculated to determine what relationship, if any, exists between the teachers' Level of Knowledge and Level of Interest in the topics listed on Part B of the Questionnaire. The second and third parts identify the differences that were found between the two schools as a result of a *t*-Test of Significant Differences Between Independent Means comparing teachers' responses on the questions on both the Level of Knowledge and Level of Interest portions of Part B of the Questionnaire. Finally, the fourth part identifies the differences found as a result of a Chi Square test calculated for the teachers' responses to demographic information (teaching department) and subject matter specific topics on Part B of the questionnaire:

- a. English teachers/all other teachers and question B10 (Synectics).
- b. Social Studies teachers/all other teachers and questions B2 (Social Science Inquiry) and B26 (Jurisprudential Inquiry).
- c. Science teachers/all other teachers and questions B9 (Laboratory Training) and B43 (Scientific Inquiry).

Correlation Between Level of Knowledge and Level of Interest

To determine what, if any, correlation exists between the teacher's responses on Level of Knowledge and Level of Interest (Part B of the Questionnaire), a Pearson Product Moment Correlation was calculated.

Almost all questions demonstrated a moderate negative correlation between teachers' responses to Level of Knowledge and Level of Interest. In other words, a high level of knowledge correlates moderately with a low level of interest (see Table 18).

Table 18: Correlation Between Level Of Knowledge And Level of Interest For All Questions On Part B Of The Questionnaire

Item	Correlation
1. Programed Instruction	-0.470
2. Social Science Inquiry	-0.523
3. Role Playing	-0.452
4. Inquiry Training	-0.543
5. Self-Control Management	-0.324
6. Group Investigation	-0.427
7. Bilingual Education	-0.389
8. Effective Questioning Techniques	-0.420
9. Laboratory Training	-0.700
10. Synectics	-0.313
11. Student Self-Concept Development	-0.400
12. Effective Lecture Techniques	-0.303
13. Classroom Management Techniques	-0.146
14. Inductive Thinking (Taba)	-0.389
15. Curriculum Development Process	-0.381
16. Assertive Training (assertiveness)	-0.245
17. Learning Styles Theory & Practice	-0.273
18. Effective Discussion Techniques	-0.360
19. Direct Instruction	-0.330
20. Advance Organizers	-0.371
21. Awareness Training	-0.500
22. Mainstreaming	-0.492
23. Learning Centers	-0.438
24. Grouping for Instruction	-0.419
25. Discovery/Open-Ended Instruction	-0.424
26. Jurisprudential Inquiry	-0.407
27. Utilizing Community Resources	-0.376
28. Multi-Disciplinary Approach to Instruction	-0.370
29. Wait Time	-0.434
30. Multi-Cultural Education	-0.590
31. Critical Thinking Skills	-0.277
32. Mastery Learning	-0.464
33. Inter-Disciplinary Teaming	-0.369
34. Student Intellectual Development	-0.435
35. Non-Directive Teaching	-0.414
36. Theory-To-Practice	-0.493
37. Higher Order Thinking Skills (Bloom)	-0.304
38. Teacher Expectations Student Achievement (TESA)	-0.456
39. Involving Students in The Community	-0.518

Table 18: Correlation Between Level Of Knowledge And Level of Interest For All Questions On Part B Of The Questionnaire (Continued)

Item	Correlation
40. Simulations and Games	-0.522
41. Flexible Block Time Scheduling	-0.409
42. Mnemonics	-0.544
43. Scientific Inquiry	-0.590
44. Teaching Styles	-0.354
45. Classroom Meeting	-0.395
46. Cooperative Learning Strategies	-0.469
47. Lesson and Unit Planning	-0.293
48. Concept Attainment	-0.465

t-Test of Significant Differences Between Independent Means
Comparing Teachers' Responses From Both Schools
on the Level of Knowledge Portion
of Part B of the Questionnaire.

A *t*-Test of Significant Differences Between Independent Means was calculated to determine if there was a difference between the means of teachers' responses to Level of Knowledge between the two schools.

Of the 48 comparisons made, on only one topic on Level Of Knowledge were the means of teachers' responses from both schools indicated by the *t*-Test as having an observed *t* greater than the critical *t*. That topic was Bilingual Education (see Table 19).

Table 19: 7. Bilingual Education - Level of Knowledge

School	N	Mean
River H.S.	111	3.288
Mountain H.S.	90	3.555

Where $t = -2.0693$, $df = 199$, and $p = .0398$.

t-Test of Significant Differences Between Independent Means Comparing Teachers' Responses From Both Schools on the Level of Interest Portion of Part B of the Questionnaire

To determine if there was a difference between the means of teachers' responses from each school to Level of Interest, a *t*-Test was calculated.

Of the 48 comparisons made, there were 4 topics on Level of Interest for which the means of teachers' responses from both schools were identified by the *t*-Test as having an observed *t* greater than the critical *t*. These topics were: Bilingual Education, Utilizing Community Resources, Student Intellectual Development, and Scientific Inquiry (see Tables 20-23).

Table 20: 7. Bilingual Education - Level of Interest

School	N	Mean
River H.S.	112	2.419
Mountain H.S.	92	1.989

Where $t = 3.2754$, $df = 202$, and $p = .0012$.

Table 21: 27. Utilizing Community Resources

School	<u>N</u>	Mean
River H.S.	113	2.973
Mountain H.S.	92	2.706

Where $t = 2.1149$, $df = 203$, and $p = .0357$.

Table 22: 34. Student Intellectual Development

School	<u>N</u>	Mean
River H.S.	111	3.00
Mountain H.S.	90	2.733

Where $t = 2.1829$, $df = 199$, and $p = .0302$.

Table 23: 43. Scientific Inquiry

School	<u>N</u>	Mean
River H.S.	109	2.559
Mountain H.S.	91	2.274

Where $t = 2.1342$, $df = 198$, and $p = .0341$.

Bilingual Education had an observed t greater than the critical t for both Level of Knowledge and Level of Interest when the means of the teachers' responses from both schools were compared.

Chi Square Test Calculated for the Teachers' Responses
to Teaching Department and Subject Matter Specific Topics
on Part B of the Questionnaire.

Finally, a Chi Square Test was calculated to compare teachers' responses on the Level of Knowledge portion of Part B of the Questionnaire. It's purpose was to compare the knowledge level that teachers of a subject have of a topic specific to that subject and knowledge level of the same topic that all other teachers indicate they have. The results of the Chi Square Tests for the 8 out of 10 topics where the observed Chi Square was greater than the critical value are presented, as well as the N and means. The level of knowledge indicated by teachers will be abbreviated as follows:

1 = Expert, 2 = Experienced, 3 = Knowledgeable, 4 = Aware of,
5 = Unaware of (see Tables 24-32).

Generally, teachers of a given subject rated themselves as having a higher level of knowledge than did teachers of other subjects. There were two exceptions: the English teachers at River H.S. with the topic of synectics and the social studies teachers at Mountain H.S. with the topic of Social Science Inquiry.

Table 24: 10. Synectics: Mountain H.S. English Teachers X Others

Department	1	2	3	4	5	Total
English	0	1	0	0	12	13
Row %	0.0	7.69	0.0	0.0	92.31	
All Others	0	0	4	14	53	71
Row %	0.0	0.0	5.63	19.72	74.65	
Total	0	1	4	14	65	84

Where the Chi Square value is 9.2, df = 3, and p = .027.

English Teachers $\underline{N} = 13$ Mean = 4.769

All Others $\underline{N} = 71$ Mean = 4.690

Table 25: 2. Social Science Inquiry: River H.S. Social Studies Teachers X Others

Department	1	2	3	4	5	Total
Social Studies	1	7	4	0	0	12
Row %	8.33	58.33	33.33	0.0	0.0	
All Others	3	13	24	20	38	98
Row %	3.06	13.27	24.49	20.41	38.78	
Total	4	20	28	20	38	110

Where the Chi Square value is 20.191, df = 4, and p = .000.

Social Studies $\underline{N} = 12$ Mean = 2.25

All Others $\underline{N} = 98$ Mean = 3.785

Table 26: 26. Jurisprudential Inquiry: River H.S. Social Studies Teacher X Others

Department	1	2	3	4	5	Total
Social Studies	0	4	1	1	7	13
Row%	0.0	30.77	7.69	7.69	53.85	
All Others	1	5	9	12	70	97
Row%	1.03	5.15	9.28	12.37	72.16	
Total	1	9	10	13	77	110

Where the Chi Square value is 10.120, df = 4, and p = .038.

Social Studies $\underline{N} = 13$ Mean = 3.846

All Others $\underline{N} = 97$ Mean = 4.494

Table 27: 26. Jurisprudential Inquiry: Mountain H.S. Social Studies Teachers X Others

Department	1	2	3	4	5	Total
Social Studies	0	1	0	2	3	6
Row %	0.0	16.67	0.0	33.33	50.0	
All Others	0	1	16	8	54	79
Row %	0.0	1.27	20.25	10.13	68.35	
Total	0	2	16	10	57	85

Where the Chi Square value is 9.669, df = 3, and p = .022.

Social Studies $\underline{N} = 6$ Mean = 4.166

All Others $\underline{N} = 79$, Mean = 4.455

Table 28: 9. Laboratory Training: River H.S. Science Teachers X Others

Department	1	2	3	4	5	Total
Science	2	6	0	0	2	10
Row %	20.00	60.00	0.0	0.0	20.00	
All Others	6	9	17	32	35	99
Row %	6.06	9.09	17.17	32.32	35.35	
Total	8	15	17	32	37	109

Where the Chi Square value is 25.090, df = 4, and p = .000.

Social Studies	<u>N</u> = 10	Mean = 2.40
All Others	<u>N</u> = 99	Mean = 3.818

Table 29: 9. Laboratory Training: Mountain H.S. Science Teachers X Others

Department	1	2	3	4	5	Total
Science	4	3	3	0	2	12
Row %	33.33	25.0	25.0	0.0	16.67	
All Others	1	12	13	21	26	73
Row %	1.37	16.44	17.81	28.77	35.62	
Total	5	15	16	21	28	85

Where the Chi Square value is 23.186, df = 4, and p = .000.

Science	<u>N</u> = 12	Mean = 2.416
All Others	<u>N</u> = 73	Mean = 3.808

Table 30: 43. Scientific Inquiry: River H.S. Science Teachers X Others

Department	1	2	3	4	5	Total
Science	3	5	0	2	0	10
Row %	30.00	50.00	0.0	20.00	0.0	
All Others	3	18	36	24	19	100
Row %	3.00	18.00	36.00	24.00	19.00	
Total	6	23	36	26	19	110

Where the Chi Square value is 22.164, df = 4, and p = .000.

Science	<u>N</u> = 10	Mean = 2.10
All Others	<u>N</u> = 100	Mean = 3.380

Table 31: 43. Scientific Inquiry: Mountain H.S. Science Teachers X Others

Department	1	2	3	4	5	Total
Science	5	3	2	2	0	12
Row %	41.67	25.00	16.67	16.67	0.0	
All Others	2	10	21	23	17	73
Row %	2.74	13.70	28.77	31.51	23.29	
Total	7	13	23	25	17	85

Where the Chi Square value is 23.948, df = 4, and p = .000.

Science	<u>N</u> = 12	Mean = 2.083
All Others	<u>N</u> = 73	Mean = 3.589

Summary

The findings of this study were presented in five sections. The first section reported the demographic information about the teachers who participated in the study. The second section presented findings about teachers' attitudes and beliefs toward staff development across the district. In section three, the findings of the teachers' self-reported level of knowledge and level of interest in topics appropriate for staff development were reported. Similarities and differences in teachers' attitudes between the two schools were presented in the fourth section. Finally, similarities and differences in teachers' level of knowledge and level of interest were reported.

For Teachers' Attitudes and Beliefs Toward Staff Development, the majority of teachers agreed, that the teachers from the school itself should plan staff development, including the content which should be based on their needs as determined from an open-ended questionnaire. The majority of teachers agreed that the instructors for staff development should be either the school's administrators or their own colleagues. Staff development programs should use a variety of teaching methods, although lecture was rated as the least desirable single method by the teachers. Staff development should be regular and on-going, with quarterly sessions receiving the most agreement from the teachers. It should be held at the school itself, during released time, and job-related. The teachers agreed that staff development should be evaluated throughout the

school year, by the teachers, assessing whether its objectives had been met. The teachers were not in favor of mandatory participation in staff development. Participation should depend upon the content of the program and the needs of the individual. Additionally, the majority of teachers agreed that the intrinsic value of improved teaching ability, salary increases, university credit, and increased student achievement should be incentives for participation in staff development. Finally, just over seventy percent of the teachers agreed that staff development is an important part of their professional growth.

For Level of Knowledge, the largest percentage of teachers indicated that they had experience in using the following topics in their classrooms: 3. Role Playing, 5. Self-Control Management, 8. Effective Questioning Techniques, 11. Student Self-Concept Development, 12. Effective Lecture Techniques, 13. Classroom Management Techniques, 15. Curriculum Development Process, 17. Learning Styles Theory & Practice, 18. Effective Discussion Techniques, 19. Direct Instruction, 22. Mainstreaming, 27. Utilizing Community Resources, 28. Multi-Disciplinary Approach to Instruction, 29. Wait Time, 31. Critical Thinking Skills, 40. Simulations and Games, 46. Cooperative Learning Strategies, and 47. Lesson and Unit Planning. The largest percentage of teachers indicated that they were acquainted with the theoretical bases of the following topics: 1. Programed Instruction, 6. Group Investigation, 7. Bilingual Education, 14. Inductive Thinking Skills (Taba), 16. Assertive Training (assertiveness), 23. Learning Centers, 24. Grouping for Instruction,

25. Discovery/Open-Ended Instruction, 30. Multi-Cultural Education, 32. Mastery Learning, 33. Inter-Disciplinary Teaming, 34. Student Intellectual Development, 37. Higher Order Thinking Skills (Bloom), 38. Teacher Expectation Student Achievement, 39. Involving Students in the Community, 41. Flexible Block Time Scheduling, 43. Scientific Inquiry, 44. Teaching Styles, and 48. Concept Attainment. Topics 2. Social Science Inquiry, 4. Inquiry Training, 9. Laboratory Training, 10. Synectics, 20. Advance Organizers, 21. Awareness Training, 26. Jurisprudential Inquiry, 35. Non-Directive Teaching, 36. Theory-to-Practice, 42. Mnemonics, and 45. Classroom Meeting received the unaware of indication from the largest percentage of the teachers.

For Level of Interest, the largest percentage of teachers indicated a high interest in learning more about topics 9. Laboratory Training, 10. Synectics, and 26. Jurisprudential Inquiry. Topics 1. Programed Instruction, 2. Social Science Inquiry, 7. Bilingual Education, and 43. Scientific Inquiry moderately interested the largest percentage of teachers. Far and away the majority of topics held low interest for the teachers: 3. Role Playing, 4. Inquiry Training, 5. Self-Control Management, 6. Group Investigation, 8. Effective Questioning Techniques, 14. Inductive Thinking (Taba), 15. Curriculum Development Process, 16. Assertive Training (assertiveness), 17. Learning Styles Theory & Practice, 18. Effective Discussion Techniques, 19. Direct Instruction, 20. Advance Organizers, 21. Awareness Training, 22. Mainstreaming,

23. Learning Centers, 24. Grouping for Instruction, 25. Discovery/Open-Ended Instruction, 27. Utilizing Community Resources, 28. Multi-Disciplinary Approach to Instruction, 29. Wait Time, 30. Multi-Cultural Education, 31. Critical Thinking Skills, 32. Mastery Learning, 33. Inter-Disciplinary Teaming, 34. Student Intellectual Development, 35. Non-Directive Teaching, 36. Theory-to-Practice, 37. Higher Order Thinking Skills (Bloom), 38. Teacher Expectation Student Achievement, 39. Involving Students in the Community, 40. Simulations and Games, 42. Mnemonics, 44. Teaching Styles, 45. Classroom Meeting, 46. Cooperative Learning Strategies, 47. Lesson and Unit Planning, and 48. Concept Attainment.

The remaining topics, 11. Student Self-Concept Development, 12. Effective Lecture Techniques, 13. Classroom Management Techniques, and 41. Flexible Block Time Scheduling held no interest for the largest percentage of teachers.

When the findings comparing the teachers' responses to the demographic questions and Question 17, "Staff development is an important part of my professional growth." on Part A of the Questionnaire were examined, it was found that teachers at Mountain H.S. differed on two of the comparisons. Those comparisons were between those teachers who answered that they had participated in staff development and those who indicated they had not in their response to Question 17, and between teachers who had indicated they had

been a participant in a staff development program within the past year and those who did not so indicate on the responses to Question 17.

In comparing the teachers' responses from both schools on Part A of the Questionnaire, differences were found on six of the questions. These questions were, "The content of the staff development program should be determined by university professors", "Assuming teacher needs should determine the content of staff development programs, teacher needs should be determined by last year's teacher evaluation(s)", "Staff development programs should be located: at the school; off campus; and in the teacher's classroom", and "Faculty participation in staff development programs should be dependent upon the program and the individual faculty member."

When a *t*-Test of Significant Differences Between Independent Means was used to compare the teachers' responses between the two schools on questions from Part A of the Questionnaire, seven questions were found to have a significant difference. Those questions were the same as those identified above, with the additional question being, "The mode of delivery for the staff development program should be modeling skills and/or content".

When the data for Level of Knowledge and Level of Interest were examined, a moderately negative correlation was found.

A *t*-Test indicated Bilingual Education was the sole topic for which a difference was identified between the two schools For Level of Knowledge. Level of Interest was significantly different between the two schools for

Bilingual Education, Utilizing Community Resources, Student Intellectual Development, and Scientific Inquiry.

Finally, the results of a Chi Square test indicated that teachers in various departments generally had a higher level of knowledge of subject matter specific topics than did other teachers. There were two exceptions; English teachers at River H.S. were similar in knowledge level of synectics with all other teachers, and social studies teachers at Mountain H.S. were similar in knowledge level of Social Science Inquiry with all other teachers.

Chapter 5 will discuss an overview of this study and its findings. Also included in Chapter 5 are recommendations, suggestions for future research, and implications for the practitioner.

Chapter 5

CONCLUSIONS

Importance of the Study

Staff development is the crux of improving teaching. There are five reasons for this. 1) The amount of research about what constitutes effective teaching has skyrocketed in the recent past and teachers who have been in the classroom since before the research explosion arguably need access to this information in order to update their knowledge and upgrade their teaching skills. 2) Pre-service preparation can no longer be expected to give the beginning teacher all the knowledge of and proficiency in effective teaching skills that he/she needs to function successfully in the classroom. New teachers need to continue to grow and gain skill in teaching. 3) Veteran teachers express a desire to update their knowledge and upgrade their skills. 4) The continuing increase in the amount of information and in information processing requires that teachers as well as students be "learning to learn". 5) Finally, the purpose of staff development is to improve the effectiveness of the teacher in the classroom, which in turn improves student learning.

The strongest influence on the success of a staff development program however, is the attitude of the teachers themselves. Schiffer comments,

Although hopes for school renewal often centered on aspects of schooling other than teacher training, ... it soon became apparent that teachers were the bottom line in any change that might take place. If teachers were unwilling or unable to implement an innovation ... [it] ... was doomed to failure (1978, p. 4).

If the teachers perceive staff development as a waste of time, unrelated to their classroom needs, foisted on them by the powers-that-be, and added on to an already busy schedule, the staff development program will fail. On the other hand, the literature suggests that when teachers are included in the preparation of the staff development program the program will achieve a higher level of success. However, there has been very little research developed that addresses teachers' attitudes toward staff development. If teachers' attitudes are known, then a staff development program that considers these attitudes may be designed and implemented, and more teachers may find staff development worthwhile and beneficial. This study has attempted to describe what secondary teachers' attitudes are toward staff development.

Procedures for the Study

This descriptive study was undertaken for the purpose of identifying attitudes and beliefs of secondary teachers toward staff development across a school district, to identify similarities and differences of teachers' attitudes and

beliefs between the two high schools within the district, to describe teachers' perceptions of their level of knowledge of topics appropriate for inclusion in a staff development program, and their level of interest in learning more about the same topics.

The objectives of the study were to identify:

- the attitudes and beliefs of teachers toward staff development as an important part of their professional growth;
 - the level of involvement teachers believe they and other educational support personnel should have in planning and organization of staff development programs;
 - who teachers believe should determine the content of the staff development program, and by what process it should be determined;
 - who teachers believe should be the instructor(s)/trainer(s) for the staff development program;
 - the delivery method and format teachers believe staff development programs should take;
 - where, when, and how often teachers believe staff development should occur, and if participation should be mandatory or dependent upon the individual and the program;
 - the incentives teachers believe encourage participation in staff development;
-

- how and when teachers believe evaluation of staff development programs should occur;
- the level of knowledge teachers believe they have of specific teaching methods, models, and competencies which are appropriate topics for a staff development program;
- the level of interest teachers have in learning more about specific topics appropriate for staff development; and
- similarities/differences in beliefs and attitudes of teachers based on school, department, number of years of teaching experience, level of education, participation in a career ladder program, and gender.

The data was collected using a two-part, modified Likert scale questionnaire. Part A asked the respondents to indicate their degree of agreement or disagreement with 86 independent items regarding staff development and its organization, personnel, and processes. Part B asked the respondents to indicate their level of knowledge of, and level of interest in, 48 teaching methods, models, and competencies which have been identified in the literature as appropriate contents of a staff development program.

The data were compiled and statistically analyzed via computer. Frequencies, means, and standard deviations were determined for both parts of the Questionnaire, and a Pearson Product Moment Correlation was determined for corresponding items on Part B. To determine differences/similarities in the

distribution of teachers' responses between schools or other groups, Chi Square Tests were calculated. To determine differences/similarities in teachers' responses between schools, *t*-Tests of Significant Differences Between Independent Means were calculated.

Summary of the Findings

The discussion of the highlights of this study will be organized around the objectives identified in Chapter 1. First will be a discussion of the demographic information for the teachers who participated in the study. Next will be a discussion of the teachers' attitudes and beliefs toward staff development, its organization, processes, and personnel, followed by the teachers' self-reported level of knowledge and level of interest in topics appropriate for staff development. Finally similarities and differences in teachers' attitudes based on demographic information, between the two schools, and in teachers' level of knowledge and level of interest will be discussed.

Demographics

The teachers who participated in this study were asked to provide background information regarding their years of teaching experience, department, gender, and participation in staff development and a career ladder

program. The first item of interest is that the mean number of years of teaching experience was 12.33 and that approximately 52% of the teachers reported having a Master's Degree plus units or higher level of education. It appears that the teachers involved in this study have a high level of education for the number of years they have been teaching. There may be any number of factors to explain this. The evidence gathered in this study suggests that one of the major contributing factors to the high level of education is salary increases. In reviewing the incentives that teachers indicated would encourage participation in staff development, two out of the three incentives receiving the largest percentage of agreement were a salary increase and university credit. In Paradise School District, salary increases are given for approved university credits.

Years ago, a Master's Degree was required within five years of commencing teaching in order to receive one's permanent teaching certificate in the state of Arizona. While this hasn't been the case for approximately ten years, it is possible that some of the teachers earned their Master's to meet that requirement. Also in the past, the Paradise School District awarded pay increases for both university units taken and degrees earned. However, the district has been awarding salary credit only for university credits for approximately four years. Nevertheless, State certification requirements and salary increases for degrees do not appear to explain adequately the high level of education for years of experience.

Perhaps the high level of education is because teachers feel the need to grow professionally and the university offers the best opportunities for professional growth. Advanced degrees are natural outcomes of taking university courses. Again, this seems less likely than the desire for a salary increase as the teachers did not favor the university as a preferable location for staff development, or university professors as organizers, planners, or instructors for the program.

The second interesting bit of demographic information is that 77.8% of the teachers indicated they had participated in staff development within the past year. This percentage seems low, considering that the district offers staff development opportunities to all of the faculty. While not all programs require attendance, one program at River H.S., peer observation, did require participation of all faculty in the past year. The data indicates that one out of five teachers either did not participate in staff development or did not know they were participating in a staff development program. Depending upon when staff development was scheduled, coaches may be a substantial portion of those who had not participated. Coaches routinely do not participate in staff development programs held after school because of their responsibility to the students they coach. Five teachers who indicated they were on career ladder also indicated they had not participated in staff development. This is most unusual considering the amount of time teachers on a career ladder spend in a "coaching" context to improve their performance in the classroom.

The teachers take a large number of university classes, in apparent contradiction to their reported negative attitude toward the university. This seems to support the positive attitude toward staff development found in this study; that the teachers believe staff development is an important part of their professional growth. Those in charge of staff development apparently don't need to sell its importance to the majority of the teachers. However, approximately 22% of the teachers indicated they didn't participate in staff development within the last year and this may raise some concerns for those in charge of staff development. It may be important to ascertain why some teachers did not participate in staff development within the last year, whether it was because of dislike and avoidance of staff development, interference with other school-related responsibilities, or ignorance of the program. If a staff development program is important for all teachers, then it should be scheduled when all teachers are able to attend. If teachers are unaware that it is a staff development program they are to participate in, then perhaps the purpose needs to be made more clear. The literature states that teachers who dislike staff development do so because it is irrelevant and does not meet their needs. The teachers' views on how to make staff development relevant will be discussed in the next section.

Teachers' Attitudes and Beliefs Toward Staff Development

The literature recommends that teachers be involved in the processes of staff development, suggesting this as a necessary concession to get the teachers to "buy into" the program. The teachers of the Paradise School District, however, indicated that staff development should be almost entirely controlled by the individual school's teachers. According to the data, the teachers who participated in this study preferred that the teachers from their own school organize, plan, determine the content, and deliver the staff development program. This suggests either a strong belief in the capabilities of their peers or a distrust of others, and a desire for the staff development program to give the teachers that which is relevant to their school, their students, their classrooms, and their needs.

If the teachers from within the school are not able to organize, plan, and determine the content, then the teachers would prefer that teachers from across the district handle those jobs. The second choice for the delivery of the program was the school's own administrators. The school's administrators came in third for organizing, planning, and choosing the content. Again, teachers preferred that teachers have control of the staff development program, someone who they perceive is currently and intimately aware of their needs. Interestingly, the literature identifies a greater bias against school administrators delivering the staff development program than the findings of this study.

Perhaps the school administrators in this district have demonstrated credibility that other school administrators have not.

The teachers who participated in this study indicated that the content of the staff development program should be based on their needs as determined by an open-ended needs assessment. This raises an issue mentioned in the literature: are teachers able to differentiate between their true needs and their interests? Teachers are trained, expected, and trusted to diagnose students' needs and adjust their teaching to meet those needs on a daily basis. The skills necessary are the same regardless of whether student or teacher needs are being identified. Are teachers not also able to use these skills on themselves? This is a question that should be studied further, because if the teachers are capable of accurately diagnosing their needs and prescribing a program to meet those needs, then staff development should belong to the teachers.

There was some consistency in the teachers' responses to how the staff development program should be delivered, when it should be held, how often, where it should be located, how and when it should be evaluated. The teachers want control of these areas. When the teachers were asked how the staff development program should be delivered, the two most preferred modes were for a variety of teaching methods to be used in combination, followed by modeling of skills and/or content. The teachers indicated that staff development should be job related, that is, be specific to their jobs but not

held in their classroom while teaching is going on. They would prefer staff development to occur on release time and at the school itself. The teachers also indicated that summer was the second most preferred time for staff development. The teachers' preference was for staff development to be regular and ongoing, but the general preference is for the program to be held quarterly. There seems to be an incongruity however, in that the teachers equate regular and on-going with quarterly sessions. Whether quarterly sessions are indeed regular and sufficient to affect change in teaching is a matter for further consideration. Evaluation should be carried on throughout the year, but should consist of the teachers assessing whether the objectives of the program were met.

The literature frequently mentions that teachers are isolated in their classrooms, and that this is one of the detriments of teaching. A common suggestion to combat isolation is to increase opportunities for collegiality outside of the classroom. Perhaps this can occur inside the classroom as well. Inherent in those models of job-embedded staff development, which include peer observation and coaching, is the assumption that the teacher's feeling of isolation in the classroom will be reduced. It is interesting that the second choice for teachers in delivery mode was job-embedded; that which occurs in the classroom while teaching is going on. Also interesting is that the third choice for evaluation was on-going peer observation and coaching of teachers utilizing content or skills learned from the program. These results suggest that

teachers do not necessarily feel isolated in their classrooms but left alone to do the job they feel competent to do. Or perhaps the teachers want to protect their classrooms from a perceived outside threat. There may still be a confusion of evaluation with observation and coaching for improvement in the teachers' perceptions. The majority of teachers may not yet be comfortable in opening up their classrooms, even to their peers. This may require further study.

Considering the teachers' attitudes thus far, it is not surprising that they indicated that participation in staff development should depend upon the individual and the program itself. This suggests that if the program is designed to meet the teacher's needs, then the teacher will want to participate in it. This assumes that teachers can differentiate between needs, symptoms of needs, and desires, and if they can be convinced that the program will meet their needs.

While there were few areas of agreement between the teachers in this study and the literature, those who participated in this study agreed with the literature regarding incentives for participation in staff development. The intrinsic value of improved teaching ability was indicated by the largest percentage of teachers to be an incentive for participation in staff development. The incentives that received the next highest percentages of agreement were a salary increase, university credit, and increased student achievement. The percentages were fairly close on these four incentives. The large percentages

(more than two-thirds of the teachers) for all of the above incentives seem to indicate that more than one incentive is preferable, perhaps necessary, for the teachers to become involved in staff development. This is somewhat consistent with the literature which suggests that a variety of incentives be available to motivate the teachers to participate in staff development. However, it would be interesting to determine if any of the incentives could stand alone, or what would be the most desirable combination of incentives for the teachers. For example, would the percentage of teachers participating in staff development remain the same or drop if the only incentive offered was the intrinsic value of increased teaching ability?

Finally, the teachers agreed that staff development is an important part of their professional growth. It would be interesting to determine what change if any, would occur in this belief if the teachers attitudes and beliefs are accommodated in future staff development programs.

Level of Knowledge and Level of Interest

On Part B of the Questionnaire, the teachers were asked to indicate their level of knowledge and level of interest in 48 teaching methods, models, and competencies. There really were no surprises in the teachers' responses to level of knowledge and level of interest. Three topics for which the teachers indicated a high level of interest in learning more were also topics about which

they were unaware. The names of these topics, Laboratory Training, Synectics, and Jurisprudential Inquiry, probably did not provide clues about the topics, so that one may assume that the teachers would like to learn more for curiosity's sake. The topics of Programed Instruction, Bilingual Education, Scientific Inquiry, and Social Science Inquiry moderately interested the majority of teachers and generally were at least somewhat familiar to the teachers in the study. However, 41 of 48 topics held little or no interest for the majority of the teachers involved in the study. Further, the majority of teachers rated themselves as experienced with the bulk of the topics. The question remains whether the teachers do know as much about the topics as they say they do. Since the majority of the teachers have Master's Degrees plus units or higher educational level, it is possible that the teachers have indeed been exposed to many of the topics. If so, it allows those in charge of staff development to seek other topics for the program, or to provide a choice of a variety of topics within one program to meet the needs of individual teachers. However, resistance to staff development might increase if the teachers are required to participate in programs which repeat information they already believe they have. Thus far, discussion has focused on the teachers' responses from across the district. However, groups of teachers may or may not respond similarly to the various items on the Questionnaire. A discussion of the comparisons between groups of teachers' responses follow.

Similarities and Differences in Teachers' Attitudes
Based on Demographic Information

The teachers' responses to thirty-one bits of demographic information were compared to their responses to the statement, "Staff development is an important part of my professional growth."

Generally speaking, the attitude that staff development is important for professional growth was consistent across education level, years of teaching experience, department, gender, and participation in a career ladder program. However, a difference in teachers' attitudes toward staff development were found when the teachers' participation was compared with "Staff development is an important part of my professional growth". Not surprisingly, a larger percentage of those teachers who had participated in staff development tended to agree that staff development was an important part of their professional growth. Of the teachers who did not participate in staff development, a larger percentage disagreed that staff development was an important part of their professional growth. The teachers who do not see the value or relevance of staff development may find ways to get out of participating in the program, or perhaps those who are excused from participation because of other school-related responsibilities have not experienced its importance and therefore do not see its value. The issue for those in charge of staff development is whether teachers participate in staff development because they know its important for their professional growth and hope to gain from it, or if

participation in staff development caused them to grow and thereby convinced the teachers that it was important. Either way, staff development programs need to be designed so that they do effect professional growth.

The literature often indicates that more experienced than inexperienced teachers tend to regard staff development as unimportant to their professional growth. Depending upon the researcher, "experienced" can be defined by as few as 5 to 7, or 10 years of teaching experience. The literature suggests that at that point in a teacher's career, he/she has learned classroom survival skills, and found past staff development programs to be irrelevant and a waste of time.

Surprisingly, this is not consistent with the findings of this study. No differences were detected in teachers' attitudes toward staff development based on years of teaching experience. Teachers across years of experience agreed that staff development was an important part of their professional growth. If staff development has been beneficial to them throughout their careers, it follows that the teachers would agree that it is an important part of their professional growth. Here again, there may be several interrelated causes for the teachers' attitude. The district may have provided a variety of programs to meet the needs of teachers at all levels, including meaningful incentives for participation. Also, the district may have allowed for staff development opportunities and incentives beyond the district programs, such as attendance at

workshops and conferences. Further, perhaps the university has accomplished more than the teachers give it credit for.

Similarities and Differences in Teachers' Attitudes Between the Two Schools

The teachers' responses to the Questionnaire were divided into two groups based on in which school they teach. To determine similarities and differences in teachers' attitudes between the two schools, two comparisons were made for each of the 86 different items. Generally speaking, the teachers from both schools tended to agree quite consistently in their attitudes toward staff development, on more than 92% of the items. However, there isn't any information to suggest that the teachers from both schools should agree or disagree. Disagreement might have been possible in that the school buildings vary greatly in age, have different administrators, and serve different communities. River H.S. is urban, and its students come from across the entire socio-economic and ethnic spectrum. Mountain H.S. is suburban, and its students mainly come from white, middle-class families. On the other hand, agreement would be possible if the teachers have had common staff development experiences through the district and even through the university. If staff development is consistent across the district, perhaps the longevity of the teachers in the district in combination with effective staff development programs contributes to the similarity in their attitudes toward staff

development. Also, remembering that the majority of teachers who participated in this study have Master's Degrees or higher, the local university may very well have had a homogenizing effect on the teachers' attitudes, assuming that the majority of teachers have attended the local university.

There may be any number of other factors contributing to the similarity in teachers' attitudes toward staff development that have their basis in pre-teaching experiences and beliefs which are beyond the scope of this study.

Considering the differences in teachers' attitudes toward staff development, the Chi Square Test indicated a difference in teachers' attitudes on six of 86 items, and the *t*-Test indicated a difference on seven of the items. Six of the items identified by the *t*-Test were the same six items covered by the Chi Square Test. Therefore, the two tests tended to support one another in identifying the similarities and differences in responses between the teachers of both schools.

However, do these differences indicate important differences between the two schools in the teachers' attitudes toward staff development? The findings of this study suggest not; of the seven items where differences in teachers' attitudes were identified, only two items received the largest percentage of agreement from the teachers. Those two items were: "Staff development programs should be located at the school", and "Faculty participation should be dependent upon the program and the individual faculty member". The other items, "Staff development should be planned by university professors";

"Assuming teacher needs should determine the content of staff development programs, teachers' needs should be determined by last year's teacher evaluations"; "The mode of delivery for the staff development program should be modeling skills and/or content"; "Staff development programs should be located off campus"; and "Staff development programs should be located in the teacher's classroom" did not receive the largest percentage of teachers' agreement. There were other choices which the teachers indicated they preferred.

Another question arises: of the two items mentioned above which were the teachers' first choices, is the difference between the two schools important or sufficiently large to prescribe differences in the staff development programs between the two schools? A look at the data itself does not so indicate (see Appendix C: Items A10S1 and A13S2).

It is obvious from the means for Item A10S1 that the majority of the teachers at River H.S. still prefer that staff development be located at the school, and it wouldn't make economic or practical sense to locate it elsewhere to accommodate ten percent of the teachers.

The means for Item A13S2 clearly show that even though there is a difference in the number of teachers who favor voluntary staff development, the majority of teachers at both schools still favor it. To summarize, the teachers' attitudes toward staff development are highly consistent between the two schools.

Similarities and Differences in Teachers'
Level of Knowledge and Level of Interest

Again, there was a strong agreement in teachers' responses between the two schools when comparisons were made on (1) their reported level of knowledge and (2) their reported level of interest. Forty-eight comparisons were made for each level; on level of knowledge only one topic indicated a difference in teacher' responses between the two schools and on level of interest four differences were indicated. Both sets of comparisons indicated Bilingual Education as having a difference in the teachers' responses.

However, in looking at the means of the comparisons, again the differences do not appear to be of practical importance. For example, the mean level of knowledge for Bilingual Education at River H.S. was 3.288, at Mountain H.S. it was 3.555 (3 = knowledge of, 4 = aware of). One can see that although a statistical difference was found, practically speaking the teachers are still "aware of" Bilingual Education. This is essentially true for the teachers' responses to the other items that were identified as being different. Pragmatically, the differences are not important.

Finally, comparisons were made to determine if teachers in certain departments indicated they had a higher level of knowledge of some topics than teachers who did not teach in those departments. Of ten comparisons made, eight detected differences. One would assume that teachers of a given subject area would know more about its teaching methods and models than

other teachers. However, one should look at the actual means before assuming that the differences are important. The next question arises, do the teachers in a given subject area have sufficient knowledge of related teaching methods and models? Generally, the subject area teachers indicated they were experienced with the related topics. There were two exceptions: English teachers with Synectics, and social studies teachers with Jurisprudential Inquiry. (In short, Synectics is a method of teaching creative writing, and Jurisprudential Inquiry involves the use of case studies.) It is possible that the teachers are familiar with Synectics and Jurisprudential Inquiry, but not the names.

Implications for the Practitioner

Historically, staff development has been a useful tool for maintaining teaching effectiveness. It should remain so in the future, but its essential structure will evolve as the structure of education itself and the needs of students and teachers change. This study has several implications for the practitioner. However, one should bear two things in mind when considering the implications of this study. First, none of the findings received a unanimous decision from the teachers. Therefore, if staff development is adjusted to accommodate the largest percentage of teachers, there will still be some teachers who will not be satisfied. Also, there is no guarantee that teacher behavior will change if staff development is brought in line with teachers' attitudes. Behavior is based on many factors and attitude is only one of them. This is not to say that this study is superfluous. Staff development is too important for the future of education, and teachers' attitudes are important for the success of staff development. Rather, those in charge of staff development should carefully consider all the alternatives and their possible consequences before deciding a course of action for their staff development program.

There is strong agreement among the teachers in their attitudes and beliefs toward staff development. Therefore, the following four implications should be carefully considered.

The first implication, based on the data, is that teachers believe that they should have control of staff development (see Chapter Four, Teachers' Attitudes and Beliefs Toward Staff Development). Teachers should organize, plan, determine the content, deliver, and evaluate the staff development program. Historically, teachers have not had control of staff development. Agencies such as the State Board of Education, the State Department of Education, the District Board of Education, the District administrators, the school's administrators, the local university, and recently even private consultants have had control of staff development. To differing degrees they have planned, organized, determined what the teachers should learn, and commissioned the instructors for staff development. For teachers to gain control of staff development, these agencies would, as far as the teachers are concerned, have to relinquish it. It is doubtful that all of the above agencies would be willing or able to relinquish any of their control of staff development, because most of them are held accountable by other agencies and the public for the effectiveness of the schools and of teaching.

The issue of who should be in control of staff development is an interesting dilemma in itself. The concern is that if teachers have control, then other groups will not; if others have control, then teachers will not. To the teachers it appears to be an either/or situation, based perhaps on a perceived adversarial relationship with the various educational agencies. On the one hand, the focus of teachers may be quite narrow, only on their individual

classrooms. On the other hand, the view of agencies such as the State Board of Education, the State Department of Education, the District Board of Education, the District administrators, and the local university may be too broad. Therefore, it is certainly possible that a better solution for education is an equal, cooperative partnership of all points of view in staff development.

There are other considerations. Do the teachers really have the organizational abilities, expertise, willingness, time, and interest to take control of staff development and to be held accountable for the effectiveness of the programs? How and when will they acquire the above if they do not already have them? Will staff development actually improve in the teachers' view if and when they are given control? How will the teachers be held accountable? Most importantly, will teaching effectiveness improve?

Secondly, the data indicated that the teachers believe that they should have control of staff development for their individual school. (See Chapter Four, Teachers' Attitudes and Beliefs Toward Staff Development). They believe that teachers from the school should organize, plan, determine the content, deliver, and evaluate the staff development program. This could be decentralization at its best. Allowing for site specific tailoring of staff development may well increase the relevance of staff development for the teachers. It may increase their effectiveness and increase the successes of the students. This may be possible because the needs of the school, its teachers and students can be directly addressed. This assumes that the teachers are the

best judges of what those needs are, and what will best meet those needs. However, to focus narrowly on the school itself may allow broader educational issues to be ignored. Again it can be seen that perhaps the best solution for effective staff development is a cooperative effort between all groups involved.

A third implication is that staff development should answer the needs of the individual teacher and his/her students. This is repeated frequently in the literature, and there are staff development programs that strive for relevance. However, the teachers apparently do not see sufficient gains in relevancy. The teachers know quite well that what works for one teacher or student may or may not work for another.

Finally, most teachers believe they know a sufficiency about a wide variety of teaching methods, models and competencies. Individuals may know more or less about specific teaching methods, models, and competencies than others, but generally teachers have confidence in their knowledge and experience. If those in charge of staff development determine that all the teachers should participate in staff development to gain more expertise in a particular area, some of the teachers will undoubtedly be resistant.

All of these implications considered together have the potential to bring about positive changes in staff development. They suggest that teachers believe that staff development should be individualized to the extent that if an

individual teacher identifies a particular need in a particular area, then addressing that need should be the staff development program for that teacher.

Suggestions for Future Research

A number of items were identified in the summary of the findings that call for further examination. One issue would be to determine whether the teachers do in practice have the level of knowledge they indicated of the various teaching methods, models, and competencies.

Now that the teachers' attitudes toward staff development in the Paradise School District have been identified, it would be interesting to explore further why the teachers have these attitudes and beliefs. Do they really believe in their capabilities or do they distrust others more?

Perhaps even more important are the subsequent actions which may be based on the findings of this study. Pivotal is the question of changing teacher attitudes or changing staff development. Further research should be conducted to determine whether staff development is optimally effective, or if changes such as giving the teachers control and making the programs site specific will increase the effectiveness of teaching. If it is determined that changes will not improve staff development and the effectiveness of teaching, then perhaps something needs to be done with the teachers' attitudes. Further research should be conducted to determine if attitudes can be changed and if the

teachers' attitudes should be changed. If the answer is affirmative, then it must be determined whether attitude change is feasible or not, how best to go about it, and finally, if changing teachers' attitudes toward staff development will increase effective teaching.

Finally the role of the university in staff development needs to be given more attention. There appear to be several conflicts: between how much the teachers use the university and what their attitude is toward it; how much the teachers think they get from the university and their actual awareness of educational issues. What has caused these conflicts? Can they be resolved? The relationship between university credit and salary increases as incentives for staff development needs to be explored. It would be interesting to examine what influence university professors have on teachers' attitudes toward staff development; for example, are teachers aware of the difference between professors who consider themselves researchers and theoreticians and professors who consider themselves teacher educators? Do teachers perceive one group as being more aware of their needs and able to address those needs than the other?

In summary, this study identified a wide variety of teachers' attitudes and beliefs toward staff development. These findings suggest opportunities for improving the organization, processes, and involvement of faculty in staff development so that ultimately teachers may become more effective. The findings also lead into further research studies for which the outcome is

improved teacher performance. Thus, this study provides the catalyst for the evolution of staff development into a relevant and beneficial activity for teachers.

APPENDIX A:

**COVER LETTER SENT
TO ALL PARTICIPANTS**

To: All Secondary Teachers

From: Laurie M. Hawke

Re: Staff Development

The purpose of this study is twofold: to ascertain
1) teacher attitudes and beliefs toward staff development and
2) teacher knowledge level and interest level in topics which are appropriate for staff development. The information learned from this study may lead to more relevant staff development programs in the future.

For the purpose of this study, staff development is defined as any activity that has as its purpose the staff member's improved performance in current or future positions.

All responses to the questionnaire will be anonymous. When I have completed questionnaires such as these, I have been concerned about my anonymity. To protect your anonymity, these questionnaires are being handled by a liaison at your school. When you've completed the questionnaire, please return it to _____ and cross your name off the list. Teachers who have not returned their questionnaires to _____ by May 18 will receive from the liaison a reminder to do so. The researcher will have no knowledge of who completes the questionnaire. No one but the researcher will have access to the questionnaires after they have been returned.

Part A: Teacher Attitudes and Beliefs Toward Staff Development solicits your opinions; there are no right or wrong answers.

Part B: Level of Knowledge and Level of Interest covers a broad range of topics, some of which may be unfamiliar to you. That's ok, even the "experts" are not familiar with all of the topics.

Please keep the questionnaire stapled together so that comparisons across Parts A and B and across groups can be made.

Please be honest in your responses to both parts.
THE QUESTIONNAIRES ARE PRINTED ON BOTH SIDES OF EACH PAGE. Please turn each page over and complete the back side, too.

During a pilot test, the questionnaire took approximately 15-20 minutes to complete.

I am aware of the many demands upon your time at the end of the school year, and greatly appreciate your honest participation in this study.

APPENDIX B:
TEACHER QUESTIONNAIRE

DEMOGRAPHIC INFORMATION

Questions 1. and 2. are important to correlate teaching experience and education level with attitudes about staff development.

1. How many years of teaching experience do you have?
-

2. What is your highest level of education?

- (1) Bachelor's
- (2) Bachelor's + units
- (3) Master's
- (4) Master's + units
- (5) Education Specialist
- (6) Education Specialist + units
- (7) Phd/EdD.

Some of the topics on one of the following questionnaires are specific to certain subject areas. Question 3. is important to correlate that information with what experience subject area teachers have with those topics.

3. In which department do you teach?

- | | |
|------------------------|-----------------------------|
| (1) English | (7) Home Economics |
| (2) Math | (8) Vocational Education |
| (3) Social Studies | (9) Fine Arts |
| (4) Science | (10) Special Education |
| (5) Physical Education | (11) Foreign Language |
| (6) Business | (12) Other (please specify) |
-

DEMOGRAPHIC INSTRUMENT p.2

Questions 4. and 5. are important to correlate the level of experience with staff development with teacher attitudes toward staff development.

4. Have you participated in staff development within the past year?

- (1) yes
- (2) no

5. If you have participated in staff development within the past year, please indicate in what capacities (circle as many as apply):

- (1) as a participant
- (2) in planning
- (3) as an instructor
- (4) over seeing the program
- (5) evaluation of the program

Question 6. is important to correlate similarities and differences in attitudes towards staff development between males and females.

6. Gender

- (1) Female
- (2) Male

Question 7. is important to correlate similarities and differences in attitudes towards staff development between career ladder participation and non-participation.

7. Are you currently participating in a career ladder program?

- (1) Yes
- (2) No

Part A

TEACHER ATTITUDES AND BELIEFS TOWARD STAFF DEVELOPMENT

Below are listed a series of statements regarding staff development. Please indicate the degree to which you agree or disagree with every item by circling the appropriate numbers for each item under each statement.

- | | | |
|---|-------------------|------|
| 1 | Strongly Agree | (SA) |
| 2 | Agree | (A) |
| 3 | Uncertain | (U) |
| 4 | Disagree | (D) |
| 5 | Strongly Disagree | (SD) |

EXAMPLE:

1 = SA	2 = A	3 = U	4 = D	5 = SD
--------	-------	-------	-------	--------

1. The quality of Mexican food in Tucson should be determined by

a committee of snowbirds from Pennsylvania.	1	2	3	4	5
---	---	---	---	---	---

a committee of the mayors from El Paso, Santa Fe, Albuquerque, and Los Angeles.	1	2	3	4	5
---	---	---	---	---	---

a committee of native Tucsonans.	1	2	3	4	5
----------------------------------	---	---	---	---	---

PLEASE BEGIN BY TURNING THE PAGE OVER.

1 = SA

2 = A

3 = U

4 = D

5 = SD

1. Staff development should be planned by

district administrators.	1	2	3	4	5
a committee of teachers from across the district.	1	2	3	4	5
the school's administrators.	1	2	3	4	5
a committee of teachers from within the school.	1	2	3	4	5
private consultants.	1	2	3	4	5
university professors.	1	2	3	4	5

2. Whether staff development programs should exist should be determined by

district administrators.	1	2	3	4	5
a committee of teachers from across the district.	1	2	3	4	5
the school's administrators.	1	2	3	4	5
a committee of teachers from within the school.	1	2	3	4	5
private consultants.	1	2	3	4	5
university professors.	1	2	3	4	5
the State Legislature.	1	2	3	4	5

1 = SA 2 = A 3 = U 4 = D 5 = SD

3. The content of the staff development program should be determined

by district administrators.	1 2 3 4 5
a committee of teachers from across the district.	1 2 3 4 5
the school's administrators.	1 2 3 4 5
a committee of teachers from within the school.	1 2 3 4 5
private consultants.	1 2 3 4 5
university professors.	1 2 3 4 5
the State Legislature.	1 2 3 4 5

4. The process by which the content of staff development is determined should be

mandated by the State Legislature.	1 2 3 4 5
a unilateral decision made by administration based on what research indicates is important and effective.	1 2 3 4 5
a unilateral decision made by administration based on observation of teachers teaching.	1 2 3 4 5
a teacher initiated request.	1 2 3 4 5
what teachers perceive as their needs as determined by a needs assessment.	1 2 3 4 5
mandated by the State Board of Education.	1 2 3 4 5
a multilateral decision made by a committee of teachers and administrators.	1 2 3 4 5

1 = SA 2 = A 3 = U 4 = D 5 = SD

5. Assuming teacher needs should determine the content of staff development programs, teacher needs should be determined by

- | | | | | | |
|---|---|---|---|---|---|
| observation of classroom instruction by peers. | 1 | 2 | 3 | 4 | 5 |
| observation of classroom instruction by administrators. | 1 | 2 | 3 | 4 | 5 |
| last year's teacher evaluation(s). | 1 | 2 | 3 | 4 | 5 |
| teacher opinion solicited on an open-ended questionnaire. | 1 | 2 | 3 | 4 | 5 |
| a committee review of research for appropriate topics, which are then presented to faculty for approval and prioritizing. | 1 | 2 | 3 | 4 | 5 |
| teacher interviews (by peers or administrators or consultants). | 1 | 2 | 3 | 4 | 5 |

6. Instructors/trainers for the staff development program should be

- | | | | | | |
|-------------------------------------|---|---|---|---|---|
| district administrators. | 1 | 2 | 3 | 4 | 5 |
| teachers from across the district. | 1 | 2 | 3 | 4 | 5 |
| the school's administrators. | 1 | 2 | 3 | 4 | 5 |
| teachers from within the school. | 1 | 2 | 3 | 4 | 5 |
| private consultants. | 1 | 2 | 3 | 4 | 5 |
| university professors. | 1 | 2 | 3 | 4 | 5 |
| teachers from outside the district. | 1 | 2 | 3 | 4 | 5 |

1 = SA

2 = A

3 = U

4 = D

5 = SD

7. The mode of delivery for the staff development program should be

lecture.	1	2	3	4	5
group discussion.	1	2	3	4	5
modeling skills and/or content.	1	2	3	4	5
practice of skills by teachers with coaching for improvement.	1	2	3	4	5
peer observation.	1	2	3	4	5
a combination of all of the above.	1	2	3	4	5

8. Staff development should be

regular and ongoing throughout the school year.	1	2	3	4	5
short, "one-shot" efforts.	1	2	3	4	5

1 = SA 2 = A 3 = U 4 = D 5 = SD

9. The format of the staff development program should be

Job-Embedded: hands on, to meet specific needs, occurs while teaching is going on. 1 2 3 4 5

Job-Related: meet specific needs, but not while teaching is going on. 1 2 3 4 5

General Professional: not tailored to specific classroom needs. 1 2 3 4 5

Career-Credential: to gain new credentials or train for a new role. 1 2 3 4 5

Personal: personal development, may or may not relate to employment. 1 2 3 4 5

10. Staff development programs should be located

at the school. 1 2 3 4 5

at the district office. 1 2 3 4 5

at the university. 1 2 3 4 5

off campus. 1 2 3 4 5

in the teacher's classroom. 1 2 3 4 5

1 = SA

2 = A

3 = U

4 = D

5 = SD

11. Staff development programs should be held during

the summer. 1 2 3 4 5

release time throughout the school
year. 1 2 3 4 5

afternoons after school. 1 2 3 4 5

weekday evenings. 1 2 3 4 5

weekends. 1 2 3 4 5

12. Staff development programs should be offered

weekly. 1 2 3 4 5

bi-weekly. 1 2 3 4 5

monthly. 1 2 3 4 5

quarterly. 1 2 3 4 5

each semester. 1 2 3 4 5

yearly. 1 2 3 4 5

1 = SA 2 = A 3 = U 4 = D 5 = SD

13. Faculty participation in staff development programs should be

mandatory.	1	2	3	4	5
dependent upon the program and the individual faculty member.	1	2	3	4	5

14. An incentive for participation in a staff development program should be

a salary increase.	1	2	3	4	5
increased student achievement.	1	2	3	4	5
recognition/awards.	1	2	3	4	5
the intrinsic value of improved teaching ability.	1	2	3	4	5
university credit.	1	2	3	4	5
promotion within a hierarchy of teaching.	1	2	3	4	5

1 = SA 2 = A 3 = U 4 = D 5 = SD

15. Evaluation of a staff development program's effectiveness should be

teacher assessment of enjoyment of the program. 1 2 3 4 5

teacher assessment of objective attainment. 1 2 3 4 5

one time administrator observation of teachers utilizing content or skills learned from the program. 1 2 3 4 5

on-going administrator observation of teachers utilizing content or skills learned from the program. 1 2 3 4 5

on-going peer observation and coaching of teachers utilizing content or skills learned from the program. 1 2 3 4 5

16. Staff development programs should be evaluated

immediately at their conclusion. 1 2 3 4 5

within one week of their conclusion. 1 2 3 4 5

throughout the year. 1 2 3 4 5

17. Staff development is an important part of my professional growth.

1 2 3 4 5

PLEASE CONTINUE ON TO PART B

Part B

LEVEL OF KNOWLEDGE AND LEVEL OF INTEREST

Below are listed a series of topics which would be appropriate for inclusion in a staff development program.

In the column marked (A) please indicate the level of knowledge that you believe you have of each of these topics:

- 1 Expert: skillful in the use of
- 2 Experienced: have practiced in your own classroom
- 3 Knowledge of: acquainted with the theoretical base
- 4 Aware of: have heard of the name; know a simple definition
- 5 Unaware of: no knowledge of

In the column marked (B) please indicate the level of interest that you have in learning more about each of these topics:

- A High interest
- B Moderate interest
- C Low interest
- D No interest

EXAMPLE:

(A)						(B)			
1	2	3	4	5	TOPIC	A	B	C	D
1	2	3	4	5	1. Ballroom Dancing	A	B	C	D
1	2	3	4	5	2. Retriever Training	A	B	C	D

BEGIN BY TURNING THE PAGE OVER

(A)					TOPIC	(B)				
1	2	3	4	5		A	B	C	D	
1	2	3	4	5		A	B	C	D	
3	Knowledge of					C	Low			
4	Aware of					D	No			
5	Unaware of						Interest			
1	2	3	4	5	1. Programed Instruction	A	B	C	D	
1	2	3	4	5	2. Social Science Inquiry	A	B	C	D	
1	2	3	4	5	3. Role Playing	A	B	C	D	
1	2	3	4	5	4. Inquiry Training	A	B	C	D	
1	2	3	4	5	5. Self-Control Management	A	B	C	D	
1	2	3	4	5	6. Group Investigation	A	B	C	D	
1	2	3	4	5	7. Bilingual Education	A	B	C	D	
1	2	3	4	5	8. Effective Questioning Techniques	A	B	C	D	
1	2	3	4	5	9. Laboratory Training	A	B	C	D	
1	2	3	4	5	10. Synectics	A	B	C	D	
1	2	3	4	5	11. Student Self-Concept Development	A	B	C	D	
1	2	3	4	5	12. Effective Lecture Techniques	A	B	C	D	
1	2	3	4	5	13. Classroom Management Techniques	A	B	C	D	

(A)					TOPIC	(B)			
1	2	3	4	5		A	B	C	D
Expert	Experienced	Knowledge of	Aware of	Unaware of		High	Moderate	Low	No Interest
1	2	3	4	5	14. Inductive Thinking (Taba)	A	B	C	D
1	2	3	4	5	15. Curriculum Development Process	A	B	C	D
1	2	3	4	5	16. Assertive Training (assertiveness)	A	B	C	D
1	2	3	4	5	17. Learning Styles Theory & Practice	A	B	C	D
1	2	3	4	5	18. Effective Discussion Techniques	A	B	C	D
1	2	3	4	5	19. Direct Instruction	A	B	C	D
1	2	3	4	5	20. Advance Organizers	A	B	C	D
1	2	3	4	5	21. Awareness Training	A	B	C	D
1	2	3	4	5	22. Mainstreaming	A	B	C	D
1	2	3	4	5	23. Learning Centers	A	B	C	D
1	2	3	4	5	24. Grouping for Instruction	A	B	C	D
1	2	3	4	5	25. Discovery/Open-Ended Instruction	A	B	C	D
1	2	3	4	5	26. Jurisprudential Inquiry	A	B	C	D

(A)					TOPIC	(B)			
1	2	3	4	5		A	B	C	D
						High	Moderate	Low	No Interest
1	2	3	4	5	27. Utilizing Community Resources	A	B	C	D
1	2	3	4	5	28. Multi-Disciplinary Approach to Instruction	A	B	C	D
1	2	3	4	5	29. Wait Time	A	B	C	D
1	2	3	4	5	30. Multi-Cultural Education	A	B	C	D
1	2	3	4	5	31. Critical Thinking Skills	A	B	C	D
1	2	3	4	5	32. Mastery Learning	A	B	C	D
1	2	3	4	5	33. Inter-Disciplinary Teaming	A	B	C	D
1	2	3	4	5	34. Student Intellectual Development	A	B	C	D
1	2	3	4	5	35. Non-Directive Teaching	A	B	C	D
1	2	3	4	5	36. Theory-To-Practice	A	B	C	D
1	2	3	4	5	37. Higher Order Thinking Skills (Bloom)	A	B	C	D
1	2	3	4	5	38. Teacher Expectation Student Achievement (TESA)	A	B	C	D

(A)					TOPIC	(B)			
1	2	3	4	5		A	B	C	D
1	2	3	4	5		A	B	C	D
3	Knowledge of					C	Low		
4	Aware of					D	No		
5	Unaware of						Interest		
1	2	3	4	5	39. Involving Students in the Community	A	B	C	D
1	2	3	4	5	40. Simulations and Games	A	B	C	D
1	2	3	4	5	41. Flexible Block Time Scheduling	A	B	C	D
1	2	3	4	5	42. Mnemonics	A	B	C	D
1	2	3	4	5	43. Scientific Inquiry	A	B	C	D
1	2	3	4	5	44. Teaching Styles	A	B	C	D
1	2	3	4	5	45. Classroom Meeting	A	B	C	D
1	2	3	4	5	46. Cooperative Learning Strategies	A	B	C	D
1	2	3	4	5	47. Lesson and Unit Planning	A	B	C	D
1	2	3	4	5	48. Concept Attainment	A	B	C	D

Any comments that you would like to make are welcome.

THANK YOU FOR COMPLETING THIS QUESTIONNAIRE

APPENDIX C:

**MEANS OF TEACHERS' RESPONSES
TO PART A OF THE QUESTIONNAIRE**

Means of Teachers' Responses
To Part A of the Questionnaire

Item	River H.S.		Mountain H.S.	
	<u>N</u>	Mean	<u>N</u>	Mean
A1S1	110	3.55	90	3.58
A1S2	114	2.45	91	2.23
A1S3	114	2.70	93	2.90
A1S4	119	1.74	96	1.72
A1S5	109	4.22	90	4.03
A1S6	110	4.30	89	3.80
A2S1	110	3.30	92	3.23
A2S2	111	2.49	93	2.45
A2S3	114	2.61	94	2.72
A2S4	117	1.91	92	1.78
A2S5	108	4.24	90	4.27
A2S6	108	4.30	89	4.19
A2S7	108	4.45	88	4.49
A3S1	110	3.58	90	3.50
A3S2	113	2.47	91	2.43
A3S3	114	2.65	94	2.84
A3S4	118	1.78	95	1.77
A3S5	108	4.09	89	4.00
A3S6	108	4.24	89	3.92
A3S7	108	4.59	88	4.53
A4S1	110	4.59	89	4.56
A4S2	112	3.75	88	3.55
A4S3	112	3.29	90	3.37
A4S4	115	2.25	91	2.05
A4S5	117	1.85	92	1.84
A4S6	111	4.23	88	4.36
A4S7	117	2.07	94	2.24
A5S1	111	2.80	93	2.72
A5S2	114	2.88	92	2.98
A5S3	109	3.46	90	3.08
A5S4	114	2.09	94	1.96
A5S5	115	2.43	92	2.41
A5S6	112	2.48	93	2.25

Means of Teachers' Responses
To Part A of the Questionnaire - *continued*

Item	River H.S. N	H.S. Mean	Mountain H.S. N	H.S. Mean
A6S1	108	3.70	88	3.78
A6S2	113	2.16	92	2.09
A6S3	109	3.01	90	3.28
A6S4	114	2.04	91	1.88
A6S5	111	3.12	94	3.13
A6S6	108	3.44	90	3.18
A6S7	109	2.77	92	2.77
A7S1	99	3.31	85	3.00
A7S2	101	2.35	86	2.23
A7S3	98	2.31	85	1.95
A7S4	100	2.35	86	2.06
A7S5	96	2.66	86	2.40
A7S6	112	1.99	95	1.92
A8S1	116	2.19	97	1.97
A8S2	104	3.45	89	3.64
A9S1	113	2.31	92	2.17
A9S2	113	2.19	94	2.23
A9S3	107	3.45	89	3.45
A9S4	110	3.07	91	2.92
A9S5	108	2.97	92	2.90
A10S1	115	1.96	96	1.64
A10S2	106	3.31	90	3.33
A10S3	106	3.67	89	3.55
A10S4	109	3.08	86	3.50
A10S5	109	3.17	90	2.62
A11S1	113	2.59	92	2.57
A11S2	115	2.63	96	2.35
A11S3	112	3.19	91	3.53
A11S4	109	3.89	91	4.07
A11S5	108	4.09	90	4.21

Means of Teachers' Responses
To Part A of the Questionnaire - *continued*

Item	River H.S.		Mountain H.S.	
	N	Mean	N	Mean
A12S1	103	4.19	88	3.93
A12S2	105	3.84	87	3.83
A12S3	110	2.90	88	2.87
A12S4	109	2.65	91	2.46
A12S5	107	2.78	88	2.58
A12S6	105	3.14	88	3.19
A13S1	105	3.67	89	4.01
A13S2	117	1.83	94	1.41
A14S1	113	2.10	91	2.07
A14S2	110	2.17	89	2.46
A14S3	107	3.53	86	3.64
A14S4	115	2.09	91	2.18
A14S5	110	2.34	90	2.41
A14S6	108	3.06	92	3.02
A15S1	110	2.49	89	2.40
A15S2	115	1.97	93	1.89
A15S3	108	4.16	89	3.98
A15S4	113	3.19	93	3.20
A15S5	113	2.61	93	2.51
A16S1	110	2.42	88	2.59
A16S2	107	2.77	88	2.97
A16S3	113	2.36	95	2.31
A17S1	119	2.18	97	2.16

APPENDIX D:

**MEANS OF TEACHERS' RESPONSES TO LEVEL OF KNOWLEDGE
AND LEVEL OF INTEREST
PART B OF THE QUESTIONNAIRE**

Means of Teachers' Responses To Level of Knowledge
and Level of Interest
Part B of the Questionnaire

Item	River H.S. Knowledge/Interest		Mountain H.S. Knowledge/Interest	
1	3.18	2.43	3.13	2.49
2	3.61	2.28	3.80	2.09
3	2.41	2.69	2.66	2.52
4	3.60	2.58	3.68	2.54
5	3.19	2.64	3.30	2.71
6	3.45	2.50	3.37	2.62
7	3.29	2.42	3.56	1.99
8	2.47	3.22	2.56	3.15
9	3.68	2.01	3.61	2.20
10	4.57	1.76	4.66	1.79
11	2.42	3.28	2.58	3.22
12	2.37	3.01	2.58	2.99
13	1.99	3.27	2.16	3.16
14	3.09	2.78	3.38	2.66
15	2.79	2.89	2.80	2.76
16	2.73	2.77	2.80	2.72
17	2.60	2.90	2.62	2.86
18	2.62	3.16	2.61	3.12
19	2.72	2.73	2.65	2.81
20	3.44	2.58	3.28	2.54
21	3.64	2.46	3.75	2.40
22	2.82	2.49	2.73	2.49
23	2.97	2.46	3.08	2.34
24	2.71	2.81	2.77	2.62
25	2.86	3.01	2.94	2.82
26	4.41	1.99	4.42	1.96
27	2.78	2.97	2.82	2.71
28	2.73	3.13	2.77	2.91
29	3.04	2.46	3.07	2.37
30	3.18	2.62	3.25	2.36

Means of Teachers' Responses To Level of Knowledge
and Level of Interest
Part B of the Questionnaire - *continued*

Item	River H.S. Knowledge/Interest		Mountain H.S. Knowledge/Interest	
31	2.54	3.19	2.64	3.10
32	3.17	2.75	3.03	2.61
33	2.99	2.87	3.12	2.73
34	2.95	3.00	3.12	2.73
35	3.76	2.56	3.71	2.35
36	3.67	2.49	3.74	2.39
37	2.75	2.74	2.73	2.71
38	3.38	2.75	3.34	2.70
39	2.75	2.97	3.00	2.87
40	2.70	2.88	2.79	2.74
41	3.05	2.77	2.92	3.00
42	3.73	2.36	3.79	2.24
43	3.24	2.56	3.33	2.27
44	2.64	3.01	2.68	2.93
45	3.79	2.26	3.69	2.27
46	2.58	3.07	2.78	2.93
47	2.17	2.78	2.13	2.64
48	3.15	2.68	3.29	2.57

APPENDIX E:

**CHI SQUARE VALUES FOR COMPARISONS OF
DEMOGRAPHICS WITH QUESTION 17**

**Chi Square Values for Comparisons of
Demographics With Question 17**

Item	df	Value	Probability
<u>Years of Teaching Experience</u>			
Combined	62	63.979	0.407
RHS	58	68.228	0.169
MHS	54	67.217	0.107
<u>Level of Education</u>			
Combined	20	17.160	0.642
RHS	16	10.096	0.862
MHS	20	13.906	0.835
<u>Department</u>			
Combined	44	45.788	0.398
RHS	44	39.168	0.678
MHS	44	46.846	0.356
<u>Participation</u>			
Combined	8	21.029	0.007*
RHS	4	04.641	0.326
MHS	8	17.492	0.025*
<u>As Participant</u>			
Combined	4	18.679	0.001*
RHS	4	06.277	0.179
MHS	4	13.745	0.008*
<u>In Planning</u>			
Combined	4	06.979	0.137
RHS	4	03.906	0.419
MHS	4	04.064	0.397
<u>As An Instructor</u>			
Combined	4	03.558	0.469
RHS	4	01.910	0.752
MHS	4	01.958	0.744
<u>Overseeing The Program</u>			
Combined	4	03.761	0.439
RHS	4	02.284	0.684
MHS	4	02.844	0.584

Chi Square Values for Comparisons of
Demographics With Question 17 - *continued*

Item	df	Value	Probability
<u>Evaluation</u>			
Combined	4	01.307	0.860
RHS	4	04.282	0.369
MHS	4	01.782	0.776
<u>Gender</u>			
Combined	4	05.082	0.279
RHS	4	04.336	0.362
MHS	4	03.558	0.469
<u>Career Ladder</u>			
Combined	4	00.885	0.927
RHS	4	04.231	0.376
MHS	4	05.255	0.262

APPENDIX F:

**CHI SQUARE VALUES COMPARING THE TEACHERS' RESPONSES
FROM BOTH SCHOOLS ON PART A OF THE QUESTIONNAIRE**

Chi Square Values Comparing the Teachers' Responses
From Both Schools on Part A of the Questionnaire

Item	df	Value	Probability
A1S1	2	2.018	0.365
A1S2	2	2.710	0.258
A1S3	2	1.836	0.399
A1S4	2	0.838	0.658
A1S5	2	1.544	0.462
A1S6	2	5.198	0.074
A2S1	2	1.172	0.556
A2S2	2	5.662	0.059
A2S3	2	1.723	0.422
A2S4	2	0.853	0.653
A2S5	2	2.855	0.240
A2S6	2	4.308	0.116
A2S7	2	3.439	0.179
A3S1	2	0.708	0.702
A3S2	2	2.006	0.367
A3S3	2	2.014	0.365
A3S4	2	4.351	0.114
A3S5	2	1.981	0.371
A3S6	2	12.763	0.002*
A3S7	2	0.027	0.987
A4S1	2	0.455	0.797
A4S2	2	2.603	0.272
A4S3	2	0.605	0.739
A4S4	2	4.186	0.123
A4S5	2	0.508	0.776
A4S6	2	1.500	0.472
A4S7	2	0.497	0.780
A5S1	2	1.053	0.591
A5S2	2	1.084	0.582
A5S3	2	6.415	0.040*
A5S4	2	4.029	0.133
A5S5	2	1.111	0.574
A5S6	2	2.125	0.346

Chi Square Values Comparing the Teachers' Responses
From Both Schools on Part A of the Questionnaire - *continued*

Item	df	Value	Probability
A6S1	2	0.635	0.728
A6S2	2	1.709	0.425
A6S3	2	4.610	0.100
A6S4	2	2.862	0.239
A6S5	2	0.179	0.914
A6S6	2	1.967	0.374
A6S7	2	0.860	0.651
A7S1	2	2.408	0.300
A7S2	2	1.575	0.455
A7S3	2	5.392	0.067
A7S4	2	3.411	0.182
A7S5	2	3.955	0.138
A7S6	2	1.647	0.439
A8S1	2	3.194	0.202
A8S2	2	1.595	0.450
A9S1	2	1.118	0.572
A9S2	2	0.226	0.893
A9S3	2	0.221	0.895
A9S4	2	1.795	0.408
A9S5	2	1.916	0.384
A10S1	2	11.001	0.004*
A10S2	2	4.721	0.094
A10S3	2	1.991	0.370
A10S4	2	6.102	0.047*
A10S5	2	13.969	0.001*
A11S1	2	1.312	0.519
A11S2	2	3.184	0.204
A11S3	2	3.933	0.140
A11S4	2	0.721	0.697
A11S5	2	3.190	0.203

Chi Square Values Comparing the Teachers' Responses
From Both Schools on Part A of the Questionnaire - *continued*

Item	df	Value	Probability
A12S1	2	2.452	0.293
A12S2	2	0.113	0.945
A12S3	2	0.327	0.849
A12S4	2	1.512	0.469
A12S5	2	0.391	0.823
A12S6	2	0.127	0.938
A13S1	2	6.600	0.086
A13S2	2	9.448	0.009*
A14S1	2	0.150	0.928
A14S2	2	2.039	0.361
A14S3	2	0.245	0.885
A14S4	2	4.252	0.119
A14S5	2	0.260	0.878
A14S6	2	0.844	0.656
A15S1	2	1.096	0.578
A15S2	2	5.066	0.079
A15S3	2	0.915	0.633
A15S4	2	2.566	0.277
A15S5	2	0.411	0.814
A16S1	2	0.341	0.843
A16S2	2	2.496	0.287
A16S3	2	2.286	0.319
A17S1	2	0.163	0.922

APPENDIX G:

***t*-TEST OF SIGNIFICANT DIFFERENCES
BETWEEN INDEPENDENT MEANS
COMPARING TEACHERS' RESPONSES FROM BOTH SCHOOLS
ON PART A OF THE QUESTIONNAIRE**

t-Test of Significant Differences
Between Independent Means
Comparing Teachers' Responses From Both Schools
on Part A of the Questionnaire

Item	Obtained <i>t</i>	Probability
A1S1	-0.1299	0.8974
A1S2	1.1962	0.2382
A1S3	-1.2207	0.2236
A1S4	0.1567	0.8756
A1S5	1.1256	0.2617
A1S6	2.9062	0.0041*
A2S1	0.3842	0.7012
A2S2	0.1987	0.8427
A2S3	-0.6596	0.5103
A2S4	0.8443	0.3995
A2S5	-0.1709	0.8645
A2S6	0.6738	0.5012
A2S7	-0.2379	0.8122
A3S1	0.4651	0.6423
A3S2	0.2206	0.8256
A3S3	-1.1256	0.2617
A3S4	0.0815	0.9351
A3S5	0.5387	0.5907
A3S6	1.8814	0.0614
A3S7	0.4664	0.6414
A4S1	0.2401	0.8105
A4S2	1.2014	0.2310
A4S3	-0.4209	0.6742
A4S4	1.2949	0.1968
A4S5	0.0638	0.9492
A4S6	-0.9274	0.3549
A4S7	-1.0306	0.3039

t-Test of Significant Differences
Between Independent Means
Comparing Teachers' Responses From Both Schools
on Part A of the Questionnaire - *continued*

Item	Obtained <i>t</i>	Probability
A5S1	0.4731	0.6366
A5S2	-0.6175	0.5376
A5S3	2.2063	0.0285*
A5S4	0.8540	0.3941
A5S5	0.0760	0.9395
A5S6	1.4071	0.1609
A6S1	-0.4506	0.6528
A6S2	0.4966	0.6200
A6S3	-1.5358	0.1262
A6S4	1.2789	0.2024
A6S5	-0.0559	0.9555
A6S6	1.2958	0.1966
A6S7	-0.0061	0.9951
A7S1	1.6404	0.1026
A7S2	0.7185	0.4733
A7S3	2.2633	0.0248*
A7S4	1.7113	0.0887
A7S5	1.4615	0.1456
A7S6	0.4583	0.6472
A8S1	1.2616	0.2085
A8S2	-0.9840	0.3264
A9S1	0.7886	0.4313
A9S2	-0.3205	0.7489
A9S3	-0.0051	0.9960
A9S4	0.8720	0.3843
A9S5	0.4420	0.6590
A10S1	2.3451	0.0200*
A10S2	-0.1155	0.9081
A10S3	0.6387	0.5238
A10S4	-2.1317	0.0343*
A10S5	2.9624	0.0034*

t-Test of Significant Differences
Between Independent Means
Comparing Teachers' Responses From Both Schools
on Part A of the Questionnaire - *continued*

Item	Obtained <i>t</i>	Probability
A11S1	0.1311	0.8958
A11S2	1.3860	0.1672
A11S3	-1.7666	0.0788
A11S4	-0.9484	0.3441
A11S5	-0.6757	0.5001
A12S1	1.6323	0.1043
A12S2	0.0592	0.9528
A12S3	0.1215	0.9034
A12S4	1.0429	0.2983
A12S5	1.0299	0.3043
A12S6	-0.2375	0.8125
A13S1	-1.6773	0.0951
A13S2	3.0613	0.0025*
A14S1	0.1681	0.8667
A14S2	-1.6537	0.0998
A14S3	-0.5862	0.5585
A14S4	-0.5502	0.5828
A14S5	-0.4035	0.6870
A14S6	0.1645	0.8695
A15S1	0.4988	0.6185
A15S2	0.6020	0.5478
A15S3	1.2337	0.2188
A15S4	-0.0544	0.9567
A15S5	0.5611	0.5753
A16S1	-0.9541	0.3412
A16S2	-1.0976	0.2738
A16S3	0.3093	0.7574
A17S1	0.1181	0.9061

APPENDIX H:

***t*-TEST OF SIGNIFICANT DIFFERENCES
BETWEEN TWO INDEPENDENT MEANS
COMPARING TEACHERS' RESPONSES BETWEEN THE TWO SCHOOLS
ON LEVEL OF KNOWLEDGE**

**t-Test of Significant Differences
Between Two Independent Means
Comparing Teachers' Responses Between the Two Schools
on Level of Knowledge**

Item	Knowledge		Interest	
	Obtained <i>t</i>	Prob.	Obtained <i>t</i>	Prob.
1	0.3896	0.6972	-0.5466	0.5853
2	-1.0890	0.2775	1.3507	0.1783
3	-1.9494	0.0526	1.2150	0.2258
4	-0.4439	0.6576	0.3369	0.7366
5	-0.6481	0.5177	-0.5926	0.5541
6	0.5048	0.6143	-0.9404	0.3482
7	-2.0693	0.0398*	3.2754	0.0012*
8	-0.5966	0.5515	0.5773	0.5644
9	0.3930	0.6947	-1.2992	0.1954
10	-0.8691	0.3859	-0.2507	0.8023
11	-1.0805	0.2812	0.4805	0.6314
12	-1.5427	0.1245	0.1460	0.8841
13	-1.4258	0.1555	0.8360	0.4041
14	-1.8728	0.0626	0.9273	0.3549
15	-0.0701	0.9442	1.0008	0.3181
16	-0.5246	0.6004	0.3963	0.6923
17	-0.1997	0.8419	0.2852	0.7758
18	0.0842	0.9330	0.3234	0.7468
19	0.3976	0.6913	-0.6005	0.5488
20	0.9015	0.3684	0.3049	0.7608
21	-0.6617	0.5089	0.4364	0.6630
22	0.5925	0.5541	-0.0163	0.9870
23	-0.7321	0.4649	0.8675	0.3867
24	-0.4274	0.6696	1.4370	0.1523
25	-0.6287	0.5303	1.4668	0.1440
26	-0.1224	0.9027	0.1876	0.8514
27	-0.3126	0.7549	2.1149	0.0357*
28	-0.3119	0.7554	1.7370	0.0839

t-Test of Significant Differences
Between Two Independent Means
Comparing Teachers' Responses Between the Two Schools
on Level of Knowledge - *continued*

Item	Knowledge		Interest	
	Obtained <i>t</i>	Prob.	Obtained <i>t</i>	Prob.
29	-0.1155	0.9082	0.5933	0.5537
30	-0.5135	0.6082	1.7934	0.0744
31	-0.7508	0.4536	0.7895	0.4307
32	0.9155	0.3610	1.0908	0.2767
33	-0.9150	0.3613	0.9584	0.3390
34	-1.1699	0.2434	2.1829	0.0302*
35	0.3171	0.7515	1.5361	0.1261
36	-0.4527	0.6512	0.7651	0.4452
37	0.1170	0.9070	0.2296	0.8187
38	0.2450	0.8067	0.3807	0.7038
39	-1.7781	0.0769	0.8019	0.4236
40	-0.6557	0.5128	0.9874	0.3246
41	0.9740	0.3312	-1.6327	0.1041
42	-0.3615	0.7181	0.8203	0.4131
43	-0.5389	0.5906	2.1342	0.0341*
44	-0.3224	0.7475	0.6175	0.5376
45	0.5888	0.5567	-0.0497	0.9604
46	-1.7827	0.0761	0.9983	0.3193
47	0.2575	0.7970	0.9871	0.3248
48	-0.8319	0.4064	0.8395	0.4022

APPENDIX I:

**CHI SQUARE TEST COMPARING DEPARTMENT
AND LEVEL OF KNOWLEDGE**

**Chi Square Test Comparing Department
and Level of Knowledge**

Comparison	df	Value	Probability
<u>English X Synectics</u>			
Combined	3	7.303	0.063
RHS	3	5.793	0.122
MHS	3	9.200	0.027*
<u>Social Studies X Social Science Inquiry</u>			
Combined	4	25.655	0.000*
RHS	4	20.191	0.000*
MHS	4	8.837	0.065
<u>Social Studies X Jurisprudential Inquiry</u>			
Combined	4	18.165	0.001*
RHS	4	10.120	0.038*
MHS	3	9.669	0.022*
<u>Science X Laboratory Training</u>			
Combined	4	34.744	0.000*
RHS	4	25.090	0.000*
MHS	4	23.186	0.000*
<u>Science X Scientific Inquiry</u>			
Combined	4	45.961	0.000*
RHS	4	22.164	0.000*
MHS	4	23.948	0.000*

APPENDIX J:

**PEARSON PRODUCT MOMENT CORRELATION
OF DEMOGRAPHICS WITH QUESTION 17**

**Pearson Product Moment Correlation
Of Demographics With Question 17**

Item	Correlation	
	River H.S.	Mountain H.S.
Years Teaching Experience	0.14473	0.02703
Probability (p = .05)	0.1195	0.7938
Level of Education	0.08948	0.02874
Probability (p = .05)	0.3353	0.7810
Department	-0.02788	-0.04395
Probability (p = .05)	0.7644	0.6774
Participation in Staff Development Within the Past Year	0.15798	0.16185
Probability (p = .05)	0.0875	0.1132
As a Participant	-0.14139	-0.34585
Probability (p = .05)	0.1267	0.0006*
In Planning	-0.16630	-0.10935
Probability (p = .05)	0.0719	0.2889
As An Instructor	-0.11341	-0.10718
Probability (p = .05)	0.2214	0.2986
Over seeing the Program	-0.12752	-0.03679
Probability (p = .05)	0.1688	0.7219
Evaluation of the Program	0.04111	-0.01074
Probability (p = .05)	0.6585	0.9173
Gender	0.16908	0.05946
Probability (p = .05)	0.0684	0.5734
Career Ladder Participation	0.07018	0.00448
Probability (p = .05)	0.4521	0.9657

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