Chapter 2

REVIEW OF THE LITERATURE

Introduction

Although studies pertaining to community college faculty development have not been numerous, some have nevertheless ascertained that on-going faculty development at those institutions is vital for continually improved classroom instruction and, collaterally, for improved student learning (Cashin, 1990). This review of the literature verbally unveils in layered dimensions, the knowledge-base of faculty development as a domain. First, it describes the evolution of faculty development in the United States, including the factors that have impacted its changing form and function over the decades. Next, it narrows the focus to examination of studies related to faculty development at the community college level. Third, it then hones in on the Virginia Community College System, and how faculty development has been shaped within that system. Finally, this investigator examines faculty development classifications and models and proffers theoretical options from which the conceptual framework for the current investigation emerged. Concomitant with the latter is an examination of studies pertaining to the research methods used in this investigation.

Evolution of Faculty Development in the United States

Although faculty development as a concept is almost 200 years old, its form and function have been reshaped by changing societal winds--winds whose varying velocities and directions have churned the dynamics of educational thought. Accordingly, the concept of faculty development has changed its emphases and parameters. Faculty development first began as a

sabbatical leave, instituted by Harvard in 1810 (Blackburn, Pellino, Boberg, & O'Connell, 1980). Sabbaticals were intended to provide professors with opportunities to learn about a subject in which they subsequently aspired to teach. Albeit four-year colleges, universities, and community colleges continue to use sabbatical leaves as one form of faculty development, their primary focus has changed from preparing for a new instructional discipline to undertaking research that cannot be conducted at the professor's home institution (Eble & McKeachie 1985). With this shift, the purpose of sabbatical leave also shifted from expanding professors' pedagogical disciplines to increasing inquiry and research in their current respective disciplines and thereby adding to the knowledge base.

In spite of these early endeavors, faculty development programs remained few in number and type prior to the 1960s, and most instructors acquired new knowledge through experience (Lindquist, 1981). Then in the late 1960s, several factors converged to precipitate new approaches to faculty development: (a) increased student power in formulating policies, (b) criticism of the quality of teaching, (c) the appearance of more non-traditional students, and (d) the availability of new instructional approaches. Even so, these factors had little impact before 1970 and "development remained largely limited to such things as orientation of new faculty, sabbatical leaves, visiting professorships, and perhaps reductions of class loads" (Stordahl, 1981, p. 1).

During the 1970s these factors began to impact higher education more noticeably. For example, the increase in student power and in non-traditional student enrollment led to (a) increased variety of student interests, and (b) broader-based and more intense student criticism of

the quality of teacher instruction. In addition, declining financial resources led to calls for greater accountability. These factors virtually compelled faculty to change their instructional practices (Belker, 1983; Forman, 1989; Gaff & Justice, 1978; Morstain & Gaff, 1977), causing institutions to act accordingly to further develop the teaching capabilities of their faculty (Seldin, 1976).

The free-market competitive economic winds of the 1980s constrained higher education in general and community college higher education more specifically in several aspects: reduced clerical support, smaller travel budgets, and a 13% decrease in faculty earning power. Corroboratively, the trends for the 1990s that appeared on the horizon and influenced the context in which faculty development programs must operate, caused Schuster , Wheeler, & Associates (1990) to predict that the 1990s would see an increased emphasis on the personal dimension of faculty development. The authors also uncovered numerous new emerging trends that presented notable challenges to higher education overall: (a) cramped office space; (b) outmoded research instrumentation; (c) weak demand for humanities professors and the attendant consequence of restricted mobility among humanities faculty members; (d) increased demands for faculty to conduct research and write scholarly publications while simultaneously improving teaching and linking instruction more closely to the needs of industry; (e) increased demands to expand access and to offer remediation to students marginally prepared, while simultaneously imposing more rigorous academic standards and reducing expenditures for all students; and (f) increased aging of faculty members, resulting in a bimodal faculty age-spectrum which in turn constrained the opportunities for upward mobility and contributed to a deteriorating faculty morale (Schuster et al., 1990). Moreover, Eble and McKeachie (1985) noted that the age range of tenured faculty

would soar to between 56 and 65 by the turn of the century, with broad, long-lasting, and many yet-to-be-discovered implications.

The convergence of such constraining factors forged a new faculty development paradigm rooted in social-psychological-behavioral adult learning theories and which evidenced itself in augmented holistic development activities (Forman, 1989). In spite of this new paradigm on the horizon, university level faculty development in the 1990s has been largely characterized by the same approaches used in the 1980s. Eble and McKeachie (1985) and Forman (1989) pointed out that sabbatical leaves continued to be considered in most universities as the most adequate way to help faculty develop research skills and were thus widely endorsed and used. Since this is not appropriate for community colleges, it remains then for community colleges to take up the challenge of change and to harness the new paradigm's professional development approaches in configuring programs around the dynamics of community college goals.

Dynamics of Community College Faculty Development

Although emanating from the same social and economic winds, the dilemmas confronting faculty development at the community college level were configured somewhat differently from those confronting other higher education institutions. Factors more specific to the community colleges that shaped their faculty development efforts included: (a) reduced growth of new full-time faculty members, (b) low retirement rates, and (c) court decisions concerning dismissal of faculty (Cohen & Brawer, 1977; Forman, 1989). By 1976, the focus of community college faculty development had shifted back toward teaching and instructional improvement and away from the research emphasis that characterized university faculty development. In a 1976 study,

Centra found that (a) over 60% of higher education institutions in the United States (two-year and four-year colleges) offered faculty development programs; and (b) such programs consisted primarily of sabbatical leaves, consultations by experienced faculty, instructional assistance, and assessment of teachers. At the two-year institutions, however, instead of activities related to personal and professional development, attention was focused primarily on teaching and learning (Centra, 1976; Schuster, Wheeler, & Associates, 1990).

The same economic and social forces of the ‘80s and ‘90s decades--forces that expanded missions while constraining resources--impacted community colleges as well as universities. For example, Shawl (1984) noted in a paper presented at the Annual Convention of the American Association of Community and Junior Colleges, that the two-year institutions were experiencing periods in which junior faculty members were being laid off and seasoned faculty were simultaneously being asked to work in disciplines that were not compatible with the student needs according to enrollment patterns. This indicated a need to use faculty development activities to prepare and help faculty to meet the needs of their students.

The difference between university response and community college faculty development response to the social and economic constraints, issued in part from differences in community college and university teaching as explored by Kelly (1990). He noted that community college faculty typically taught the equivalent of 15 hours every semester and had little time for research, publication, or other professional work. Not only did community colleges not provide reward structures that encouraged scholarly publication or involvement in research in one’s discipline, but they also almost automatically granted tenure in the first few years of teaching based only an

evaluation of teaching, unlike university tenure which demanded abundant peer reviewed publications. Such was the environment into which several reports debuted and earlier studies resurfaced, underscoring community college concerns and faculty needs.

First, in *Building Communities: A Vision for a New Century* (1988), the American Association for Community and Junior Colleges discussed the pressing need for faculty development in community colleges. This report indicated that the average full-time faculty member was 50 years old with more than 10 years of teaching experience and felt out of touch with colleagues in his or her discipline. Hence, the study recommended that 2% of the instructional budget for full- and part-time instructors be set aside for faculty development activities in the form of grants to be used in designing faculty renewal plans and instructional programs that integrated technology and fostered active and/or collaborative learning. Second, Seppanen (1990) surveyed 2,684 community college faculty in the state of Washington and found that the highest interest area for all faculty regardless of discipline, level of experience, or gender centered around activities that involved working with students.

Corroborating studies resurfaced from the 1970s and 1980s that added additional insights. Caffey's (1979) study of full-time faculty underscored (a) the preference for goals associated with the teaching performance of faculty, and (b) the lack of enthusiasm for goals related to overall institutional concerns. Caffey had faculty rate the desirability of 19 activities. Six activities received ratings of desirable or very desirable from at least 90% of the respondents: (a) travel to attend professional meetings, (b) leave for advanced study or for working on new instructional materials, (c) graduate courses offered on or nearby the campus of participants, (d) a

professional collection in the library, (e) orientation programs for faculty new to the school, and (f) released time for instructional development projects such as designing a new course or program.

Additional studies surfaced which dealt with types of development activities in which faculty participated. Bowes (1978) surveyed all 284 full-time faculty members at four northwestern Illinois community colleges regarding their participation in faculty development activities. Although 67.4% of the faculty members who responded had taken a credit course within the preceding two years, the activities recording the highest percentage of participation were informal meetings among faculty members and personal reading, writing, viewing, and listening.

Adding to this corroborative mix of studies were several more studies from the 1980s that provided a richer context for the 1990s developing paradigm. First, Hansen (1983) addressed faculty development activities, their evaluation, and perceived impact on the improvement of instruction in the community colleges of Illinois. The chief academic officers at all the state's community colleges were surveyed. The results showed that (a) a wide variety of activities were available to faculty, and (b) a perception among respondents that external professional activities were somewhat more useful than in-service activities. Such findings led the author to conclude that traditional in-service-type activities may not be the best way to deliver faculty development.

A second study by Friedlander and Gocke (1985) surveyed all faculty at Napa Valley College. Each respondent was asked to identify the types of activities that should be offered. Professional conferences, workshops, and seminars were the most frequently mentioned need,

listed by over 80% of the faculty.

A third study undertaken by Richardson and Moore (1987) in Texas was similar in nature to the Hansen (1983) study in its concern primarily with activities and programs designed to improve instruction. The investigators placed activities into three categories: (a) orientation activities designed to launch an academic term or year; (b) other on-campus activities including workshops, teaching consultations, formal growth contracts, mentoring, personal development and enrichment programs, institutional grants for instructional projects; and (c) off-campus activities such as sabbaticals, exchange programs, retreats, support for graduate study, and attendance at professional meetings. They found that faculty development activities were encouraged or mandated with limited funding. Moreover, Richardson and Moore (1987) noted that the faculty development activities perceived as most useful to faculty were all day programs for full-time faculty, personal enrichment programs, multi-session workshops/seminars and released time to develop instructional projects.

Finally, a fourth study by Giordano (1988) showed that even though faculty development activities were used in most Illinois community colleges, few of the colleges had formalized the activities to the extent of establishing programs with goals and evaluations. The author also found that the main planners of faculty development activities were administrators and that the programs were largely under-funded. Moreover, Giordano noted that more than half of the colleges used participation as a criterion in faculty evaluation, and over 80% of them required faculty participation.

Thus, community colleges during the 1970s and 1980s were propelled by many social and

economic forces discussed earlier to reexamine their faculty roles through the prism of two constraining and opposing trends--first, the increased enrollment levels and demographic diversity of students; and second, the decreased budgetary resources allocated to education. To meet the challenge of reconciling the opposing trends, researchers focused on discerning how best to maximize the talents of faculty and engage them in productive faculty development and life-long learning. Shawl (1984) observed that faculty who were not motivated or were ill-prepared to teach a course to which they were assigned, diminished the instructional benefits otherwise deserved by students. Such situations he contended must be corrected in order to simultaneously lower costs and improve instruction. Moreover, Shawl theorized that faculty development should be at the center of any corrective initiatives and should include opportunities for instructors to (a) develop new skills, (b) keep up with rapid increases of knowledge in their fields, (c) develop an understanding of instructional software, and (d) if necessary, retrain in a new field. Thus, community colleges spearheaded the emerging faculty development changes in higher education--changes that require accountability, flexibility, and a strong empirical knowledge base from which to design and launch new initiatives. Next, a closer look at faculty development initiatives in the Virginia Community College System frames the delimited parameters of the present study.

Faculty Development in the Virginia Community College System

A 1993 study by the VCCS Professional Development Task Force provided information about current professional activities, professional development goals, institutional support, and demographics. Each of the twenty-three colleges in the VCCS were surveyed during the fall and

winter of 1992-1993. The data obtained provided information about the different approaches to professional development employed by each institution (VCCS Professional Development Task Force, 1993). Among the findings from this study, one revealed that few respondents spent more time engaged in individual activities such as reading journals and collaborating with colleagues than they spent in formal activities such as conference attendance and course work. As a preferred activity, though, conference attendance did rank high, with 88% indicating they had recently attended a conference and 93% indicating they would likely go to a conference in the future. Fewer than two-thirds of the respondents reported having participated in any formal activity other than a conference. College-sponsored workshops, summer institutes, and course work were items that respondents would participate in if given the opportunity (VCCS Professional Development Task Force, 1993). The least frequently pursued or desired activities, according to the respondents, related to scholarship and research, with slightly more than 50% indicating they had never published an article or book and also had never applied for a research grant. Other findings indicated that nearly 86% of all respondents said that they were planning to pursue professional development activities in the upcoming year. Moreover, almost all (98%) indicated they hoped to increase the effectiveness with which they performed their jobs and to increase their knowledge of new developments in their fields (also 98%). Nevertheless, over 70% cited lack of time and money as factors impacting most adversely their ability to participate in professional development activities that were offered to them (VCCS Professional Development Task Force, 1993). This means that faculty will be faced with the challenge of increasing their technical knowledge and improving their instructional skills with a limited supply

of time and money.

Other findings were related to the influences of particular variables including gender, age, teaching experience, position, and type of courses taught, on professional development activity. Of these findings, there were significant differences relating to gender, age, and teaching experience. The results suggested that women were significantly more involved in group-oriented activities--such as conference and workshop participation and course work--than men (VCCS Professional Development Task Force, 1993). Because of significant differences in current levels of achievement, women reported the acquisition of higher rank and a higher degree as more important professional goals than did men. Women also cited less involvement in scholarship and research.

The findings on age and teaching experience indicated that faculty 50 years of age and older with 20 or more years experience spent less time involved in professional development activities (VCCS Professional Development Task Force, 1993). There are many factors that influence older faculty late in their careers, such as; decreased energy and other physical effects of aging, the accumulation of commitments, and changing family relations (VCCS Professional Development Task Force, 1993). Baldwin (1990) noted that senior faculty solve problems independently and thus, are less likely to participate in formal professional development activities.

Additionally, the findings revealed differences in the professional development activities pursued by faculty who teach transfer-credit courses compared with those who teach occupational-technical courses. Transfer faculty were more likely than technical faculty to have

participated in scholarly work and less likely to have recently completed a university credit course. Occupational-technical faculty were more involved in different professional activities such as student recruitment, professional and civic club participation, and interaction with outside agencies. Also, 45% reported having completed a university-credit course within the last three years. Relatedly, 48% of occupational-technical faculty cited obtaining a higher degree as "somewhat important" or "important," and 72% said it was "somewhat likely" or "likely" that they would pursue university credit courses if given the opportunity. Not surprisingly, occupational-technical faculty are more interested in internships; 48% (compared to 29% of academic faculty) said it was "somewhat likely" or "likely" that they would pursue an internship if given the opportunity.

Aside from these differences, the development activities most recently undertaken (within the past three years) by occupational-technical faculty appear relatively similar to those of their academic counterparts, as confirmed by a 1991 professional development activity survey of community college occupational-technical faculty conducted Hoerner, Clowers, Lichtman, & Allkins for the National Center for Research in Vocational Education. Nonetheless, an earlier study conducted in South Carolina could inform Virginia's community college faculty development needs profile. The 1988 South Carolina study conducted by Russell, Cox, Williamson, Boismier, & Javitz of their two-year technical college faculty revealed that occupational-technical faculty were required to demonstrate (a) proficiency in occupational skills as well as in laboratory/shop management tasks; and (b) the ability to maintain instruments, equipment, and supplies. The researchers concluded that obvious differences in the

development needs of occupational-technical faculty and academic faculty indicate "that attention should be given and provisions made for such differences, as feasible, in both the preservice preparation of vocational-technical faculty and in their professional development activities" (Russell et al., 1988, p. 180).

Having explored the specific studies related to Virginia's community college faculty development activities and ascertained accordingly the nature of interrelationships among academic and technical instructors, demographics, preferences, and potential faculty development needs, this investigator now turns to a review of faculty development models. An examination of several important, theoretically sound models provided the context from which the conceptual framework for the present proposed study evolved.

Classifications and Models for Faculty Development

Faculty development is a comprehensive term that covers a wide range of activities. Its definition varies depending on the model that frames the construct from which it issues. Narrowly described, faculty development activities are intended to help faculty members improve as teachers and scholars (Eble & McKeachie, 1985). In a broader sense, it encompasses those activities ultimately designed to improve college instruction (Gaff, 1975). The Gaff model identified three categories of faculty development: (a) development activities such as seminars, workshops, and teaching evaluation; (b) instructional development projects that result in new learning materials, redesign courses, and new student assessment methods; and (c) organizational development programs that create effective organizational environments for teaching and learning.

Berquist and Phillips (1975) created a model similar to Gaff's, consisting of four

dimensions: (a) personal development, (b) instructional development, (c) organizational development, and (d) curriculum development. Also in 1975, Toombs described faculty development as consisting of three similar dimensions--professional development, curricular development, and institutional development. Likewise Rostek and Kladivko (1988) developed a three-dimensional model for staff development at the community college level. The first dimension consisted of pedagogical, technical, remedial, and personal growth needs. The second dimension addressed changing situations, including new technologies and new employees, and how these led to new development needs. The third dimension noted the importance of different categories of community college personnel--namely academic instructors, non-academic instructors, and administrative staff members. Upon closer examination, one can distill from the model two focal points--situations involving the dynamics of (a) change and (b) need. The change-dynamic of model development surfaced when O'Banion (1981), the Executive Director of the League for Innovation in the Community College, viewed faculty development as a force for institutional change. He suggests the thesis that "staff development leads to improved program development and organization development which lead to improved student development" (p.4). Certainly, a part of that change resulted in improved faculty performance. The need-dynamic expressed itself in additional models. Kolb (1984) suggested that staff development was a process rather than a product and, congruent with his experiential learning theory, Kolb contended that ideas and activities were not fixed, but were formed and reformed through each new learning experience. Moreover, he hypothesized that if we failed to modify ideas and habits as a result of experiences, the learning process in staff development would break

down.

Similarly, Fullan and Connelly (1989) reported that those involved in faculty development must think and act more holistically about the personal and professional lives of faculty as individuals. Many faculty development projects provide temporary resources and incentives for particular changes. Faculty development, according to Fullan and Connelly, became the sum total of formal and informal learning experiences accumulated over the years of a faculty member's career. The National Council for Staff, Program and Organizational Development (NCSPOD) (1991), endorsed a comprehensive and systematic approach to faculty development--namely, ongoing professional development activities for all college personnel (faculty, staff, and administrators). Moreover, the council outlined such a comprehensive faculty development program that incorporated elements for promoting faculty growth, improving student learning and creating an effective environment for teaching and learning. Having examined such models as described above, this investigator proceeded to conceptualize a model for the present study, selecting those constructs that best framed the study's purpose, parameters, and methodology.

Theoretical Frame of Reference

This study draws from and builds upon the rich heritage of professional development, but more specifically on recent conceptions of professional development in an era of educational reform. Finch (1990) took a rather generic view in noting that professional development was in the process of evolving into a more comprehensive set of phases that included needs, focus, delivery, and impact. Needs are "derived from the contexts within which professional

development will take place and the types of potential professional development recipients" (p. 6). Focus is driven by needs and context as well as content to be delivered and potential benefits to recipients. How professional development is delivered thus becomes a function of needs, focus, context, potential delivery modes, and potential delivery settings (Finch, 1990). And finally, assessing professional development's impact is a function of context, needs, focus, and delivery (Finch, 1990). This study will give consideration to the perceptions of occupation-technical faculty benefits and the benefits of their students, and the contexts within which these benefits were generated, the focus of professional development, the various ways that professional development was delivered, and its impact.

Finch, Schmidt, & Faulkner (1992) presented a vision of an evolving professional development paradigm. This paradigm applied to vocational teachers and how their professional development needs should be met. This paradigm has been applied to this study representing community college faculty. Included in this paradigm is an emphasis on "continuous rather than intermittent professional development activities, informal opportunities for professional development, and teacher self-governance and decision-making in meeting professional development needs" (Finch, 1992, p. 5).

Support for the paradigm upon which this study is based may be found in several sources, including Darling-Hammond and McLaughlin's (1995) discussion of policies that contribute to professional development in the context of comprehensive educational reform; Little's (1993) comprehensive essay on professional development in a climate of educational reform; and Sparks' (1994) discussion that documents reasons for a paradigm shift in staff

development.

Ultimately, the impact of professional development must emphasize how well students are helped. Many of the people interviewed in the Finch et al. (1992) study were able to link professional development with meaningful student outcomes. This offers some evidence that educators and others can describe ways that professional development experiences have a positive impact on students. Finch, Schmidt, & Faulkner (1997) listed suggestions for ensuring that professional development impact is incorporated in the development process:

1. In addition to documenting what teachers' (faculty) professional development outcomes should be, it is important to specify what impact this development will have on student outcomes.

2. Encourage teachers (faculty) to document how their professional development experiences have helped them and have had a positive impact on their students.

3. Encourage teachers (faculty) to describe what experiences were less beneficial to them and had less impact on their students. Information about which experiences are not as beneficial and how they may be improved can assist in making professional development more effective (pp 45-46).

Research Methods

The primary purpose of descriptive research to is identify what exists. Many researchers continue to cite Leedy (1974) and Best (1970) who both provided a detailed description of descriptive research. Leedy lists four characteristics inherent in the proper design and usage of descriptive surveys. These will be explained in detail in Chapter 3. Best (1970)

noted that descriptive research describes and interprets what is. He also states that descriptive research is concerned with conditions or relationships that exist, beliefs, prevailing practices, on-going processes, effects being felt, or developing trends (Best, 1970).

An abundance of literature exists pertaining to survey research in which the guidelines for the development of questionnaires are presented. Wiersma (1991) discussed the steps involved in survey research and the activities that are often involved in the construction of questionnaires:

1. Development of items
2. Development of analysis procedures
3. Pilot test
4. Item revision

The most difficult task the researcher has is deciding which specific items to include. The consensus among researchers is that a shorter questionnaire will be more effective because respondents are more likely to complete and return a shorter survey (Nickens, 1980). An instrument, therefore, must contain only those items necessary to answer the proposed research questions (Wiersma, 1991). Researchers should conduct a literature review and consult colleagues and other professionals while determining which items to include (Wiersma, 1991).

The individual survey items can be open-ended or forced choice. Frary (1991) stated that open-ended items allow for a more varied response and lead to more difficulty in the tabulation of data, however, they can be used to reveal important information. Frary (1991) also mentioned that open-ended questions should be used when there are fewer than 50 subjects. Wiersma (1991) noted that forced choice items limit obtainable responses and therefore should be

used to the extent in which they yield more accurate information.

After selecting which items to include, the questionnaire needs to be pilot tested. According to uncover problems that may exist with individual items (Wiersma, 1991 and Nickens, 1980). Problems could result from redundancy, ambiguity, or confusion. Wiersma (1991) noted that a random sample of the population is not necessary in pilot testing a questionnaire, but that it should be conducted with individuals who are familiar with the variables included in the study.

Collecting accurate data via a mail survey is a difficult task. The primary weakness inherent in survey research is the problem of non-response. A high level of non-response as indicated by Wiersma (1991) can bias the results of a survey. Considerable literature exists about four prevailing themes (sending an advance letter; providing incentives; providing a personally worded cover letter; and following up on non-responses) that researchers can follow which will minimize biased results.

Nickens (1980) and Bourque and Fielder (1995) advocated sending an advance letter introducing and describing the upcoming survey. The purpose of this is to alert respondents to the importance of the upcoming survey and stress the importance of their response. Nickens (1980) noted that earlier research provided evidence that an advance letter increased the rate of return.

Bourque and Fielder (1995), Nickens (1980), and Wiersma (1991) mentioned that incentives may be used to increase return rates of mailed surveys. Monetary incentives, however expensive, are especially effective due to their ability to capture attention (Erdos, 1983).

The rate of return can also be increased by providing a personally worded cover letter along with a self-addressed stamped return envelope (Nickens, 1980; Erdos, 1983). The cover letter must be personable and stress the importance of the research project. Additionally, as stated by Erdos (1983), the cover letter should also stress the importance of each individual's response, include a statement of confidentiality, provide a deadline, and express gratitude and appreciation for timely responses.

Following up on non-responses can further reduce the number of non-responses. Bourque and Fielder (1995) and Erdos (1983) discussed the processes involved in conducting non-response follow-ups. According to Erdos (1983), a routine reminder should be sent three to five days after the initial mailing, whereas Bourque and Fielder (1995) state that a period of approximately 10 days is more appropriate. Three to four weeks after the initial mailing, another instrument should be sent. According to Erdos (1983) and it should be sent only to those who have not responded. Bourque and Fielder (1995) recommend sending another slightly different cover letter with the instrument during this stage. Bourque and Fielder (1995) recommend a third follow-up mailing 5 to 6 weeks after the initial mailing. According to Erdos (1983), Bourque and Fielder (1995), after three follow-ups have been conducted, any additional follow-ups, which can be conducted by mail or telephone, may only slightly increase the response rate. Thus, it is acceptable to end the data collection process seven to nine weeks after the initial mailing (Bourque and Fielder, 1995; Erdos, 1983).

Chapter Summary

This literature review began by highlighting the historical factors at work when faculty

development first came into existence at universities, long before the birth of community colleges as we know them today. From the historical view, the investigator then focused on studies related to faculty development at the community college level, noting both similar and dissimilar trends and their impact on the nature and scope of faculty development activities at that level. Next, a more specific focus on Virginia's Community College System was undertaken, specifically addressing its efforts to ascertain the levels of faculty development needs and the extent to which different types of initiatives were meeting those needs--considering the fast pace of change in technology and the community college mission of preparing workers for the 21st century. Finally, the investigator examined sundry faculty development models, identifying elements in each--some similar, some dissimilar--that emerged as constructs in an overarching comprehensive and holistic framework. Within such a framework the present study will be empirically conducted and its findings analyzed to elucidate the research questions and add to the important knowledge necessary for policy makers to design faculty development initiatives in which the benefits can be documented to be cost effective. Chapter 3 describes (a) the methodology used in the study; (b) why the methodology was selected; (c) how the findings, used in answering the research questions, will also be useful toVirginia's community colleges; and (d) the potential implications for broader application if similar studies in other states yield similar findings.

Chapter 3

METHOD

Introduction

This chapter describes the methodology that was used in the investigation and proffers a rationale for its structure and design. In doing so, the researcher describes why a dual approach--encompassing both quantitative and qualitative research--was desirous and indeed was indicated by the conceptual framework on which the study was based and by the scope and parameters of the study's purpose. Additionally, this chapter details the methodological processes for gathering and analyzing the information used in the study—both quantitative and qualitative. Finally, this chapter previews the results discussed in Chapter 4, and highlights how those results inform the conclusions and implications described in Chapter 5.

Research Design

The research design most congruent with the purpose and scope of this investigation was primarily descriptive in nature, encompassing both quantitative and qualitative methods of information gathering and analysis. First, consider one goal of the study--to discover "What exists?" as outlined by Borg and Gall (1983). Before assessments could be undertaken and new programs developed based on those assessments, information had to be gathered and analyzed regarding current faculty participation in--and benefit derived from--existing types of professional development activities. Additionally, descriptive studies frequently describe rudimentary groups of things by comparing and contrasting similarities and differences in

behaviors and attributes (Borg & Gall, 1983). Such was the nature of the documentation needed for this study—comparing faculty members' perceptions of benefits that they (directly) and their students (indirectly) had derived from participating in one or more of 12 types of professional development activities.

Furthermore, the investigator also tabulated demographic factors—gender, age, and experience—and examined them comparatively by (a) the quantity and types of professional development activities in which the respective groups engaged, and (b) the extent to which the respective groups believed they had derived benefit from having participated in those activities. Finally, Leedy (1974) described four characteristics inherent in proper designs and uses of descriptive surveys, all of which dovetailed with the limited scope and parameters of this study:

1. *Situations requiring observation as the primary way to collect information.* The participants in this study had observed their own and others' participation in sundry activities and were asked to recollect benefits derived in the form of attitudinal or behavioral change or knowledge gained as a result of the participation.

2. *Situations with discrete, carefully selected, precisely defined, and delimited parameters*. Twelve discrete types of professional development activities were identified and defined for the participants in this investigation.

3. *Questions structured so as to reduce the susceptibility of distortion through introduction of bias*. The questions in this investigation were reviewed by the members of the graduate committee and were pilot-tested with faculty at New River Community College to insure their integrity and absence of bias.

4. *Questions organized and presented systematically, thereby insuring accurate findings and credible conclusions*. As indicated in the preceding paragraph, the investigative questions were rigorously reviewed by the committee members, and the survey was pilot-tested, thereby insuring a well-organized, systematic presentation from which accurate and valid conclusions were drawn.

Congruent with the four characteristics of descriptive studies, both quantitative and qualitative methods were adopted to collect and analyze the information as delineated in the paragraphs that follow.

Quantitative Collection and Analysis of Information

Target Population

A faculty development survey (Appendix A) was administered to full-time occupational-technical faculty members in the 23 community colleges in the Commonwealth of Virginia. Moreover, the survey covered two instructional domains with recipients representing degree, certificate, and diploma programs in each domain: (a) 11 in Business Technology, and (b) 14 in Engineering and Industrial Technology (Appendix C). The choice of these two domains was rooted in their overarching mandate to sufficiently arm students with meaningful and productive knowledge and skills necessary for them to thrive in the 21st century's global economy and high-tech, fast-changing workplace. This study thereby extends at least one facet of the multi-faceted knowledge-base needed for building a sound occupational-technical professional development domain. The information collected included: (a) faculty perceptions of benefits accruing to themselves, directly, and to their students, indirectly, from faculty participation in professional

development activities; and (b) pertinent demographic information about the survey recipients (age, gender, teaching experience).

Delimiting Time and Participant Parameters

The target population described above was limited to full-time occupational-technical faculty who taught at the twenty-three community colleges in the Virginia Community College System (VCCS) during the 1998-1999 school year. The VCCS human resources office provided a list of such faculty members. The numbers may vary each semester during the year, but the total number of names on the roster was 407. Although part-time faculty bring valuable real-world work experience and high levels of technical knowledge to their teaching roles, most have less classroom teaching experience and thus may lack the well-honed pedagogical skills that their full-time counterparts possess. Hence, because part-time faculty appear to be systematically different from full-time faculty, this study did not include part-time instructors as participants in the target population to be surveyed. Instead, all full-time faculty in the two selected disciplines at each of the 23 community colleges were sent a survey. Accordingly, the total population for the study consisted of 407 full-time faculty professionals from two instructional domains—256 from Business Technology, and 151 from Engineering and Industrial Technology (see Appendix C).

Survey Instrument—Design and Pilot-Testing Process

Using contemporary research methodology, the investigator designed a survey instrument to collect information about faculty development as described above. The following procedures

guided the instrument design process:

1. A review of several previously used faculty development surveys led to the identification of possible questions and items pertinent to the proposed study (Benoit, 1995; Gill, 1993; Mulligan, 1994; Paterno, 1994; Rubino, 1994; Saret, 1993; VCCS Professional Development Task Force, 1993).

2. The investigator's selection of faculty development activities to include in the current instrument, insured consistency in terminology between the instrument and the VCCS guidelines.

3. Individual items were constructed to gather the data necessary for answering the research questions.

4. The investigator's doctoral committee reviewed the first draft of the instrument to ascertain primarily (a) how much time would be needed to complete the survey; (b) its methodological integrity, especially freedom from bias; and (c) its estimated ease of completion.

5. In order to identify problem issues or clarify any inherent ambiguities that may not have been detected by the investigator or his doctoral committee members, the instrument was pilot-tested prior to gathering information for this study. The pilot test was administered to 9 occupational-technical faculty (5 in Business Technology, 4 in Engineering and Industrial Technology) at New River Community College. Since faculty in Business Technology represent a larger proportion of the total sample than Engineering and Industrial Technology faculty, one more member from Business Technology was included. The choice of 9 total participants in the pilot study was based on a number that the researcher believed to be large enough for viability as a pilot study and small enough for an expedited, short time span for collecting the pilot-study

data.

The pilot study included faculty members who teach in Business Technology and Engineering and Industrial Technology. Moreover, they had participated in at least one—and were knowledgeable about all—of the 12 faculty development activities cited in the survey (Appendix A): (a) Professional Conferences; (b) College Sponsored Presentations and Workshops; (c) Summer Institutes; (d) University Credit Courses; (e) Internships or Exchanges in Business, Industry; (f) Academic Exchanges; (g) Training in Computer Skills; (h) Sabbatical Leaves; (i) Retraining for Fields in Technology; (j) Publishing Articles or Books Based on Research or Teaching; (k) Conducting Funded Research or Development Projects; and finally, (l) , any Other Activities not previously named. The feedback from the pilot test was used to make any necessary modifications. The modifications made were minor in nature, involving word changes to the list of activities, specifically, adding "back-to-practice" with internships in business/industry. Participation in the pilot test did not eliminate faculty from being participants in the official study. This was because eliminating those who participated in the pilot test would have meant that the researcher would no longer have a population which included all full-time occupational-technical faculty.

Mail-Survey Instrument

Part 1 of the survey instrument (Appendix A) solicited from participants (a) their respective frequency of participation in faculty development activities (which addressed Research Question #1), (b) the personal benefits they derived from such participation (which focused on Research Questions #2 and #4), and (c) the benefits they believe accrued to their

students by the respondents' participation in the listed activities (which dealt with Research Question #3 and #5). Specifically, each survey recipient was asked to respond to a list of 12 faculty development activities. The 12 activities on the list are a mixture of specific skills and methods of delivery. For example, training in computer skills is a specific skill, and professional conferences and college-sponsored presentations and workshops are methods of delivery. However, these activities which are seen as methods of delivery are very broad and cover many different subject areas and skills. From this list, they indicated those activities in which they had participated during the previous three years. Then the participants rated each activity according to the degree of benefit they had derived as participants, and the corollary benefit they believed had likely accrued to the students whom they subsequently taught. A 4-point Likert scale was used, with *1* indicating *no benefit* and *4* assessing the activity as *very beneficial*.

In addition to uncovering perceptions about different kinds of professional development programs, this study further probed the interrelationship between those perceptions and one or more of several demographic variables (used to help answer Research Questions #4 and #5) which have historically impacted such perceptions. For example, the 1993 study by the VCCS Professional Development Task Force reported findings related to age, gender, and longevity. Women were significantly more involved in group-oriented activities and less involved in scholarship and research. Thus gender was included in this study to ascertain if gender differences impacted perceptions of the occupational-technical faculty in the Virginia Community College System.

Similarly, in *Building Communities: A Vision for a New Century* (1988), the American

Association for Community and Junior Colleges discussed the pressing need for faculty development in community colleges. The study noted that the average full-time faculty member was 50 years old with more than 10 years of teaching experience, and surmised that many felt out of touch with colleagues in their respective disciplines. Hence, this study attempted to ascertain whether or not the findings of the 1988 report were consistent with the findings from this (1998) study of occupational-technical faculty in Virginia's community colleges.

Part 2 of the survey instrument therefore contained four demographic variables that were likely to interrelate with—and impact on—the perceptions gathered from Part 1. Hence, these variables were tabulated and analyzed, accordingly. They consisted of (a) teaching experience, (b) teaching area (field-specific), (c) age, and (d) gender. The variables of teaching experience and age were expected to be related to some extent. However, not all participants who are the same age had the same amount of teaching experience. While the variables of teaching experience and age were expected to be related to some extent, not all participants who were the same age had the same amount of teaching experience. Thus, both variables—teaching experience and age—were needed.

Mail-Survey Procedures and Protocol

After the official faculty roster had been received and the questionnaire items had been finalized and approved by the VCCS, the mail-survey data collection began. The data collection process lasted 6 weeks, from February 27, 1999 to April 8, 1999. The surveys and cover letters were initially mailed to deans and provosts, who then distributed them to the occupational-technical faculty under their supervision. The participants received from their respective dean or

provost (a) the professionally-printed instrument with an attached cover letter describing the study in depth, and (b) a self-addressed, stamped envelope for returning the completed instrument. As an added incentive to participate, a one-dollar bill was included with a note inviting participants to have a cup of coffee or soft drink--compliments of the researcher—while relaxing, reflecting, and completing the survey.

As recommended by Bourque and Fielder (1995), all participants received a reminder letter approximately 8-10 working days after the initial mailing. This follow-up letter (a) restated the importance of the study, (b) encouraged respondents to invest a few moments of their time to complete the instrument if they had not done so already, and (c) expressed gratitude to those who had completed the instrument.

Coding was used to assist in the non-respondent follow-up process and to maintain confidentiality. Each survey was given a four-digit code. The surveys were coded to indicate the participating community colleges and number of faculty being surveyed at each. Although there are 23 community colleges in the Virginia Community College System, some colleges have more than one campus. Thus, the coding included 34 campuses in the Virginia Community College System. The campuses were coded in alphabetical order from 01 to 34. Next, the researcher, using the list of participants received from the VCCS, gave each participant at each campus a number, which corresponded to the last two digits of the four-digit code. For example, Blue Ridge Community College, which was coded 01, had 10 participants so the codes ranged from 0101 to 0110. The researcher did not need to code the participants by field, because that was indicated on the list received from the VCCS.

A follow-up letter was mailed 8-10 working days after the reminder letter (16-20 days after the initial mailing) to participants who had not completed the instrument. As with the initial letter, this reminder letter included another copy of the initially mailed questionnaire. This cover letter encouraged participants to respond and thanked them if they had already done so. Finally, after 8-10 more working days, as recommended by Bourque and Fielder (1995), a third follow-up mailing was made to non-respondents. This occurred 24-30 working days after the initial mailing and consisted of another different cover letter encouraging participants to respond and thank those who already had. The time-line and action-taken information is charted below:

Week	Action	Actual Date
1	Initial Mailing	2/27/99
2-3	Reminder Letter	3/10/99
4	Letter and 2nd Instrument	3/22/99
5	Third Follow-up mailing (letter)	3/31/99
6	End data collection	4/8/99

Non-Respondent Follow-up

Of the 407 surveys sent to full-time occupational-technical faculty in the Virginia Community College System, 332 surveys were returned for a 81.6% response rate. When no more participants appeared to have been persuaded by the previous efforts to respond to the survey, the researcher performed one more follow-up procedure—contacting 22 out of 75 (29%) of the non-respondents. Although the literature cites a 10% non-respondent follow-up pool as typical, the researcher chose to contact a higher rate, inasmuch as the total number of non-

respondents had been low. For example, the number of non-respondents was 75. Thus, based on 10%, 7.5 or 8 of the 75 would be contacted by phone for non-response follow-up. Clearly that was not enough to accurately judge the non-response group. In this case, in order to get better estimates of the non-response group, the researcher contacted 22 (29%) of the 75 non-respondents.

Using a table of random numbers, the researcher chose the 22 individuals from the pool of 75 non-respondents and proceeded to conduct the telephone follow-up. The non-respondents were numbered from 01 to 75. At a randomly selected a starting point in a table of 5-digit random numbers, every third number was selected until 22 non-respondents were selected. The last 2 digits of the 5-digit numbers were used. Since there only 75 non-respondents the situation arose where the last two digits were higher than 75. When that happened, the 3rd digit of the five digit number was used. If the 3rd digit was a 8 or 9, then the second digit was used and so on. Only in 1 case did the researcher have to go beyond the 3rd digit of the 5 digit number.

Each non-respondent was contacted by telephone and asked the same questions. The researcher asked the non-respondents for the following information: (a) which activities (from the list in Appendix A) they participated in during the previous three years; (b) which activity they believed was the most beneficial to them personally, (c) which activity they believed was most beneficial to their students; and (d) how long (in years) they had been teaching. These questions were selected to gather data on the demographic variable of teaching experience (the researcher felt it was not appropriate to ask people their age over the phone due to the personal nature of the question). In order to limit the amount of time spent on the phone with non-

respondents, the researcher did not ask the non-respondents to rate each activity, but asked them to indicate which activities they participated in during the last 3 years, which activity was most beneficial to them personally, and which activity most benefitted their students as a result of their participation.

Bourque and Fielder (1995) noted that a non-respondent comparison can sometimes provide the investigator with a profile of the non-respondents, thereby enabling the investigator to discern similarities and differences between the respondent and non-respondent groups. The non-respondent versus respondent comparison was studied, and the comparative information included in the analysis of the data. The non-response follow up took 3 days to complete and was conducted after all the data had been collected.

Analysis of Survey Responses

The Statistical Package for the Social Sciences (SPSS) was used to analyze the data collected from the survey. In addition to owning and using the SPSS software program, this investigator recognized that the program's widespread availability and use among university researchers nationwide would facilitate replication of the study by others. Descriptive statistics, using frequencies, medians, and means, were used to answer the research questions 1 through 5. Tables were developed which showed the demographic variables of the study (Tables 1-5), the frequency of participation in faculty development activities (Tables 6-10), the average rating of personal benefit for each activity (Likert scale of 1-4, Table 11), and the average rating of perceived student benefit for each activity (Table 12). Results were computed for both groups, Business Technology faculty and Engineering and Industrial Technology faculty.

The personal and student benefit ratings were analzyed by age, gender, and teaching experience in answering Research Questions #4 and #5. The top 5 most participated-in activities were then selected for further analysis (Tables 13-34). The cutoff was based on the quantity of data provided—each of the top 5 activities had over 50% participation rate among respondents. Some activities had minimal particpation. Thus, in order to have enough data to analyze, the researcher used the top 5 activities (in terms of participation). The mean personal benefit rating for each of the top 5 activities was calculated. The next step was to analyze each mean by each of the respective variables—age, gender, and teaching experience, independently. Three categories were used for age and teaching experience. The last step analyzed the data by the two instructional fields represented: (a) Business Technology and (b) Engineering and Industrial Technology. Multiple comparisons between individual (professional development activity) group means were then conducted.

Age was analyzed using the following three age brackets: 29-45, 46-57, and 58-76. The three age brackets were selected to distinguish the responses and participation rates of faculty of different ages, and provide enough responses in each of the three brackets for analysis. The researcher wanted one group of younger faculty, one group of older faculty, and one group of faculty who were near the mean age for faculty (51.4). Thus, by having these age brackets, the researcher could more accurately answer the research questions by showing differences among these groups. The personal benefit and perceived student benefit ratings in each activity were analyzed for both males and females. Teaching experience was divided into three experience-range groups (in years): 1-10, 11-25, and 26-36. As with the variable age, the researcher set the

teaching experience brackets to have one group of less experienced faculty (1-10), one group of more experienced faculty (26-36), and one group near the mean years of teaching experience (11-25). This three brackets of teaching experience allowed the researcher to more accurately show the differences between groups of faculty (based on age and years of teaching experience) in order to answer the research questions.

In analyzing the results, the decimal places were carried out to tenths for tables 8, 9 and 10, and hundredths for tables 11-36. This was because the results in tables 11-36 were based on a 4-point likert scale, thus, by carrying out the results another decimal place, the researcher could more accurately analyze differences in the data. Based on the 4-point likert scale, the researcher considered differences in the data of more than four tenths as being significant differences. With a 4-point likert scale the largest difference that can occur is 3 (1.0 versus 4.0). In this study the highest mean was 3.93 (E & I Technology faculty for personal benefit in the "other" activity, table 11), and the lowest mean was 2.48 (E & I Technology faculty for student benefit in college-sponsored presentations and workshops, table 12). Thus the largest difference in this study was 1.45. However, almost all items compared in this study, except for tables 11 and 12, had differences that were less than 1, and many that were within one to three tenths.

Non-Response Bias

The researcher recognized the potential problems of non-response bias to the study. Differences between the two subgroups, Business Technology and Engineering and Industrial Technology, may exist. One of these differences could have been in the response rate. Currently, there are 256 participants in disciplines under the Business Technology heading

versus 151 in Engineering and Industrial Technologies. Those in Business Technology disciplines had only a slightly higher response rate than those in Engineering and Industrial Technologies, 82.8% versus 79.5 percent. Also, the researcher had to control for unequal sample sizes (N's). This is one of the reasons that the population was split into subgroups. The researcher limited non-response bias as much as possible by conducting non-response follow-ups and non-response comparisons (as stated previously). These methods were designed to summarize and contain the non-response bias.

Qualitative Collection and Analysis of Information

The survey responses provided the quantitative data needed to answer the research questions objectively. But because force-fit answers inherent in written survey designs cannot uncover and explore contextual factors that may have influenced the responses, the designs can be limiting as stand-alone research (Lewis, 1997). Hence, to compensate for such a constraint, this researcher conducted in-depth, semi-structured interviews with 20 participants in order to probe the nature and context of their responses. Open and closed questions were formulated to elicit the participants' recollections in a variety of areas, some of which evolved after the survey results were compiled and analyzed. Two examples of types of participant recollections needed were (a) why they felt a certain activity was highly beneficial, and (b) what specific events they could recall that may have demonstrated or elucidated benefits accrued to them or their students, benefits rooted in knowledge, behavioral, and attitudinal changes that likely resulted from participation in professional development activities. Citing Kerlinger (1986), Finch et al. (1991), and Schmidt et al. (1992), Lewis (1997) observed that the semi-structured interview could be

"superior to written surveys when the number of participants is manageably small; it allows the interviewer to probe for clarification and has greater overall flexibility in the data gathering process" (p.56). This researcher thereby attempted in the semi-structured telephone interviews to probe the nature of selected interviewees' objective responses and uncover important and meaningful insights that may have otherwise remained undetected and therefore unused.

Interviewee Selection

The researcher randomly selected 20 participants out of the 332 respondents, 10 from Business Technology and 10 from Engineering and Industrial Technology, for an in-depth interview. The researcher used a table of random numbers to select participants. Participants were divided into two groups, Business Technology and Engineering and Industrial Technology. Those in Business Technology were numbered from 1 to 211, while those in Engineering and Industrial Technology were numbered from 1 to 121. After randomly selecting a starting point in the table of random numbers, the researcher then selected every fourth number until 10 participants were chosen in Business Technology. The same procedure was used to select participants in Engineering and Industrial Technology.

The researcher then analyzed the data based on Ely, Anzul, Friedman, Garner, and Steinmetz (1993), citing Lincoln and Guba's (1985) guidelines, namely, that "when data repeat themselves, when the researcher has confidence that themes and examples are repeating instead of extending" (p.92), then collection is reasonably complete. Other markers of completeness, according to Ely et al. (1993) include (a) the point at which this researcher senses that he can accurately paraphrase and synthesize with integrity what the interviewees have vocalized during

the discussions, and (b) the point at which this researcher determines that all questions on the interview protocol have been explored in-depth and have thereby uncovered trends, themes, and their potential implications.

In collecting this qualitative data, the researcher was looking for information that (a) appeared to confirm or disconfirm the quantitative findings and (b) further elucidated the contexts in which those findings had emerged and plausible reasons for their emergence. Themes or patterns explored were those related to (a) reasons for participation in an activity, (b) the most favorable aspects of each activity, (c) the least favorable aspects of each activity, (d) changes in instruction and instructional materials, and (e) the nature of activities participated-in (group activities or individual activities). Information in these areas intersected with those on the written survey. Nevertheless, because the responses were not limited to force-fit answers, the researcher was able to probe deeper and explore further, thereby extending, elucidating, and clarifying the findings from the information on the written survey. Although 20 participants were selected for telephone interviews, the research on this phase of data collection concluded when the investigator had explored and collected solid answers to all questions on the interview protocol, and had thereby teased out and elucidated the contexts and implications of numerous quantitative findings—the robust ones as well as the enigmatic ones.

Telephone Interview Protocol

Appendix B contains the list of open and closed questions that were designed to probe deeper into the context and nature of the objective answers and to solicit additional ideas and opinions regarding how best to design future professional development activities that could

provide maximum value for taxpayer dollars expended. Five practice interviews were first conducted with New River Community College faculty members who had participated in the survey pilot test, and refinements were made where appropriate. The researcher then contacted by telephone potential interviewees from the pool of survey respondents, insuring representation by both Business Technology and Engineering and Industrial Technology faculty.

During the telephone call, the researcher explained to the interviewees the importance of their responses as input to the research study. Next, the researcher faxed an advance copy of the interview questions to the interviewees so they had sufficient time to reflect on their professional development experiences and to recollect their perceptions of the benefits derived. Data from the semi-structured interviews were documented during the interviews and subsequently summarized and analyzed. Based upon the interview information, the researcher manually classified and coded the responses.

Chapter Summary

Chapter 3 has described the rationale for using a descriptive research approach for this investigation. Subsumed in the descriptive approach is a dual information-gathering and analysis methodology consisting of both quantitative and qualitative research. The researcher has demonstrated the complementary findings anticipated by (a) the use of a mail survey and quantitative analysis of information gathered from the survey, and (b) the use of a semi-structured telephone interview and qualitative analysis of information. The next chapter delineates the results obtained from the investigation, and the final chapter further analyzes the findings and interprets the results in terms of their value and implications for current practice and

future policy directions in the arena of professional development for occupational-technical faculty in Virginia's community colleges.